



ARKANSAS  
Department of Environmental Quality

May 23, 2011

David Cameron, City Administrator  
City of Siloam Springs  
P.O. Box 80  
Siloam Springs, AR 72761

RE: Routine Compliance Evaluation Inspection

AFIN: 04-00106

NPDES Permit Tracking No.: AR0020273

Dear Mr. Cameron:

On March 21 and 22, 2011, I performed a routine compliance evaluation inspection and routine compliance sampling inspection of the waste water treatment facility in accordance with the provisions of the Federal Clean Water Act, the Arkansas Water and Air Pollution Control Act, and the regulations promulgated there under. This inspection revealed the following violations and issues:

1. At the time of inspection, the primary clarifiers were being bypassed due to problems with the new pump system. On May 12, 2011, Kim Fuller, NPDES Engineer Supervisor, stated that approval has not been obtained through the Department for the anticipated bypass of the primary clarifiers. On April 20, 2011, Steve Drown, Water Division Chief, responded to Mr. Roark's letter dated April 13, 2011. This letter addressed your proposal to remove the grit removal system. However, it does not address bypassing the primary clarifiers. A request to allow for this bypass must be made to the Department.
2. Solids were bulking and flowing over the weir at the final clarifier. This is in violation of Part II, Section B, 1 of the permit.
3. Total residual chlorine in the effluent composite sample was not being measured and reported at the time of sample termination. This is in violation of Part III, Condition 12 of your permit.
4. Plant records must document preventative and regular maintenance of equipment and any repairs made to equipment.

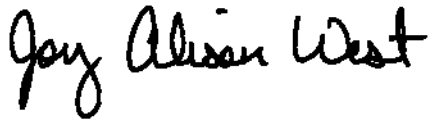
The above items require your immediate attention. Please submit a written response to these findings to Ms. Cindy Garner, Water Division Enforcement Branch Manager. The response should be mailed to the address below. Your response should contain detailed documentation, including photographs, describing the course of action taken to correct the items noted. This corrective action should be completed as soon as possible, and the written response is due by June 2, 2011.

David Cameron, City of Siloam Springs  
May 23, 2011  
Page 2

For additional information you may contact the enforcement branch by telephone at 501-682-0639 or by fax at 501-682-0910.

If I can be of any assistance, please contact me at 479-267-0811, ext. 12 (west@adeq.state.ar.us).

Sincerely,

A handwritten signature in black ink that reads "Alison West". The signature is written in a cursive, flowing style.

Alison West  
District 1 Field Inspector  
Water Division

cc: Water Division Enforcement Branch  
Water Division Permits Branch

<p style="text-align: center; font-size: small;">UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Washington, D.C. 20460</p> <h2 style="text-align: center;">NPDES Compliance Inspection Report</h2>	Form Approved OMB No. 2040-0003
---	------------------------------------

**Section A: National Data System Coding**

Transaction Code	NPDES	Yr/Mo/Day	Inspec. Type	Inspector	Fac. Type
1 <b>N</b> 2 <b>5</b> 3 <b>A R 0 0 2 0 2 7 3</b>	11 12 <b>1 1 0 3 2 1</b> 17	18 <b>S</b>	19 <b>S</b>	20 <b>1</b>	
Remarks					
Inspection Work Days: 67 <input type="text"/> <input type="text"/> <input type="text"/> 69 Facility Evaluation Rating: 70 <b>2</b> BI: 71 <b>N</b> 72 <b>N</b> 73 <input type="text"/> <input type="text"/> <input type="text"/> 74 75 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 80					

**Section B: Facility Data**

Name and Location of Facility Inspected ( <i>For industrial users discharging to POTW, also include POTW name and NPDES permit number</i> ) <b>City of Siloam Springs Pollution Control Plant</b> <b>975 Anderson Ave</b> <b>Siloam Springs, AR 72761</b>	Entry Time/Date <b>9:45 a.m./3-21-2011</b> <b>8:40 a.m./3-22-2011</b>	Permit Effective Date <b>October 1, 2007</b>
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) <b>Tom Myers/Wastewater Superintendent/479-524-5623/479-524-4653</b> <b>Jack Harriston/Operator/479-524-5623/479-524-4653</b>	Exit Time/Date <b>3:40 p.m./3-21-2011</b> <b>12:04p.m./3-22-2011</b>	Permit Expiration Date <b>September 30, 2012</b>
Name, Address of Responsible Official/Title/Phone and Fax Number <b>David Cameron/Public Works Director/479-524-5136/479-524-8513</b> <b>City of Siloam Springs</b> <b>P.O. Box 80</b> <b>Siloam Springs, AR 72761</b>	Contacted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Other Facility Data <b>Outfall 001</b> <b>N36.19396</b> <b>W094.56398</b>

**Section C: Areas Evaluated During Inspection**  
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	M	Operations & Maintenance	M	Sampling
M	Records/Reports	M	Self-Monitoring Program	S	Sludge Handling/Disposal	N	Pollution Prevention
S	Facility Site Review	N	Compliance Schedules	N	Pretreatment	N	Multimedia
S	Effluent/Receiving Waters	M	Laboratory	N	Storm Water	N	Other:

**Section D: Summary of Findings/Comments (Attach additional sheets if necessary)**

**The results of the compliance sampling inspection are attached with the inspection report. The City currently has a construction permit for the POTW. The following findings were noted:**

- 1. At the time of inspection, the primary clarifiers were bypassed due to problems with the new pump system.**
- 2. Solids were bulking and flowing over the weir at the final clarifier.**
- 3. Total residual chlorine in the effluent composite sample was not being measured and reported at the time of sample termination.**
- 4. Plant records must document preventative and regular maintenance of equipment and any repairs made to equipment.**

Name(s) and Signature(s) of Inspector(s) Alison West	Agency/Office/Telephone/Fax AR Dept. of Environmental Quality-Fayetteville 479-267-0811, ext. 12/479-267-0819	Date May 12, 2011
Signature of Reviewer	Agency/Office/Phone and Fax Numbers	Date

**SECTION A: PERMIT VERIFICATION**

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS

S M U NA NE

## DETAILS:

- |  |  |
|--|--|
| 1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE:                            | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES: | <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA <input type="checkbox"/> NE |
| 3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT:           | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 4. ALL DISCHARGES ARE PERMITTED:   | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |

**SECTION B: RECORDKEEPING AND REPORTING EVALUATION**

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT

S M U NA NE

DETAILS: **Plant records must document preventative and regular maintenance of equipment and any repairs made to equipment. In January 2011, general visual inspections and skimmer mechanism was checked on the records. The gear motor ventilation was checked on January 3 and 10th. Mr. Myers stated that he had discussed better documentation of maintenance and repairs with the operators.**

- |  |   |
|--|---|
| 1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRS:                         | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE:                                  | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| a. DATES AND TIME(S) OF SAMPLING:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| b. EXACT LOCATION(S) OF SAMPLING:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| c. NAME OF INDIVIDUAL PERFORMING SAMPLING:   | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| d. ANALYTICAL METHODS AND TECHNIQUES:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| e. RESULTS OF CALIBRATIONS:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| f. RESULTS OF ANALYSES:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| g. DATES AND TIMES OF ANALYSES:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| h. NAME OF PERSON(S) PERFORMING ANALYSES:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE:                | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR:       | <input type="checkbox"/> S <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |

**SECTION C: OPERATIONS AND MAINTENANCE**

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED

S M U NA NE

DETAILS: **Final clarifier is not being properly operated and maintained. Solids were bulking and flowing over the weir at the final clarifier. At the time of inspection, the primary clarifiers were bypassed due to problems with the new pump system.**

- |   |   |
|---|---|
| 1. TREATMENT UNITS PROPERLY OPERATED:   | <input type="checkbox"/> S <input checked="" type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 2. TREATMENT UNITS PROPERLY MAINTAINED:   | <input type="checkbox"/> S <input checked="" type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED: <u>2 Generators</u>                              | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE:                             | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 5. ALL NEEDED TREATMENT UNITS IN SERVICE:   | <input type="checkbox"/> S <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED: <u>1-IV, 2-III, 1-II</u>                    | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED: <u>Not required-not a 92-500 facility</u>     | <input type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input checked="" type="checkbox"/> NA <input type="checkbox"/> NE |
| 8. OPERATION AND MAINTENANCE MANUAL AVAILABLE:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 9. STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED:                                     | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE                            |
| 10. PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED:                                     | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE                            |
| 11. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 12. IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED:   | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 13. HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS:                  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 14. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT:                               | <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE                            |
| 15. IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT:   | <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA <input type="checkbox"/> NE                            |

**SECTION D: SAMPLING**

PERMITTEE SAMPLING MEETS PERMIT REQUIREMENTS

S M U NA NE

DETAILS: Total residual chlorine in the effluent composite sample was not measured and reported at the time of sample termination.

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
6. SAMPLE COLLECTION PROCEDURES ADEQUATE:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
a. SAMPLES REFRIGERATED DURING COMPOSITING:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
b. PROPER PRESERVATION TECHNIQUES USED:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
c. CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
7. IF MONITORING IS PERFORMED MORE OFTEN THAN REQUIRED ARE RESULTS REPORTED ON THE DMR:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE

**SECTION E: FLOW MEASUREMENT**

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS

S M U NA NE

DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED: __ TYPE OF DEVICE: <u>5 foot rectangular weir without end contractions</u>	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
4. CALIBRATION FREQUENCY ADEQUATE:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
5. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
6. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE: <u>(1/wk)</u>	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
7. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
8. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
9. HEAD MEASURED AT PROPER LOCATION:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE

**SECTION F: LABORATORY**

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS

S M U NA NE

DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(B) FOR SLUDGES) :	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED:	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA <input type="checkbox"/> NE
3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
4. QUALITY CONTROL PROCEDURES ADEQUATE:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
5. DUPLICATE SAMPLES ARE ANALYZED $\geq$ 10% OF THE TIME:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
6. SPIKED SAMPLES ARE ANALYZED $\geq$ 10% OF THE TIME:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
7. COMMERCIAL LABORATORY USED:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
a. LAB NAME: <u>ETG</u>	<u>American Interplex</u>
b. LAB ADDRESS: <u>1702 E. Central Avenue, Bentonville, AR 72712</u>	<u>8600 Kanis Road, Little Rock, AR 72204</u>
c. PARAMETERS PERFORMED: <u>CBOD, TSS, NH3-N, TP, Total Recoverable Copper, Nitrates</u>	<u>Biomonitoring</u>
8. BIOMONITORING PROCEDURES ADEQUATE:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
a. PROPER ORGANISMS USED:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
b. PROPER DILUTION SERIES FOLLOWED:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
c. PROPER TEST METHODS AND DURATION:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE
d. RETESTS AND/OR TRE PERFORMED AS REQUIRED:	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA <input type="checkbox"/> NE

**SECTION G: EFFLUENT/RECEIVING WATERS OBSERVATIONS**

BASED ON VISUAL OBSERVATIONS ONLY S M U NA NE

DETAILS:

OUTFALL #:	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOATING SOLIDS	COLOR	OTHER
001	None	None	None	None	None	Clear	

**SECTION H: SLUDGE DISPOSAL**

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS S M U NA NE

DETAILS: Sludge is taken to Waste Management Landfill in Tontitown, AR.

- |   |   |
|---|---|
| 1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY:   | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503:   | <input checked="" type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: (E.G., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE): |   |

**SECTION I: SAMPLING INSPECTION PROCEDURES**

SAMPLE RESULTS WITHIN PERMIT REQUIREMENTS S M U NA NE

- DETAILS:
- |  |  |
|--|--|
| 1. SAMPLES OBTAINED THIS INSPECTION:   | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 2. TYPE OF SAMPLE: <input checked="" type="checkbox"/> GRAB:___ <input checked="" type="checkbox"/> COMPOSITE:24hr_ METHOD:___ FREQUENCY:___ |  |
| 3. SAMPLES PRESERVED:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 4. FLOW PROPORTIONED SAMPLES OBTAINED:   | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 6. SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 7. SAMPLE SPLIT WITH PERMITTEE:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED:   | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |
| 9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT:  | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> NE |

**SECTION J: STORM WATER POLLUTION PREVENTION PLAN**

STORM WATER MANAGEMENT MEETS PERMIT REQUIREMENTS S M U NA NE

- DETAILS:
- |  |  |
|--|--|
| 1. SWPPP UPDATED AS NEEDED:___ DATE OF LAST UPDATE:___   | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 2. SITE MAP INCLUDING ALL DISCHARGES AND SURFACE WATERS: | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 3. POLLUTION PREVENTION TEAM IDENTIFIED:                 | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 4. POLLUTION PREVENTION TEAM PROPERLY TRAINED:           | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 5. LIST OF POTENTIAL POLLUTANT SOURCES:                  | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 6. LIST OF POTENTIAL SOURCES AND PAST SPILLS AND LEAKS:  | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 7. ALL NON-STORM WATER DISCHARGES ARE AUTHORIZED:        | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 8. LIST OF STRUCTURAL BMPS:                              | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 9. LIST OF NON-STRUCTURAL BMPS:                          | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 10. BMPS PROPERLY OPERATED AND MAINTAINED:               | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |
| 11. INSPECTIONS CONDUCTED AS REQUIRED:                   | <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA <input checked="" type="checkbox"/> NE |

## FLOW CALCULATION SHEET

Date:	<b>3-21-2011</b>	Time:	<b>12:20 a.m.</b>	
-------	------------------	-------	-------------------	--

Head in Inches:		Feet:	<b>.44</b>	
-----------------	--	-------	------------	--

Type & Size of Primary Flow Measurement Device: **5 Foot Rectangular Weir w/o End Contractions**

Name & Model of Secondary Flow Measurement Device: **ISCO Bubble Flow Meter, Model 3230**

Date of last Calibration of Secondary Flow Device:

Recorded Flow at Date & Time Listed Above:	<b>2280 GPM</b>	(Facility Flow Meter)
--	-----------------	-----------------------

Calculated Flow at Date & Time Listed Above:	<b>2181 GPM</b>	
--	-----------------	--

(Flow is calculated using flow charts in: ISCO Open Channel Flow Measurement Handbook-5<sup>th</sup> Edition)

% Error =	Recorded Value	-	Calculated Value	X 100	
	Calculated Value				

% Error =	2280	-	2181	X 100	
	2181				

% Error =	.045	X 100	
-----------	------	-------	--

% Error =		X 100	
-----------	--	-------	--

% Error =	<b>4.5</b>	%	
-----------	------------	---	--

Comments: **OK**

**DMR Calculation Check**

**Reporting Period:** From 10 09 01 To 10 09 31  
Year Month Day Year Month Day

**Parameter Checked:** Nitrogen, Ammonia Total

	<b>Loading Mass Mo. Avg. - lbs/day</b>	<b>Concentration Monthly Mo. Avg. - mg/l</b>	<b>7-day Avg. - mg/l</b>
<b>Reported Value:</b>	<u>1.4</u>	<u>0.075</u>	<u>0.14</u>
<b>Calculated Value:</b>	<u>1.47</u>	<u>.08</u>	<u>0.14</u>
<b>Permit Value:</b>	<u>55</u>	<u>1.5</u>	<u>2.3</u>

**If calculated value does not equal reported value, explain:** The value difference appears to be due to significant figures.



Attachment A



5301 Northshore Drive  
North Little Rock, AR 72118  
Telephone: 501-682-0744

**Client Report For:** City of Siloam Springs CSI 2011 0687

**Attention:**

**Client Address:**

,

**Report Date:** April 28, 2011

**LAB ID:** AR11MAR22-01

**Comment:**

Approved By: \_\_\_\_\_

Date: April 28, 2011

<b>Client:</b> CSI	<b>Client Sample ID:</b> Outfall 001
<b>Lab ID:</b> 2011-0687	<b>Collection Date:</b> 3/22/2011 11:12:00 AM
	<b>Matrix:</b> Water

Analyses

<i>Ammonia as Nitrogen</i>	<i>SM 4500-NH3 H (20th)</i>	<i>Batch: 11032803 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Ammonia as N	0.090*	0.03	0.03		mg/L
Dilution Factor	1.0				
Analyzed By	John Hawkins				
Analysis Date/Time	3/23/2011 1:45:30 PM				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 11032902 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Fluoride	0.85*	0.05	0.009		mg/L
Bromide	<0.1*	0.1	0.01		mg/L
Sulfate	78.3*	0.2	0.04		mg/L
Dilution Factor	1				
Analyzed By	Chad Carrington				
Analysis Date/Time	03/23/11 11:08				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 11032902 Run: 2</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Chloride	86.8*	1.00	0.07		mg/L
Dilution Factor	5				
Analyzed By	Chad Carrington				
Analysis Date/Time	03/24/11 11:48				

<i>Carb. Biochemical Oxygen Demand (CBOD) 5 Day</i>	<i>SM 5210-B</i>	<i>Batch: 11032906 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Carbonaceous BOD	3.23*	0.2	0.2		mg/L
Analyzed By	Robert Graddy				

Analysis Date/Time	3/23/2011 16:15
--------------------	-----------------

<b>Total Residual Chlorine</b>	<b>SM 4500-Cl G</b>	<b>Batch: 11042006</b>	<b>Run: 1</b>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Chlorine Residual	<0.1*	0.1	0.1		mg/L
Dilution Factor	1.0				
Analyzed By	Alison West				
Analysis Date/Time	3/22/2011 11:12				

<b>Nitrate and Nitrite</b>	<b>SM 4500-NO3 I (20th)</b>	<b>Batch: 11032805</b>	<b>Run: 1</b>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Nitrate/Nitrite as N	9.53*	0.3	0.03		mg/L
Dilution Factor	10				
Analyzed By	John Hawkins				
Analysis Date/Time	3/23/2011 1:43:01 PM				

<b>Nitrogen - Total</b>	<b>SM4500-N C</b>	<b>Batch: 11042007</b>	<b>Run: 1</b>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Nitrogen, Total	11.6*	0.05	0.05		mg/L
Dilution Factor	10				
Analyzed By	John Hawkins				
Analysis Date/Time	3/24/2011 12:19				

<b>Orthophosphate as Phosphorus</b>	<b>SM 4500-P G (20th)</b>	<b>Batch: 11032804</b>	<b>Run: 1</b>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Orthophosphate as P	3.35*	0.1	0.005		mg/L
Dilution Factor	10				
Analyzed By	John Hawkins				
Analysis Date/Time	3/23/2011 1:43:01 PM				

<b>Total Suspended Solids</b>	<b>EPA 160.2</b>	<b>Batch: 11032503</b>	<b>Run: 1</b>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>

ADEQ Water NPDES Inspection	AFIN: <b>04-00106</b>	Permit #: <b>AR0020273</b>
-----------------------------	-----------------------	----------------------------

Total Suspended Solids                      8.5\*                      1.0                      1.0                      mg/L

Analyzed By                                      Robert Graddy

Analysis Date/Time                            3/23/2011 7:30

**Total Kjeldahl Nitrogen**

**SM 4500-N C**

**Batch: 11032807 Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Total Kjeldahl Nitrogen	2.07*	0.5	0.05		mg/L

Dilution Factor                                10

Analyzed By                                    John Hawkins

Analysis Date/Time                           3/24/2011 12:19:01 PM

**Total Phosphorus**

**SM 4500-P J**

**Batch: 11032806 Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Phosphorus-total	3.78*	0.1	0.01		mg/L

Dilution Factor                                10

Analyzed By                                    John Hawkins

Analysis Date/Time                           3/24/2011 12:19:01 PM

<b><u>Client:</u></b> CSI	<b><u>Client Sample ID:</u></b> Outfall 001
<b><u>Lab ID:</u></b> 2011-0687	<b><u>Collection Date:</u></b> 3/22/2011 11:12:00 AM
	<b><u>Matrix:</u></b> Water

Analyses

<b><i>Fecal Coliforms</i></b>	<b><i>SM 9222 D</i></b>	<b><i>Batch: 11032301 Run: 1</i></b>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Fecal Coliforms	>2000*	1.0	1.0		cfu/100ml
Analyzed By	Jeff Ruehr				
Analysis Date/Time	3/22/2011 16:15				

<b>Client:</b> CSI	<b>Client Sample ID:</b> Outfall 001
<b>Lab ID:</b> 2011-0687	<b>Collection Date:</b> 3/22/2011 11:12:00 AM
	<b>Matrix:</b> Water

Analyses

**Field Data**

**Batch: 11041802 Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Dissolved Oxygen	7.77*				mg/L
pH	7.69*				SU
Temperature	*				C
Analyzed By	Alison West				
Analysis Date/Time	3/22/2011 09:28				

<b>Client:</b> CSI	<b>Client Sample ID:</b> Outfall 001
<b>Lab ID:</b> 2011-0687	<b>Collection Date:</b> 3/22/2011 11:12:00 AM
	<b>Matrix:</b> Water

Analyses

<b>Total Metals by EPA 200.8</b>	<b>EPA 200.8</b>	<b>Batch: 11032802 Run: 1</b>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	35.0*	20.0	20		ug/L
Antimony	<10.0*	10.0	5		ug/L
Arsenic	<1.00*	1.00	0.5		ug/L
Barium	10.8*	10.0	2.0		ug/L
Beryllium	<0.5*	0.5	0.1		ug/L
Boron	93.2*	25.0	5.0		ug/L
Cadmium	<1.00*	1.00	0.3		ug/L
Calcium	52.3*	0.04	0.04		mg/L
Chromium	<1.00*	1.00	0.3		ug/L
Cobalt	1.09*	1.00	0.5		ug/L
Copper	10.1*	1.00	0.5		ug/L
Iron	168*	20.0	10.0		ug/L
Lead	<1.00*	1.00	0.1		ug/L
Magnesium	4.59*	0.1	0.1		mg/L
Manganese	13*	1.0	0.2		ug/L
Nickel	4.6*	2.5	0.5		ug/L
Potassium	21.5*	1.00	0.05		mg/L
Selenium	<2.00*	2.00	0.5		ug/L
Silver	<5.00*	5.00	1.0		ug/L
Sodium	70.4*	0.04	0.02		mg/L
Thallium	<2.5*	2.5	0.05		ug/L
Vanadium	3.59*	2.5	1.0		ug/L
Zinc	91.9*	3.00	2.0		ug/L
Dilution Factor	1.0				
Analyzed By	Joe Semberski				
Analysis Date/Time	Mar 24 2011 2:39PM				
Prep By					
Prep Date/Time					

<b>Location:</b>	Siloam Springs POTW						
<b>Photographer:</b>	John Fazio			<b>Witness:</b>	Alison West		
<b>Photo #</b>	1	<b>Of</b>	6	<b>Date:</b>	3-21-2011	<b>Time:</b>	11:47 a.m.
<b>Description:</b>	IMGP6088. Solids in final clarifier.						



<b>Photographer:</b>	John Fazio			<b>Witness:</b>	Alison West		
<b>Photo #</b>	2	<b>Of</b>	6	<b>Date:</b>	3-21-2011	<b>Time:</b>	11:48 a.m.
<b>Description:</b>	IMGP6090. Final clarifier.						





<b>Location:</b>	Siloam Springs POTW						
<b>Photographer:</b>	John Fazio			<b>Witness:</b>	Alison West		
<b>Photo #</b>	3	<b>Of</b>	6	<b>Date:</b>	3-21-2011	<b>Time:</b>	11:48 a.m.

**Description:** IMG6089. Solids in final clarifier.



<b>Photographer:</b>	John Fazio			<b>Witness:</b>	Alison West		
<b>Photo #</b>	4	<b>Of</b>	6	<b>Date:</b>	3-21-2011	<b>Time:</b>	11:51 a.m.

**Description:** IMG6093. Final clarifier is not being maintained.



<b>Location:</b>	Siloam Springs POTW						
<b>Photographer:</b>	John Fazio			<b>Witness:</b>	Alison West		
<b>Photo #</b>	5	<b>Of</b>	6	<b>Date:</b>	3-21-2011	<b>Time:</b>	11:52 a.m.
<b>Description:</b>	IMGP6094. Solids in final clarifier.						



<b>Photographer:</b>	John Fazio			<b>Witness:</b>	Alison West		
<b>Photo #</b>	6	<b>Of</b>	6	<b>Date:</b>	3-21-2011	<b>Time:</b>	11:53 a.m.
<b>Description:</b>	IMGP6095. Solids in final clarifier.						





June 2, 2011

Via email [garner@adeq.state.ar.us](mailto:garner@adeq.state.ar.us) and U.S. Mail

Cindy Garner  
Water Division Enforcement Branch Manager  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

Re: NPDES Permit Tracking No.: AR0020273  
Response to March 21-22, 2011 Routine Compliance Evaluation Inspection Report

Ms. Garner,

This is the written response of the City of Siloam Springs, Arkansas (City) to ADEQ's NPDES Compliance Inspection Report for the March 21-22, 2011 Routine Compliance Evaluation Inspection conducted by Joy Alison West of ADEQ. The City received the Inspection Report May 24, 2011. The City appreciates the time that ADEQ dedicated to the inspection and the opportunity to respond to the four violations and issues alleged in the May 23, 2011 cover letter to the City transmitting the Inspection Report. The responses below are numbered to correspond with the numbering in the transmittal letter and Inspection Report. For convenience, the allegation or issue is copied prior to the City's response.

- 1. At the time of inspection, the primary clarifiers were being bypassed due to problems with the new pump system. On May 12, 2011, Kim Fuller, NPDES Engineer Supervisor, stated that approval has not been obtained through the Department for the anticipated bypass of the primary clarifiers. On April 20, 2011, Steve Drown, Water Division Chief, responded to Mr. Roark's letter dated April 13, 2011. This letter addressed your proposal to remove the grit removal system. However, it does not address bypassing the primary clarifiers. A request to allow for this bypass must be made to the Department.*

As explained in the City's April 13, 2011 correspondence to Director Marks, the City's treatment system has three treatment sequence options available immediately following screening of the headworks influent. These treatment options were clearly set forth in the treatment works plans and specifications submitted to ADEQ for approval on July 8, 2008 and approved by ADEQ November 16, 2008. Specifically, drawing 15-ME-403 depicts the three treatment sequence options, one of which is to send screened influent directly to the

Biological Nutrient Removal System (BNR). This system with sequence options is well-accepted in wastewater engineering and is known by wastewater engineers as the "University of Capetown" system. Because the system is designed with sequence options, it is not a bypass of the equipment not used in a particular option.

The City and its consulting engineer had a conference call with John Bailey and Kim Fuller on June 1, 2011 to provide the opportunity for ADEQ to more fully understand the treatment sequence options and the system design. Mr. Bailey and Ms. Fuller confirmed their understandings that the ADEQ-approved plans and specifications present three different treatment sequence options. For your reference we enclose: 1) a copy of the City's April 13, 2011 correspondence explaining the three treatment sequence options and attaching the plans and specifications drawing 15-ME-403; and 2) relevant pages from the City's treatment plant Operations and Maintenance Manual explaining operation of the sequence options as per the facility design. The City understands that ADEQ will be more fully considering the City's position that a bypass does not occur when one option is selected and implemented and the equipment used for other sequence options is not in use.

Based on the above engineering information, the City requests that ADEQ issue a corrected Inspection Report and transmittal letter deleting the allegation of bypass of the primary clarifiers. The City requests that the correction include correction of page 4 of the Inspection Report, Section C, item 5 to "S" and include changing the "marginal" rating for the Operations and Maintenance category to "S."

2. *Solids were bulking and flowing over the weir at the final clarifier. This is in violation of Part II, Section B, 1 of the permit.*

Algae/moss growth is typical of final clarifier normal operations. The algae/moss present in the City's final clarifier was typical of clarifier operations and did not cause a violation of NPDES permit limits. ADEQ pulled an effluent sample on March 22, 2011. TSS was 8.5 mg/l which is well below permit limits. The NPDES permit limit for TSS is 30 mg/l 7 day average and 20 mg/l 30 day average. The Inspection Report (page 4) states that the effluent was clear.

The removal of typical algae/moss growth is accomplished through hosing off the buildup at intervals necessary to maintain the clarifiers for effective operation and compliance with NPDES limits. The City hoses off the clarifier equipment at necessary intervals. The City would also note that the week of March 21, 2011 was the last week that the two 84 foot diameter final clarifiers were in operation. The following week, these final clarifiers were decommissioned and one of the two new 110 foot diameter final clarifiers was placed into operation.

During the week of the inspection the new BNR was online and special attention was given to creating steady state operation for the shakedown of the BNR so that when one of the two new final clarifiers was placed into operation the following week the system would be as steady-state as possible. The City was successful in transitioning from the old to one of the new final clarifiers.

During the June 1, 2011 conference call, Mr. Bailey and Ms. Fuller expressed agreement that the algae/moss present in the final clarifier is not considered a violation of the City's NPDES permit.

Based on the above information establishing that the City was properly operating the final clarifiers, the City requests that ADEQ issue a corrected Inspection Report and transmittal letter deleting the allegation of violation of Part II, Section B, 1 of the NPDES permit. The City requests that the correction include correction of page 4 of the Inspection Report, Section C, items 1 and 2 to "S" and to change the "marginal" rating for the Operations and Maintenance category to "S."

3. *Total residual chlorine in the effluent composite sample was not being measured and reported at the time of sample termination. This is a violation of Part III, Condition 12 of your permit.*

The City's NPDES permit Part I, Section A. Final Effluent Limitations and Monitoring Requirements requires that a once/week grab sample be collected to analyze total residual chlorine (TRC). Part III, Other Conditions, Condition 12, alleged to have been violated applies only to the composite sample required once per quarter for toxicity testing. That condition states in pertinent part:

Total residual chlorine (TRC) in the effluent composite sample shall be measured and reported both at the time of sample termination and at the time of toxicity test initiation. The permittee shall ensure that the effluent composite used in toxicity testing is representative of normal facility residual chlorine discharge concentration.

During the June 1, 2011 conference call, Mr. Bailey and Ms. Fuller expressed agreement that Part III, Condition 12 applies only to the quarterly composite sample taken for toxicity testing.

Based on the above clarification of permit requirements establishing that the City was not violating permit condition Part III, Condition 12; the City requests that ADEQ issue a corrected Inspection Report and transmittal letter deleting the allegation of violation of Part III, Condition 12 of the permit. The City requests that the correction include correction of page 5 of the Inspection Report, Section D, item 5 to "S" and to change the "marginal" rating for the Sampling category to "S."

4. *Plant records must document preventative and regular maintenance of equipment and any repairs made to equipment.*

The City has a weekly Service Checklist (attached) which is used to assist plant maintenance personnel in conducting preventative and regular maintenance of equipment and to note repairs made. The Service Checklist has been updated to reflect in part, the new plant equipment recently installed in the course of the substantial plant improvements that have been in progress for some time. The City is in the process of modification of its Operations and Maintenance Manual to reflect the new treatment equipment and infrastructure at the treatment plant. The Service Checklist and use of the checklist will be enhanced through the development of the new Operations and Maintenance Manual.

The City notes that there is an error on page 5 of the Inspection Report in Section F: Laboratory. The category rating given is "M" and based on the findings in that section should be a "S." The City requests that this be corrected in the Inspection Report.

The City would be pleased to have any further conversation needed to resolve the allegations and issues in the inspection report. I will telephone you to follow-up on this response and to discuss ADEQ's next steps for correcting the Inspection Report and transmittal letter.

Respectfully,

A handwritten signature in black ink, appearing to read 'Adam Roark', followed by a long horizontal line extending to the right.

Adam Roark, PE  
City Engineer



April 13, 2011

Teresa Marks, Director  
Arkansas Department of Environmental Quality 5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

Re: Notice of Exercise of Treatment Facility Options  
NPDES Permit Number AR0020273

Director Marks,

This letter is provided as a follow up and clarification to a telephone conference between Tom Myers of the City of Siloam Springs Water/Wastewater Department and Kim Fuller of ADEQ's Water Division regarding operation of the City's Publicly Owned Treatment Works as well as to a discussion among Mr. Myers and Allison West and John Fazio during a March 2011 inspection of the POTW. The City's NPDES permit does not specifically require notice of the operations that were discussed. However, the City believes that this letter will clarify that the operations discussed are not a "bypass" as that term is defined in the NPDES permit and ADEQ regulations and assist ADEQ in answering any questions that ADEQ may have regarding the conversation.

As you may know, the City's NPDES permit calls for construction of a POTW expansion and additional treatment to comply with a variety of new requirements, including those related to water quality matters tied to Oklahoma phosphorus standards. Over \$24,000,000 is dedicated to the expansion and additional treatment and the NPDES permit compliance schedule governs the progress of the City's work. The expansion and additional treatment plans and specifications submitted to ADEQ for approval on July 8, 2008 and approved by ADEQ on November 16, 2008 include drawings depicting the various sequences of treatment that are possible at the POTW, all which lead to compliance with applicable permit effluent limits. Please refer to the enclosed drawing 15-ME-403 on sheet 64. This drawing depicts the three treatment sequence options available at the POTW immediately following screening of the headworks influent. When Mr. Myers spoke with Ms. Fuller he described the use of one of the options as a "bypass."

The City wishes to make clear that the use of one or the other of the three sequence options is not a "bypass" as that term is defined in the NPDES permit and ADEQ regulations, but rather is a term used by Mr. Myers to describe the route taken under one of the sequence options vis-à-vis the other routes available under the other sequence options. Specifically, in the telephone conference

with Ms. Fuller, Mr. Myers was describing sending screened influent directly to the two primary clarifiers as opposed to using one of the other two sequence options (grit removal system and/or the biological nutrient removal (BNR) system immediately following influent screening).<sup>1</sup>

In the discussions with Ms. West and Mr. Fazio, Mr. Myers used the term "bypass" to describe sending the screened influent directly to the BNR. Because all of the three treatment sequence options (screened effluent to the grit system, to the two primary clarifiers, or to the BNR) are clearly delineated as options on the approved plans, and selection of the option to employ is a matter of operational decision, the change between use of options is not a "bypass." Please note that the use of one versus another option does not impact the quality of the final effluent.

The City has carefully evaluated the notice provisions in the NPDES permit and does not find a notice provision applicable to making these selections in available treatment sequence options. However, as stated above, the City believes that this communication is a needed clarification follow-up to the telephone conversation and to the conversation during the inspection.

Because the NPDES permit requires that notices be made to the ADEQ Director we are providing this letter to you. We are providing a copy of this letter to Ms. Fuller, Ms. West, and Mr. Fazio and Mr. Myers will telephone them to ascertain that there are not any questions regarding the treatment sequence options and the use of the options.

Please do not hesitate to contact me if ADEQ requires additional information or wishes to discuss this communication.

Respectfully,



Adam Roark, PE, CPESC  
City Engineer

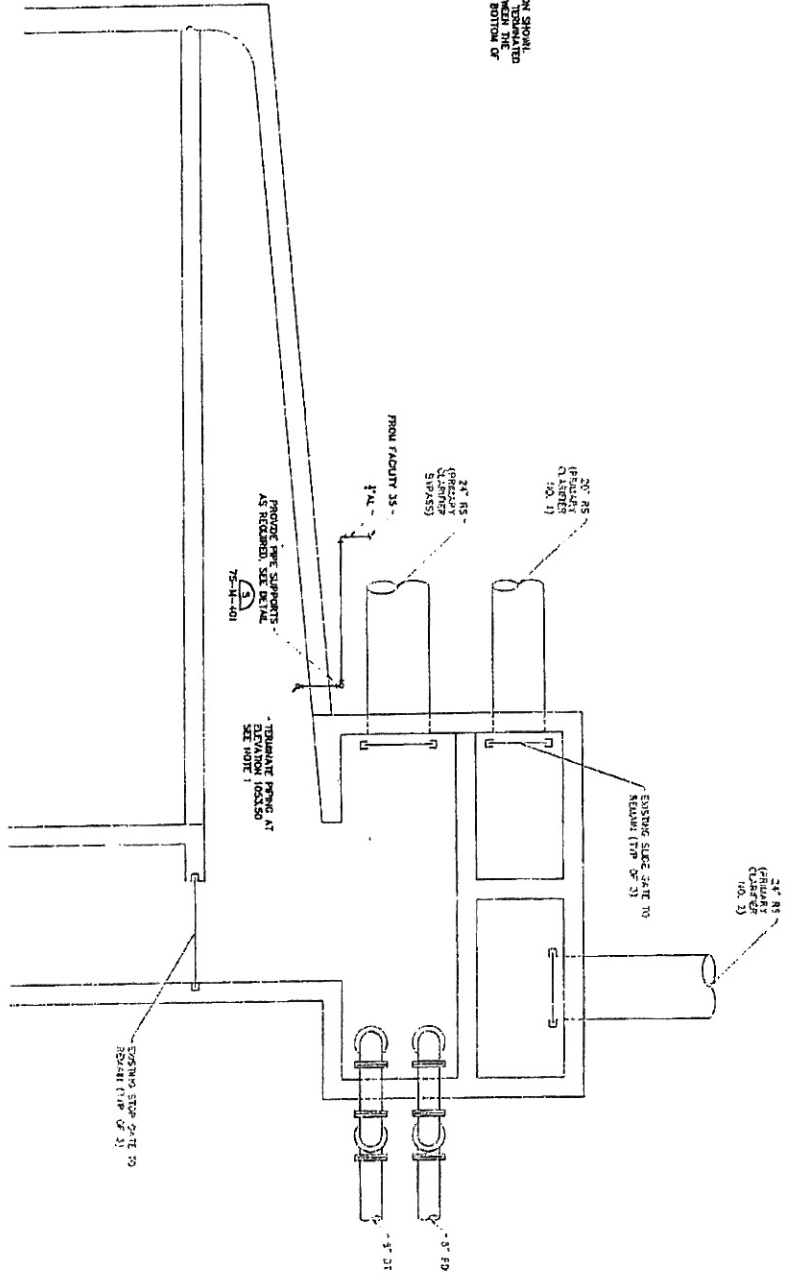
Cc: Kim Fuller  
Alison West  
John Fazio  
Tom Myers

---

<sup>1</sup> Under a separate letter to the ADEQ Water Engineering Division, the City is requesting approval of a design change to eliminate the grit removal system. This will then allow two sequence options following the influent screens: taking screened influent to the primary clarifiers or to the BNR.



NOTES:  
 1. FIELD VERIFY ELEVATION SHOWN AT THE JUNCTION BETWEEN THE WATER SURFACE AND BOTTOM OF CHANNEL.



1 CHEMICAL ADDITION AT PRIMARY CARRIER SPLITTER  
 SCALE: 1/2" = 1'-0"

JOB NO. 070527000 DATE: OCT. 2008 ISSUED BY: SDC DRAWN BY: CBA DRAWING NUMBER <b>15-ME-403</b> SHEET NO. 64	<b>SILLOAM SPRINGS</b> SILLOAM SPRINGS, AR WASTEWATER TREATMENT PLANT IMPROVEMENTS	REV. DATE DESCRIPTION BY APPROVED	GARVER ENGINEERS 1068 EAST HILLSAP ROAD, FAYETTEVILLE, AR 72703, (870) 827-8100	PROFESSIONAL SEAL REGISTERED PROFESSIONAL ENGINEER STATE OF ARIZONA No. 14331 DATE: 10/20/08	PROFESSIONAL SEAL REGISTERED PROFESSIONAL ENGINEER STATE OF ARIZONA No. 7463 DATE: 10/20/08	PROFESSIONAL SEAL REGISTERED PROFESSIONAL ENGINEER STATE OF ARIZONA No. 7463 DATE: 10/20/08
		PROJECT/CLIENT SPLITTER BOX MODIFICATIONS				

proportional to the rate of flow of the wastewater. Current technology requires that the liquid contain at least 100 parts per million (PPM) of 100 micron or larger suspended particles or bubbles.

### 5.2.3 Equipment

#### 5.2.3.1 Flow Measurement

The ultrasonic open channel flow meter measures flow rates in the open channel directly upstream of the Parshall flume. The transducer is mounted perpendicularly above the flow that is to be measured. The microprocessor in the transmitter fires an electronic pulse, which the transducer converts to an acoustic pulse. This pulse travels towards the wastewater and is reflected back from the wastewater. The transducer then converts this energy back into a signal in the microprocessor which then, knowing the speed of sound through air, can accurately determine the distance and furthermore the flow from the flume or weir settings which must be programmed into the transmitter by the user. Software removes false echoes and the electronic filter removes ambient noises.

#### 5.2.3.2 Instrumentation and Control

#### 5.2.3.3 Electrical

The electrical control panel for the ultrasonic flow meter is 10LIT03 which is connected to 65-PLC-1.

#### 5.2.3.4 Equipment Data Sheets

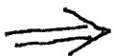
## 5.3 Primary Clarifiers

### 5.3.1 Description

A process flow diagram of the Primary Clarifiers can be seen on drawing 08-I-502. Facility 15 Drawings (Drawings 15-ME-131 thru 15-ME-403) show the proposed primary clarifier layout.

Clarification, through the process of sedimentation is the separation of suspended particles by gravitational settling. The purpose of a primary clarifier is to remove and concentrate solids as well as to produce a cleaner effluent. Concentration of solids removed from the wastewater reduces the volume of water within the sludge for dewatering and/or disposal. The smaller the volume of water within the sludge removed results in lower capital and operating costs for dewatering equipment and/or sludge disposal.

The Primary Splitter Box is used to control flow into Primary Clarifier No. 1 and 2. This splitter box also controls flow to the BNR Splitter Box. One of the sources of flow into the primary splitter box is from the grit removal basin. The other two flows are filtrate from dewatering and decant from the dewatering and thickening process respectively. From the Primary Splitter Box flow is diverted via three sluice gates to Primary No. 1, Primary No. 2 and BNR Splitter Box.



## 5.4.2 Principle of Operation

### 5.4.2.1 Biological Nutrient Removal Basins

#### BNR Splitter Box

The BNR Splitter Box will receive primary effluent flow or screened influent flow from the headworks, anaerobic recycle flow from anoxic zone 3, and decant flow from the primary sludge thickener. Each of these flows will be blended under low DO conditions before equal distribution to the three BNR basins. There are provisions at the BNR splitter box to feed both alum and caustic. The alum chemically enhances the BNR process by promoting precipitation of phosphorous and occasionally can trim effluent levels and protect against process upset for the targeted effluent phosphorous concentration. Caustic feed may be added to adjust pH and/or alkalinity within the BNR process. Also, decant feed from the primary sludge thickener, which is rich in volatile fatty acids (VFAs), to the BNR process is provided via the new BNR splitter box. Both the raw influent, from upstream junction box, and primary thickener decant provide additional fuel to the BNR process should the influent to the WWTP be carbon deficient.

⇒ The WWTP staff will have the option to bypass the primary clarifiers and route screened influent flow from the headworks directly to the BNR process. This may be necessary if the primary effluent BOD to total phosphorus (TP) ratio is too low. Additionally, the primary sludge thickener decant flow will be a direct source of volatile fatty acids (VFAs). Ultimately, the BOD:TP ratio and concentration of readily biodegradable COD/BOD or VFAs will determine the effectiveness of phosphorous removal in the BNR process. The desired BOD:TP for the BNR process is typically a 20:1 ratio. As such, these wastewater constituents and relationships must be monitored routinely during the operation of the BNR process. Finally, the BNR splitter box will accept anaerobic recycle flow from anoxic zone 3 at a flow rate from 100 to 200% of the influent flow rate.

#### Anaerobic Zone

From the BNR splitter, the wastewater flows into the anaerobic zones, where the anaerobic environment favors the respiration of phosphate accumulating organisms (PAO). In the anaerobic zone, the PAOs break down large intercellular polyphosphate compounds into simple orthophosphate and release it into the water. The anaerobic zone is divided into two compartments, each designed to provide 1-hour of hydraulic retention time at average day flow conditions for a total of 2-hours (1.4-hours at maximum month). Mixing requirements in the anaerobic zones will be provided with submersible mixers which are capable of keeping the solids in suspension while minimizing air entrainment.

The first anaerobic zone will accept effluent flows from the BNR splitter box. The primary purpose of this zone is to establish conditions suitable for phosphorus release. The phosphorus uptake will occur downstream in the aerobic zones. Within the anaerobic zone the DO concentrations should be 0.0 mg/L, the oxidation reduction potential (ORP) should range between -175 to -100 mV, and the nitrate concentrations should be extremely low.

The second anaerobic zone will accept effluent flows from anaerobic zone 1. Within this

**CITY OF SILOAM SPRINGS  
WASTEWATER DEPARTMENT**

**MONTH** \_\_\_\_\_

**YEAR** \_\_\_\_\_

**DAY** \_\_\_\_\_

**BNR Splitter pump #** \_\_\_\_\_ **Service checklist**

**Maintenance performed by:** \_\_\_\_\_

**Check appropriate box for action performed  
Refer to maintenance schedule for frequency**

PROCEDURE	FREQUENCY														COMMENTS	
	Daily							W	M	Q	S	A				
	Mon	Tue	Wed	Thur	Fri	Sat	Sun									
<b>CHECK...</b>																
<b>1</b> General visual inspection																
<b>2</b> Noise, vibration, temperature																
<b>3</b> Leaks in pumps or piping																
<b>4</b> Pressure gauge readings																
<b>5</b> Drain lines working																
<b>6</b> Packing Box																
<b>7</b> Coupling																
<b>8</b> Drive shaft																
<b>9</b> Coupling alignment																
<b>10</b> Grease joint shafting & Bearings																
<b>11</b> Foundation & hold down bolts																
<b>12</b> Clean & oil gland bolts																
<b>13</b> Universal joint & needle bearings																
<b>14</b> Replace packing (all)																
<b>15</b> Flush seal water and piping																
<b>16</b> Inspect packing sleeves																
<b>17</b> Clean packing box																
<b>18</b> Perform a field test																
<b>19</b> Perform a vibration test																



A R K A N S A S  
Department of Environmental Quality

June 27, 2011

Adam Roark, PE  
City Engineer  
City of Siloam Springs  
P.O. Box 80  
Siloam Springs, AR 72761

Re: NPDES Permit Nos.: AR0020273, AFIN: 04-00106  
Response to Inspection

Dear Mr. Roark:

The Department is in receipt of your June 2, 2011 response to the May 21-22, 2011 compliance and sampling inspection of the Siloam Springs wastewater treatment facility. After careful consideration, the Department has denied your request to issue an amended inspection report. However, the Department has the following comments concerning the response to the specific violations cited in the inspection:

The Department disagrees with the city's position that the diverting of screened influent directly to the Biological Nutrient Removal System (BNR) does not constitute a bypass. However, Part II, Section B, Paragraph 4(a) of NPDES Permit No.: AR0020273 allows for any bypass to occur that does not cause effluent limitations to be exceeded if the bypass is necessary for essential maintenance to ensure efficient operation. Bypasses of this nature are not subject to the reporting requirements of Part II, Section B, Paragraph 4(b) and (c).

The Department has deemed the response concerning the solids that were bulking and flowing over the weir to be satisfactory and has no further comment.

The Department agrees that there was no violation of Part III, Condition 12 of NPDES Permit No.: AR0020273 and has no further comment.

The Department has deemed the response concerning the plant records satisfactory and has no further comment.

Adam Roark, PE  
June 27, 2011  
Page 2

If we need further information concerning this matter, we will contact you. Thank you for your attention to this matter. Should you have any questions, feel free to contact me at 501-682-0635 or you may e-mail me at [anderson@adeq.state.ar.us](mailto:anderson@adeq.state.ar.us).

Sincerely,

A handwritten signature in cursive script that reads "Alan Anderson". The signature is written in black ink and has a long, sweeping horizontal line extending to the right.

Alan Anderson  
Enforcement Analyst  
Water Division Enforcement Branch