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ENVIRONMENT DEPARTMENT

*Surface Water Quality Bureau*

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BUTCH TONGATE  
Deputy Secretary

JAMES H. DAVIS, Ph.D.  
Director  
Resource Protection Division

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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 22, 2012

Mr. Darrell Benjamin, Utilities Director  
Village of Angel Fire  
P.O. Box 610  
Angel Fire, NM 87710

**Re: Minor Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Angel Fire WWTP, NM0030503, June 19, 2012**

Dear Mr. Benjamin,

Enclosed, please find a copy of the report and checklist for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the Federal Clean Water Act.

Findings are based on the inspector's observations in regards to specific requirements of the NPDES permit. The Angel Fire WWTP received an overall evaluation rating of "3" on a scale of 1 to 5. The evaluation indicates the quality of the self-monitoring program for a specific facility. The highest rating of "5" is used for facilities with very reliable self-monitoring programs, a "3" is considered satisfactory, and a "1" is used for very unreliable self-monitoring programs.

The main issues were found in the areas of Operations and Maintenance, Flow Measurement and Laboratory. Please refer to the Further Explanations section of the report for more detail.

I wish to thank you for the cooperation extended to the NMED while at the Angel Fire Wastewater Treatment Plant by yourself, Rick Tafoya and Brandon Glaze. If you have any questions about this inspection report, please contact me at (505) 222-9587 or [sarah.holcomb@state.nm.us](mailto:sarah.holcomb@state.nm.us).

Sincerely,  
/s/ Sarah Holcomb  
Sarah Holcomb  
Environmental Scientist/Specialist  
Surface Water Quality Bureau

Cc: Carol Peters-Wagnon, USEPA (6EN-WM) by email  
Samuel Tate, USEPA (6EN-AS) by email  
Diana McDonald, USEPA (6EN-WM) by email  
Larry Giglio, USEPA (6WQ-P) by email  
Hannah Branning, USEPA (6EN-AS), by email  
Bob Italiano, NMED District II Manager, by email



Form Approved  
OMB No. 2040-0003  
Approval Expires 7-31-85

**NPDES Compliance Inspection Report**

**Section A: National Data System Coding**

|                      |   |       |   |   |   |                            |   |   |   |   |   |           |   |    |    |                    |              |   |           |   |          |    |    |   |    |   |    |   |  |  |  |  |  |  |  |  |  |
|----------------------|---|-------|---|---|---|----------------------------|---|---|---|---|---|-----------|---|----|----|--------------------|--------------|---|-----------|---|----------|----|----|---|----|---|----|---|--|--|--|--|--|--|--|--|--|
| Transaction Code     |   | NPDES |   |   |   |                            |   |   |   |   |   | yr/mo/day |   |    |    |                    | Inspec. Type |   | Inspector |   | Fac Type |    |    |   |    |   |    |   |  |  |  |  |  |  |  |  |  |
| 1                    | N | 2     | 5 | 3 | N | M                          | 0 | 0 | 3 | 0 | 5 | 0         | 3 | 11 | 12 | 1                  | 2            | 0 | 6         | 1 | 9        | 17 | 18 | C | 19 | S | 20 | 1 |  |  |  |  |  |  |  |  |  |
| Remarks              |   |       |   |   |   |                            |   |   |   |   |   |           |   |    |    |                    |              |   |           |   |          |    |    |   |    |   |    |   |  |  |  |  |  |  |  |  |  |
| M I N O R            |   |       |   |   |   | W W T P                    |   |   |   |   |   |           |   |    |    |                    |              |   |           |   |          |    |    |   |    |   |    |   |  |  |  |  |  |  |  |  |  |
| Inspection Work Days |   |       |   |   |   | Facility Evaluation Rating |   |   |   |   |   | BI        |   | QA |    | -----Reserved----- |              |   |           |   |          |    |    |   |    |   |    |   |  |  |  |  |  |  |  |  |  |
| 67                   |   |       |   |   |   | 70                         |   |   |   |   |   | 71        |   | 72 |    | 73 74 75 80        |              |   |           |   |          |    |    |   |    |   |    |   |  |  |  |  |  |  |  |  |  |

**Section B: Facility Data**

|   |  |  |  |  |  |   |  |
|---|--|--|--|--|--|---|--|
| Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number)<br><b>ANGEL FIRE WWTP, COLFAX COUNTY, NEW MEXICO; ANGEL FIRE WWTP – NM HWY 434 TO ANGEL FIRE, AT MILEPOST 35 TURN EAST ON CAMINO GRANDE AND GO 0.5 MILE, TURN LEFT ON SERVICES RD &amp; GO 0.6 MILES (PAST VILLAGE SOLID WASTE FACILITY) TO WWTP ENTRANCE.</b> |  | Entry Time /Date<br>1030 HOURS / 6-19-2012 |  | Permit Effective Date<br>11-1-2007   |  |   |  |
|   |  | Exit Time/Date<br>1240 HOURS / 6-19-2012   |  | Permit Expiration Date<br>10-31-2012   |  |   |  |
| Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)<br>MR. RICK TAFOYA, SUPERINTENDENT (505) 377-1677 X 107<br>MR. BRANDON GLAZE, PLANT OPERATOR (505) 377-1677 X 101   |  |  |  | Other Facility Data  |  |   |  |
| Name, Address of Responsible Official/Title/Phone and Fax Number<br>MR. DARRELL BENJAMIN, UTILITIES DIRECTOR, VILLAGE OF ANGEL FIRE<br>PO BOX 610, ANGEL FIRE, NM 87710 (505) 377-1677 X 103  |  |  |  | Contacted<br>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |  | GPS:<br>N. 36° 24.246'<br>W. -105° 17.013'<br><br>SIC: 4952 |  |

**Section C: Areas Evaluated During Inspection**

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

|   |                           |   |                         |   |                          |   |                      |
|---|---------------------------|---|-------------------------|---|--------------------------|---|----------------------|
| S | Permit                    | M | Flow Measurement        | M | Operations & Maintenance | N | CSO/SSO              |
| S | Records/Reports           | S | 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)**

1. INSPECTOR ARRIVED AT THE FACILITY AT 1030 HOURS ON JUNE 19, 2012. CONDUCTED ENTRANCE INTERVIEW WITH MR. DARRELL BENJAMIN, MR. RICK TAFOYA AND MR. BRANDON GLAZE. THE INSPECTOR MADE INTRODUCTIONS, PRESENTED HER CREDENTIALS AND DISCUSSED THE PURPOSE OF THE INSPECTION.
2. PLEASE SEE INSPECTION REPORT FOR FURTHER DETAILS.

|  |                                     |           |
|--|-------------------------------------|-----------|
| Name(s) and Signature(s) of Inspector(s) | Agency/Office/Telephone/Fax         | Date      |
| Sarah Holcomb /s/ Sarah Holcomb          | 505-222-9587                        | 6-22-2012 |
| Signature of Management QA Reviewer      | Agency/Office/Phone and Fax Numbers | Date      |
| Richard Powell /s/ Richard Powell        | 505-827-2798                        | 6-22-2012 |

ANGEL FIRE WWTP

PERMIT NO. NM0030503

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO)  
 DETAILS: PERMITTEE SUBMITTED PERMIT RENEWAL APPLICATION IN APRIL. PERMITTEE COVERED UNDER NMED GWQB PERMIT #DP156.

- 1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE  Y  N  NA
- 2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES  Y  N  NA
- 3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT  Y  N  NA
- 4. ALL DISCHARGES ARE PERMITTED  Y  N  NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT.  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO)  
 DETAILS:

- 1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.  Y  N  NA
- 2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE.  S  M  U  NA
  - a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING  Y  N  NA
  - b) NAME OF INDIVIDUAL PERFORMING SAMPLING  Y  N  NA
  - c) ANALYTICAL METHODS AND TECHNIQUES.  Y  N  NA
  - d) RESULTS OF ANALYSES AND CALIBRATIONS.  Y  N  NA
  - e) DATES AND TIMES OF ANALYSES.  Y  N  NA
  - f) NAME OF PERSON(S) PERFORMING ANALYSES.  Y  N  NA
- 3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE.  S  M  U  NA
- 4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR.  S  M  U  NA
- 5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA.  Y  N  NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED.  S  M  U  NA (FURTHER EXPLANATION ATTACHED YES)  
 DETAILS:

- 1. TREATMENT UNITS PROPERLY OPERATED.  S  M  U  NA
- 2. TREATMENT UNITS PROPERLY MAINTAINED.  S  M  U  NA
- 3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED.  S  M  U  NA
- 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.  S  M  U  NA
- 5. ALL NEEDED TREATMENT UNITS IN SERVICE  S  M  U  NA
- 6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.  S  M  U  NA
- 7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.  S  M  U  NA
- 8. OPERATION AND MAINTENANCE MANUAL AVAILABLE.  Y  N  NA  
 STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED.  Y  N  NA  
 PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.  Y  N  NA

## SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR?  Y  N  NA  
 IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED?  Y  N  NA  
 HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS?  Y  N  NA

10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT?  Y  N  NA  
 IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT?  Y  N  NA

## SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO).  
 DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT.  Y  N  NA

2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.  Y  N  NA

3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT.  Y  N  NA

4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT.  Y  N  NA

5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT.  Y  N  NA

6. SAMPLE COLLECTION PROCEDURES ADEQUATE  Y  N  NA

a) SAMPLES REFRIGERATED DURING COMPOSITING.  Y  N  NA

b) PROPER PRESERVATION TECHNIQUES USED.  Y  N  NA

c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3.  Y  N  NA

7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT?  Y  N  NA

## SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED YES)  
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED.  Y  N  NA  
 TYPE OF DEVICE 9-inch Parshall flume

2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED.  Y  N  NA

3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED.  Y  N  NA

4. CALIBRATION FREQUENCY ADEQUATE.  Y  N  NA  
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES.  Y  N  NA  
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.  Y  N  NA

5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE.  Y  N  NA

6. HEAD MEASURED AT PROPER LOCATION.  Y  N  NA

7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES.  Y  N  NA

## SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED YES)  
 DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES)

Y  N  NA

ANGEL FIRE WWTP

PERMIT NO. NM0030503

**SECTION F - LABORATORY (CONT'D)**

2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED  Y  N  NA

3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.  S  M  U  NA

4. QUALITY CONTROL PROCEDURES ADEQUATE.  S  M  U  NA

5. DUPLICATE SAMPLES ARE ANALYZED, 10 % OF THE TIME.  Y  N  NA

6. SPIKED SAMPLES ARE ANALYZED, 0 % OF THE TIME.  Y  N  NA

7. COMMERCIAL LABORATORY USED.  Y  N  NA

|                      |   |  |
|----------------------|---|--|
| LAB NAME             | RED RIVER WWTP                              | INTERLAB                                     |
| LAB ADDRESS          | HWY 38, MILE MARKER 10, RED RIVER, NM 87558 | 3655 RESEARCH DR. #108, LAS CRUCES, NM 88003 |
| PARAMETERS PERFORMED | E. COLI                                     | BOD, TSS, ALUMINUM                           |

**SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS.**  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO.)

| OUTFALL NO. | OIL SHEEN    | GREASE       | TURBIDITY    | VISIBLE FOAM | FLOAT SOL.   | COLOR        | OTHER |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| 001         | NO DISCHARGE |       |
|             |              |              |              |              |              |              |       |
|             |              |              |              |              |              |              |       |

RECEIVING WATER OBSERVATIONS NO DISCHARGE AT THE TIME OF THIS INSPECTION.

**SECTION H - SLUDGE DISPOSAL**

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO.)  
DETAILS:

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY.  S  M  U  NA

2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503.  S  M  U  NA

3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: N/A - LANDFILLED (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

**SECTION I - SAMPLING INSPECTION PROCEDURES** (FURTHER EXPLANATION ATTACHED NO.)

1. SAMPLES OBTAINED THIS INSPECTION.  Y  N  NA

2. TYPE OF SAMPLE OBTAINED  
GRAB \_\_\_\_\_ COMPOSITE SAMPLE \_\_\_\_\_ METHOD \_\_\_\_\_ FREQUENCY \_\_\_\_\_

3. SAMPLES PRESERVED.  Y  N  NA

4. FLOW PROPORTIONED SAMPLES OBTAINED.  Y  N  NA

5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE.  Y  N  NA

6. SAMPLE REPRESENTATIVE OF VOLUME AND MATURE OF DISCHARGE.  Y  N  NA

7. SAMPLE SPLIT WITH PERMITTEE.  Y  N  NA

8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED.

Y  N  NA

9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT.

Y  N  NA

### Introduction

On June 19, 2012, Sarah Holcomb of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Angel Fire Wastewater Treatment Plant (WWTP). The Angel Fire WWTP has a design flow capacity of 0.5 MGD (million gallons per day) and is classified as a minor municipal discharger under the Federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. It is assigned NPDES permit number NM0030503. This permit regulates the WWTP discharge to the Cieneguilla Creek, thence to Eagle Nest Lake, thence to the Cimarron River, thence to the Canadian River in Segment 20.6.4.309 of the Canadian River Basin according to the *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC*. This segment includes the designated uses of domestic water supply, irrigation, high quality coldwater aquatic life, livestock watering, wildlife habitat, public water supply and primary contact.

The NMED performs a certain number of CEIs for the U.S. Environmental Protection Agency (USEPA), Region VI, under the NPDES permit program, in accordance with the Federal Clean Water Act. USEPA uses these inspections to determine compliance with the NPDES permit program. This inspection report is based on information provided by the permittee's representatives, observations made by the NMED inspector, and records and reports kept by the permittee and/or NMED.

Upon arrival at the WWTP at 1030 hours on June 19, 2012, the inspector met Brandon Glaze, Plant Operator. The inspector waited for Mr. Darrell Benjamin, Utility Director and Mr. Rick Tafoya, Superintendent, to arrive back at the plant to conduct the entrance interview. Upon arrival, the inspector showed her credentials, explained the purpose of the inspection and conducted the entrance interview and went on a tour of the facility with Mr. Benjamin, Mr. Tafoya and Mr. Glaze. Inspection of records and the laboratory commenced thereafter. An exit interview was conducted at 1230-1240 hours on June 19, 2012 with Mr. Benjamin, Mr. Tafoya and Mr. Glaze.

### Treatment Scheme

The Angel Fire WWTP is a sequential batch reactor (SBR) system with ultra-violet (UV) disinfection that began operating in November 1999. The plant design capacity is 0.5 MGD and the average influent rate is currently approximately 0.1 MGD (the max rate in the winter/busy season is about 0.3 MGD). In addition to the SBR system, this facility also has one synthetically lined lagoon that stores wastewater prior to discharge to either the receiving stream or to a land application area. The NMED Ground Water Quality Bureau regulates the discharges to the land application area under Discharge Permit #156. The facility began discharging from NPDES outfall 001 for the first time on May 16, 2005.

Wastewater is pumped by three lift stations in town to a large lift station south of the SBR plant. A septage dump station with bar screen is also available for use at the large lift station by septic haulers. Currently, there are three septic haulers that use the facility with one hauler being from out of town. Influent enters the wet well, flows into a mixer tank (where water is added for dilution), then goes through a bar screen which is manually cleaned. Debris and screenings removed from the headworks are disposed at the solid waste facility across the street from the lift station/headworks. Wastewater is then pumped from the lift station up to the splitter box that serves the SBR basins.

There are two reactor basins, each equipped with a decant arm. Currently only one basin is used at a time for treatment while the other basin is used to handle and store waste sludge generated from the treatment basin. Since influent rates are much lower than the design capacity, the facility alternates use of the reactor basins every other year without compromising treatment efficiency, according to the permittee's representatives. However, the facility is expecting to receive an increase in influent in the near future. The Village is currently installing new sewer lines and will be bringing other businesses online to the SBR, including a car wash. The utility does have a pretreatment ordinance in place to deal with restaurant discharges of oil and grease and has already incorporated the car wash into the ordinance. The SBR unit

operates on a 4-hour cycle of aeration, settling and decanting controlled by a computerized control system (Cutler-Hammond Panel Mate). Scum, debris, and solids are manually skimmed off the surface of the basin on a daily basis and taken to an off-site landfill for disposal. After final treatment in the SBR basin, wastewater enters the UV system for disinfection. The UV system (Aqua Ray 40) consists of five banks of lights situated over a concrete channel. The lights are cleaned monthly with citric acid and the channel is cleaned with wire brushes weekly.

Wastewater leaves the UV channel, enters the WWTP lagoon, and then flows through a pipeline to the effluent pump house located near the outfall. The pump house and outfall pipe are located off Flamingo Road about 2 miles south of the SBR plant site. The pump house contains both an in-line flow meter to measure effluent and a sampling port to collect effluent samples directly from the pipeline. The effluent pipeline leaves the pump house and discharges to outfall 001 a short distance away. The pipe comes directly out of the stream bank under a culvert and discharges into Cieneguilla Creek.

### **Solids Management**

Waste sludge from one SBR basin is first stored in the unused reactor basin before it goes into the aerobic digester. The digester is situated on the south side of the reactor basins. Sludge from the digester is sent to the sludge belt press, which is located in a building next to the SBR plant. Sludge from the press is placed into a roll off container and delivered to the Waste Management Sanitary Landfill in Rio Rancho, NM for final disposal.

## Further Explanations

Note: The sections are arranged according to the format of the enclosed EPA Inspection Checklist (Form 3560-3), rather than being ranked in order of importance.

### Section C – Operations and Maintenance Evaluation – Overall Rating of “Marginal”

The permit states in Part III.B.3.a:

*The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as effectively as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit...*

#### Findings for Operations and Maintenance:

During the inspection, it was noticed that there were significant amounts of solids throughout the plant. The permittee's representatives indicated that they were well aware of the issue. Currently the facility's headworks consists of a bar screen with approximately 1" openings that is manually cleaned every day. The 1" opening allows a fair amount of solids to continue through to the rest of the treatment system. The facility does own a mechanical bar screen but has had multiple problems with it due to cold temperatures and freezing during the winter. The operators have installed a heating system to protect the mechanical bar screen but it has not worked.

Also, the permittee's representative indicates that the facility's UV system is on its last legs. Mr. Benjamin indicated that he had submitted a loan application for approximately \$230,000 to the NMED Construction Programs Bureau for funding under the State Revolving Loan Fund in order to replace the UV system and to obtain a better headworks solids removal system. The permittee is hoping to install a Trojan UV system and a Channel Monster at the headworks.

The facility has had issues with their sludge belt press. At the time of this inspection, the belt press had been nonfunctional for approximately 6-7 weeks according to the permittee's representatives, but had been online for about a week when the inspector arrived. When the belt press is not operating, the facility is forced to contain the sludge in their digester for long sludge retention times. During this inspection, the permittee's representative indicated that the SRT in the reactor basin was about 30 days and the SRT in the digester was closer to 60 days. This could contribute to serious issues in the future, such as settling problems. During this inspection the permittee's representative indicated that their settleometer tests were at about 45% sludge volume.

However, the permittee does work diligently to do a good job with the plant that they currently have.

### Section E – Flow Measurement – Overall Rating of “Marginal”

The permit states, in Part III.C.6:

*Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.*

#### Findings for Flow Measurements:

The permittee contracts an outside representative to come in once per year to calibrate their flow meters. The last calibration showed that the flow measurement equipment was measuring within +/-0.5% of true discharge rates. The permittee's representative indicated that they conduct visual flow measurement checks when the headworks is visited for the purposes of cleaning the bar screen. However, no record is kept of these visual checks.

Also, upon inspection of the flow measurement equipment, the inspector noted that the staff gage located within the Parshall flume has deteriorated to the point where it is difficult to read the flow measurement. It is strongly recommended that the staff gage be replaced to ensure an accurate reading.

### **Section F - Laboratory Evaluation – Overall Rating of “Marginal”**

The permit states in Part III.C.4:

#### **Record Contents**

*Records of monitoring information shall include:*

- a. The date, exact place, and time of sampling or measurements;*
- b. The individual(s) who performed the sampling or measurements;*
- c. The date(s) and time(s) analyses were performed;*
- d. The individual(s) who performed the analyses;*
- e. The analytical techniques or methods used; and*
- f. The results of such analyses.*

The permit states in Part III.C.5.b:

*The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*

#### **Findings** for Laboratory:

The inspector reviewed the facility's procedures for pH, as the only test that is conducted for permit compliance on-site. All other tests are sent out to contract laboratories. In review of the pH bench sheet, it was noted that when calibration is conducted, the value recorded is more than the recommended tenth of a pH standard unit from the buffer value (e.g., calibration value for a measurement on December 1, 2011 was 6.58 for a 7.0 buffer). The permittee's representative explained that this is the value that is found initially during the calibration, and that the final calibration value is recorded in a separate log book. It is strongly recommended that all data is recorded in one place. There is no reason to record the initial value during calibration of an instrument and it is recommended that this practice be discontinued. For an outside party to review this record, it would appear that the calibration is not being done properly. The permittee's representative indicated that a revision of the pH bench sheet was planned for the near future.

## Discharge Monitoring Report Calculation Check

The DMR calculation check was conducted for the parameters of BOD, TSS and *E. coli* for the month of December 2011.

✓ = in agreement with calculation result submitted on facility's DMR.

| <u>Date</u> | <u>BOD Result</u> |
|-------------|-------------------|
| 12-2-2011   | 11.0 mg/L         |
| 12-13-2011  | 5.0 mg/L          |

### Loading:

December's 30-day average :

$$11.0 \text{ mg/L} \times 8.34 \times .0455 \text{ mgd} = 4.17 \text{ mg/L}$$

$$5.0 \text{ mg/L} \times 8.34 \times .1303 \text{ mgd} = 5.43 \text{ mg/L}$$

$$\text{Avg: } (4.17 + 5.43)/2 = 4.8 \text{ mg/L (This was reported as 4.8 mg/L) } \checkmark$$

$$\text{December's 7-day average} = 5.43 \text{ mg/L (This was reported as 5.42 mg/L) } \checkmark$$

### Concentration:

$$\text{December's 30-day average} = (11 \text{ mg/L} + 5 \text{ mg/L})/2 = 8.0 \text{ mg/L } \checkmark$$

$$\text{December's 7-day average} = 11 \text{ mg/L } \checkmark$$

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| <u>Date</u> | <u>TSS Result</u> |
|-------------|-------------------|
| 12-2-2011   | 16.5 mg/L         |
| 12-13-2011  | 2.0 mg/L          |

### Loading:

December's 30-day avg loading:

$$16.5 \text{ mg/L} \times 8.34 \times .0455 \text{ mgd} = 6.26 \text{ lbs/day}$$

$$2.0 \text{ mg/L} \times 8.34 \times .1303 \text{ mgd} = 2.17 \text{ lbs/day}$$

$$(6.26 + 2.17)/2 = 4.22 \text{ lbs/day (This was reported as 4.22 lbs/day) } \checkmark$$

December's 7-day avg loading:

$$6.26 \text{ lbs/day (This was reported as 6.26 lbs/day) } \checkmark$$

### Concentration:

$$\text{December's 30-day avg concentration: } (16.5 \text{ mg/L} + 2.0 \text{ mg/L})/2 = 9.25 \text{ mg/L (This was reported as 9.25 mg/L) } \checkmark$$

$$\text{December's 7-day avg concentration: } 16.5 \text{ mg/L (Reported as 16.5 mg/L) } \checkmark$$

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| <u>Date</u> | <u>E. Coli Result</u> |
|-------------|-----------------------|
| 12-8-2011   | 126.9 cfu/100 mls     |
| 12-27-2011  | 162.0 cfu/100 mls     |

### Concentration:

December's 30-day avg concentration:

$$126.9 \times 162.0 = \sqrt{20557.8} = 143.379 \text{ cfu/100 mls (This was reported as 141.2 cfu/100 mls) } \checkmark$$

December's 7-day avg concentration:

162.0 cfu/100 mls (This was reported as 162.0 cfu/100 mls)  $\checkmark$