

**Environmental
Protection Agency**

John E. Kasich Governor

Ben Taylor Lt. Governor

Scott J. Haly Director

December 6, 2011

RE: MEDINA COUNTY
LAFAYETTE TOWNSHIP
CLOVERLEAF SCHOOLS
CEI
(NPDES PERMIT 3PT00069)

Mr. Daryl Kubilus, Superintendent
Cloverleaf School District
8525 Friendsville Rd.
Lodi, OH 44254

Dear Mr. Kubilus:

On November 3, 2011, a compliance evaluation inspection (CEI) was conducted on the wastewater treatment plants (WWTP) serving the Cloverleaf Middle/Senior High School complex. The facilities are located at 8525 Friendsville Road, in Lafayette Township, Medina County. Present for the inspection were Mr. Hank Krouse, representing the Cloverleaf School System, and this writer.

The purpose of the inspection was to evaluate the Operation and Maintenance of both of the WWTPs, and to evaluate compliance with their National Pollutant Discharge Elimination System (NPDES) permit effluent limits. The previous CEI was conducted on December 22, 2009.

Since the last inspection the Middle School WWTP has been upgraded to accept additional flow from the new Elementary School. The additional flow will be pumped via forcemain from the new Elementary School to the Middle School WWTP. The former Elementary School WWTP will be abandoned when the K through 4 school is opened in January 2012.

At the time of the November 3rd inspection, the following observations were made of the two WWTPs:

Cloverleaf Middle School WWTP (STA 602):

- 1) The trash trap was in use and contents were typical. A bar screen has been added in the trash trap area.
- 2) The flow equalization chamber and pumps were being utilized and were operating properly. A second flow equalization tank was installed as part of the WWTP upgrade. Wastewater is transferred from the flow equalization tanks to the aeration tanks by Geiser pumps.
- 3) The extended aeration tank contents were light grayish-brown in color, and were being well aerated. The return activated sludge (RAS) line was operational, and was returning clear water. Mixed Liquor Suspended Solids (MLSS) concentrations in the aeration tank appeared to be very low, indicating the facility is organically underloaded, and should benefit from the addition of the wastewater from the new elementary school. Blower motors for the aeration tank are controlled by a timer.

Results of 30 minute settling tests conducted by Mr. Krouse only exhibit a slight 'dusting' of settled solids on the bottom of the test container, confirming the solids underloading of the WWTP.

- 4) Settling tank contents were typical, and the surface skimmer was operational, returning clear water to the aeration tank. The effluent trough was free of solids, and the settling tank effluent was clear.
- 5) Pumps in the surface sand filter dosing station were operational. The pump station has no recording totalizer to measure flow rates. As part of the WWTP upgrade, a new flow meter will be installed in the near future.
- 6) The north cell of the surface sand filter sand was in use, and contained a very slight deposition of solids. The south filter cell was clean and raked level. Neither filter cell contained vegetative growth.
- 7) When required, effluent disinfection is accomplished by tablet chlorination units located in the contact tank. The chlorination units contained no tablets, as disinfection of the effluent is not required for the period of November 1st through April 30th.
- 8) Treated effluent from the WWTP was visually clear and free of solids. Effluent is discharged to an on-site lagoon, which has the capability of continuous overflow to Camel Creek when full.

Cloverleaf High School WWTP (STA 603):

- 1) The trash trap was being utilized and contents were typical.
- 2) The flow equalization chamber contents were turbid gray and well aerated. Flow equalization tank pumps were being utilized and were operating properly. The blower motors for the flow equalization tank are controlled by a timer, operating for 20 minutes, and off for 10 minutes.
- 3) Extended aeration tank contents were medium brown and well aerated. The return activated sludge (RAS) line was operating, returning brown sludge to the aeration tank. Blower motors for the extended aeration tank are controlled by a timer, operating for 30 minutes, and off for 6 minutes.
- 4) Settling tank contents were typical, and the skimmer was operating. The settling tank effluent trough was free of solids or algal growth, and the effluent was clear.
- 5) Pumps in the surface sand filter dosing station were operational, and the high level alarm operated when manually tested. The pump station has no recording totalizer, and flows are estimated by daily reading of the water meter at the high school. **It is recommended that a recording flow meter be installed at the High School WWTP, as is being installed at the Middle School WWTP. Accurate flow measurements are a required part of the NPDES permit reporting.**

- 6) The north cell of the surface sand filter was in use, and a deposition of solids was observed. The south filter cell sand was free of solids and the sand was raked level.
- 7) When required, effluent disinfection is accomplished by tablet chlorination units located in the contact tank. The chlorination units contained no tablets, as disinfection of the effluent is not required for the period of November 1st through April 30th.
- 8) Treated effluent from the WWTP was visually clear and free of solids. Effluent is discharged to an on-site lagoon, which has the capability of continuous overflow to Camel Creek.

At the time of the November 3rd inspection there was no discharge from the lagoon (STA 001) to Camel Creek. Although the lagoon has the capability of continuous discharge, flow from the lagoon is largely dependent upon precipitation events and school activity. The lagoon outlet had the NPDES-required sign posted, with information identifying the outlet as treated effluent, and lists NPDES permit holder information.

A review of the electronic Discharge Monitoring Reports (eDMR's) submitted to the Ohio EPA for the Cloverleaf Schools WWTPs, for the period of December 1, 2009 through November 1, 2011, found the following effluent limit numeric violations for the facilities:

**CLOVERLEAF LOCAL SCHOOLS
 MIDDLE & HIGH SCHOOLS
 FINAL EFFLUENT NUMERIC VIOLATIONS
 NPDES PERMIT NO. 3PT00069
 (Dec. 1, 2009 through Nov 1, 2011)**

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2010	602	Nitrogen, Ammonia (NH3-N)	7D Conc	4.5	4.88	1/22/2010
May 2010	602	Nitrogen, Ammonia (NH3-N)	30D Conc	1.0	1.88	5/1/2010
May 2010	602	Nitrogen, Ammonia (NH3-N)	7D Conc	1.5	1.88	5/1/2010
September 2010	602	Dissolved Oxygen	1D Conc	6.0	5.31	9/2/2010
October 2010	602	Dissolved Oxygen	1D Conc	6.0	5.92	10/1/2010
March 2011	602	Total Suspended Solids	30D Qty	0.90	30280.	3/1/2011
March 2011	602	Total Suspended Solids	7D Qty	1.37	30280.	3/1/2011
March 2011	602	Nitrogen, Ammonia (NH3-N)	30D Conc	3.0	3.3	3/1/2011
March 2011	602	Nitrogen, Ammonia (NH3-N)	30D Qty	0.23	49962.	3/1/2011
March 2011	602	Nitrogen, Ammonia (NH3-N)	7D Qty	0.34	49962.	3/1/2011
March 2011	602	CBOD 5 day	30D Qty	0.75	30280.	3/1/2011
March 2011	602	CBOD 5 day	7D Qty	1.14	30280.	3/1/2011
April 2011	602	Dissolved Oxygen	1D Conc	6.0	5.55	4/15/2011
May 2011	602	Total Suspended Solids	30D Conc	12	26	5/1/2011
May 2011	602	Total Suspended Solids	7D Conc	18	26.	5/1/2011
May 2011	602	Nitrogen, Ammonia (NH3-N)	30D Conc	1.0	5.35	5/1/2011
May 2011	602	Nitrogen, Ammonia (NH3-N)	7D Conc	1.5	5.35	5/1/2011

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
May 2011	602	Dissolved Oxygen	1D Conc	6.0	4.95	5/2/2011
May 2011	602	Dissolved Oxygen	1D Conc	6.0	5.11	5/9/2011
May 2011	602	Dissolved Oxygen	1D Conc	6.0	4.69	5/16/2011
May 2011	602	Dissolved Oxygen	1D Conc	6.0	4.27	5/23/2011
July 2011	602	Dissolved Oxygen	1D Conc	6.0	5.61	7/29/2011
August 2011	602	Dissolved Oxygen	1D Conc	6.0	5.71	8/9/2011
August 2011	602	Dissolved Oxygen	1D Conc	6.0	5.65	8/16/2011
September 2011	602	Dissolved Oxygen	1D Conc	6.0	5.52	9/22/2011
September 2010	603	Dissolved Oxygen	1D Conc	6.0	5.9	9/2/2010
April 2011	603	Total Suspended Solids	30D Qty	0.90	61317.	4/1/2011
April 2011	603	Nitrogen, Ammonia (NH3-N)	30D Qty	0.23	2657.07	4/1/2011
April 2011	603	CBOD 5 day	30D Qty	0.75	20439.	4/1/2011
April 2011	603	Total Suspended Solids	7D Qty	1.37	61317.	4/8/2011
April 2011	603	Nitrogen, Ammonia (NH3-N)	7D Qty	0.34	2657.07	4/8/2011
April 2011	603	CBOD 5 day	7D Qty	1.14	20439.	4/8/2011
May 2011	603	Dissolved Oxygen	1D Conc	6.0	5.65	5/2/2011
May 2011	603	Dissolved Oxygen	1D Conc	6.0	5.22	5/16/2011
May 2011	603	Dissolved Oxygen	1D Conc	6.0	4.	5/23/2011
July 2011	603	Dissolved Oxygen	1D Conc	6.0	5.61	7/29/2011
August 2011	603	Dissolved Oxygen	1D Conc	6.0	5.91	8/1/2011

** NOTE: Station 602 = Middle School WWTP
 Station 603 = High School WWTP

Dissolved oxygen violations appear to be a continuing problem in the effluent of both WWTPs. A plan to address these violations needs to be implemented as soon as possible. The addition of post aeration, prior to discharge, may be one simple solution.

Extremely high values reported for suspended solids, ammonia, and CBOD for the months of March 2011 and April 2011 should be checked for reporting/submitted error, and eDMR revisions submitted accordingly.

Cloverleaf Schools should continue with all efforts that will enable the School WWTPs to consistently meet the facility's NPDES Permit limits. Particular attention should be paid to determination of the cause of effluent violations, and implementation of any necessary corrective actions.

A review of the eDMR's submitted to the Ohio EPA for the Cloverleaf Local Schools WWTPs, for the same period of December 1, 2009 through November 1, 2011, found the following monitoring frequency violations for the facility:

**CLOVERLEAF LOCAL SCHOOLS
MIDDLE & HIGH SCHOOLS
REPORTING FREQUENCY VIOLATIONS
NPDES PERMIT NO. 3PT00069
(DEC. 1, 2009 THROUGH NOV 1, 2011)**

Reporting Period	Station	Parameter	Sample Frequency	Expected	Reported	Violation Date
March 2010	602	Fecal Coliform	1/2months	1	0	03/01/2010
June 2010	602	pH	1/Week	1	0	06/08/2010
June 2010	602	Dissolved Oxygen	1/Week	1	0	06/08/2010
June 2010	602	Dissolved Oxygen	1/Week	1	0	06/15/2010
June 2010	602	pH	1/Week	1	0	06/15/2010
June 2010	602	pH	1/Week	1	0	06/22/2010
June 2010	602	Dissolved Oxygen	1/Week	1	0	06/22/2010
November 2010	602	Fecal Coliform	1/2months	1	0	11/01/2010

Please review the above (apparent) frequency violations to determine if the parameters were ever measured; measured and not reported; or if they were measured and reported incorrectly in the monthly reports to the Agency.

A written explanation of the findings for all the above NPDES permit violations should be submitted to this office within 14 days of the receipt of this correspondence. If the data was collected and either not reported, or was erroneously reported, the eDMR should be amended with correct information.

If there are any questions or comments regarding the contents of this letter, please contact this office.

Respectfully,



Charles E. Allen
Environmental Engineer
Division of Surface Water

CA/cs

