



State of Ohio Environmental Protection Agency

**Northeast District Office**

2110 East Aurora Rd.  
Twinsburg, Ohio 44087

TELE: (330) 963-1200 FAX: (330) 487-0769  
www.epa.state.oh.us

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

January 28, 2009

RE: MEDINA COUNTY  
GRANGER TOWNSHIP  
HIGHLAND LOCAL SCHOOL DISTRICT  
HIGHLAND HS WWTP INSPECTION  
(NPDES NO. 3PT00111)

**CERTIFIED MAIL**

School Superintendent  
Highland Local School District  
3880 Ridge Road  
Medina, OH 44256

Dear Superintendent:

On January 21, 2009, a Compliance Evaluation Inspection (CEI) was conducted on the Highland Local School District wastewater treatment plant (WWTP). Present during the inspection were Mr. Gary Loomis, representing the school system, and this writer.

The purpose of the visit was to evaluate the Operation and Maintenance of the WWTP, and to evaluate the facility's compliance with National Pollutant Discharge Elimination System (NPDES) permit effluent limits. The previous CEI was conducted on November 1, 2007.

At the time of the inspection the general operation and maintenance of the plant could be rated as excellent. The following items were observed at the WWTP:

- 1) The flow equalization tank was in use and was being aerated. Blowers for the flow equalization tank are on a timer, and are on for a half hour out of two hours.
- 2) One of two aeration tanks was in use, and its contents were a watery medium brown, with no foam present. The return activated sludge line was operating, returning medium brown water.
- 3) One half of the settling tanks were in use, and contents of the settling tanks were clear and non turbid. The skimmer was operational and was properly adjusted. The effluent trough was clean and free of solids.
- 4) One quarter of the fixed media clarifier was in use, and was typical in appearance.
- 5) One of four surface sand filter cells (southeast) was in use, and the sand was free of snow and ice. All other cells were clean, level, and snow covered.
- 6) Effluent from the WWTP is disinfected using Ultra Violet disinfection. However, the UV unit was not in use at the time of the inspection, as the disinfection season is from May 1<sup>st</sup> through October 31<sup>st</sup> of each year.
- 7) Treated effluent from the WWTP is post aerated prior to discharge during the summer season (May 1<sup>st</sup> through October 31<sup>st</sup>).

8) Effluent from the WWTP was clear, and was visibly free of solids and foam.

During the period November 1, 2007, through January 1, 2009, the Highland Local Schools WWTP reported the following NPDES permit effluent violations in their monthly electronic discharge monitoring reports (eDMRs):

**HIGHLAND LOCAL SCHOOL DISTRICT  
NPDES Permit No. 3PT00111  
NPDES Numeric Effluent Limit Violations  
(Nov.1, 2007 – Jan. 1, 2009)**

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
November 2007	Nitrogen, Ammonia (NH3-N)	30D Conc	3.0	10.565	11/1/2007
November 2007	Nitrogen, Ammonia (NH3-N)	7D Conc	4.5	20.25	11/1/2007
December 2007	Nitrogen, Ammonia (NH3-N)	30D Conc	3.0	14.375	12/1/2007
December 2007	Nitrogen, Ammonia (NH3-N)	7D Conc	4.5	16.	12/1/2007
December 2007	Nitrogen, Ammonia (NH3-N)	7D Conc	4.5	12.75	12/22/2007

Items discussed with Mr. Loomis during the inspection were the following:

- All three schools discharge to the existing WWTP. However, due to the fact that actual wastewater flow is significantly less than the WWTP design flow, only half of the WWTP is operated.
- Following the November 2007 inspection, Mr. Loomis was referred to Messrs. Jon VanDommelen and Keith Kroeger, of the Ohio EPA central office, for an evaluation of the WWTP and technical assistance.

After several days of studying and testing at the WWTP by Messrs. VanDommelen and Kroeger, it was determined that the low alkalinity of the influent wastewater was creating the inability to properly remove the ammonia in the wastewater. This, in turn, was causing the numerous ammonia effluent violations which were itemized in the last inspection report.

It was determined that Mr. Loomis could add well water to the WWTP, increase the alkalinity, and properly remove the ammonia as needed. Since this practice was regularly implemented by Mr. Loomis, the ammonia violations have disappeared.

- Mr. Loomis is to be commended on the current operation and maintenance of the Highland Schools WWTP. As a result of his cooperation and work with our technical assistance group, and his desire to solve the problems he was having with the WWTP, the WWTP is now consistently producing an excellent quality effluent.
- Another operational improvement Mr. Loomis has implemented is to cover the openings of the gratings of the tanks with rubber matting. This allows the temperature of the tank contents to retain some of the heat that was being lost to the cold air above, and helps with biological treatment of the wastewater.

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- Half hour settling tests of the aeration tank contents are being conducted by Mr. Loomis. Results of the settling tests indicate a solids concentration of approximately 20% in the aeration tank water. This percentage of solids is on the low side of the desired suspended solids concentration in the aeration tank (typically 30% to 70%), and can make it more difficult for Mr. Loomis to operate the WWTP.

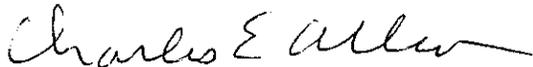
The low solids concentration is due to a low organic loading being discharged to the WWTP from the school. Mr. Loomis is diligently working on getting the best output from the WWTP, given the quality of the influent.

- Samples for analysis are collected by Mr. Loomis. Testing for temperature, pH, and Dissolved Oxygen is done on site. Testing for CBOD, suspended solids, ammonia, and fecal coliform is conducted by the Lodi WWTP.

Current operation and maintenance practices which are enabling the WWTP to consistently meet its NPDES Permit effluent limits should be continued.

If you have any comments or questions about this document, you may contact me at (330) 963-1110.

Respectfully,



Charles E. Allen  
Environmental Engineer  
Division of Surface Water

CEA/mt

File: SP/Medina/GrangerTwp/HighlandLocalSchools

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