



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

June 20, 2013

RE: LORAIN COUNTY  
EATON HOMES WWTP  
COMPLIANCE EVALUATION INSPECTION  
NPDES NO. 3PH00023

Lorain County Commissioners  
Administration Building  
216 Middle Avenue  
Elyria, OH 44035

Dear Commissioners:

On May 29, 2013, a Compliance Evaluation Inspection (CEI) was conducted on the Eaton Homes Wastewater Treatment Plant (WWTP). Present during the inspection were Mr. Steve Hicks, of the Lorain County Sanitary Engineer's Office; Mr. John Sabo, of the Lorain County Health Department; and this writer, of Ohio EPA.

The purpose of the inspection was to evaluate the operation and maintenance condition of the Eaton Homes WWTP, and to evaluate its compliance with the terms and conditions of its current National Pollutant Discharge Elimination System (NPDES) permit, prior to its renewal.

At the time of the May 29<sup>th</sup> inspection, the following observations were made:

- 1) The contents of the eastern extended aeration tank were medium brown in color, and were being well aerated. A slight amount of lighter brown foam was present along the edges of the tank. The suspended solids (MLSS) concentration appeared to be in a normal operating concentration, and return sludge to the eastern aeration tank was medium brown in color.

According to Mr. Hicks, the 30-minute settling test for the eastern aeration tank contents resulted in approximately 210 ml/1000 ml (21%).

- 2) The contents of the western extended aeration tank were also were dark brown in color, and being well aerated. The suspended solids concentration appeared to be in the normal operating concentration, and return sludge to the western aeration tank was medium brown in color.

According to Mr. Hicks, the 30-minute settling test for the western aeration tank contents resulted in approximately 400 ml/1000 ml (40%).

- 3) Contents of the settling tanks were clear for a depth of several feet, and there was a slight amount of floating pinfloc on the surface of the west settling tank. The settling tank effluent troughs were clean, and effluent leaving the settling tanks was clear. The sludge scraping mechanisms were operating in both settling tanks. The settling tanks are manually skimmed, if needed, during an operator's shift.

- 4) Both tertiary drum Aqua Disk filters were on-line and in the 'AUTO' mode. Backwash of the filter disks is automatically performed approximately every 15 minutes, if they have not automatically backwashed, due to a buildup of pressure head due to solids accumulation.
- 5) Final effluent is disinfected utilizing chlorine gas, and dechlorination is accomplished with a solution of 38% sodium bisulfite. Approximately 6 lbs/day of chlorine gas is used.

The chlorine contact tank contained a considerable amount of floating grease on the water surface, behind the initial baffles in the tank.

- 6) The Aerated Sludge Holding tank was full, contents were being well aerated, and were medium brown in color. Sludge is hauled a couple times per year either by Johnson Septic (~3000 gallons), or Father & Son Septic haulers (~3600 gallons), to the French Creek WWTP for treatment and disposal.
- 7) Effluent from the Eaton Homes WWTP was clear, and visually free of solids and foam.
- 8) The on-site standby generator is tested every Monday.
- 9) Effluent samples are collected by operators at the Eaton Estates WWTP, and are transported to the French Creek WWTP laboratory for analysis. Chain of Custody forms are utilized as a part of the sample collection/analysis procedure.
- 10) Lorain County Engineer personnel measure pH, DO, and temperature at the Eaton Estates WWTP. The remaining sample analysis is conducted by the French Creek WWTP lab.
- 11) At the last Eaton Homes WWTP inspection, two separate effluent discharge pipe locations were found by the receiving stream. Since the last inspection, Mr. Hicks located the source of the unpermitted discharge and sealed the pipe, therefore ensuring all treated effluent is directed to the receiving stream via the approved NPDES effluent discharge location.

The last CEI conducted at the Eaton Homes WWTP was on July 12, 2012. Since the last CEI, the Eaton Homes WWTP has reported the following NPDES Permit effluent violations in their monthly electronic Discharge Monitoring Reports (eDMR):

**EATON HOMES WWTP  
NPDES PERMIT NO. 3PH00023  
NUMERIC EFFLUENT VIOLATIONS  
(8/1/12 – 6/1/13)**

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
September 2012	Fecal Coliform	7D Conc	2000	2200.	9/15/2012
November 2012	Dissolved Oxygen	1D Conc	6.0	5.29	11/5/2012
January 2013	Total Suspended Solids	7D Conc	18	20.	1/1/2013
March 2013	Total Suspended Solids	30D Conc	12	14.5	3/1/2013

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
March 2013	Total Suspended Solids	7D Conc	18	31.	3/8/2013
March 2013	Oil and Grease, Hexane	1D Conc	10	10.2	3/12/2013
April 2013	Total Suspended Solids	30D Conc	12	12.5666	4/1/2013
April 2013	Total Suspended Solids	30D Qty	9.1	9.83004	4/1/2013
April 2013	Total Suspended Solids	7D Conc	18	24.	4/8/2013
April 2013	Total Suspended Solids	7D Qty	13.6	36.8704	4/8/2013

A review of the eDMRs for the same period also found the following monitoring frequency violations:

**EATON HOMES WWTP  
 NPDES PERMIT NO. 3PH00023  
 REPORTING FREQUENCY VIOLATIONS  
 (8/1/12 –6/1/13)**

Reporting Period	Parameter	Sample Frequency	Expected	Reported	Violation Date
November 2012	Total Suspended Solids	2/Week	2	1	11/22/2012
November 2012	CBOD 5 day	2/Week	2	1	11/22/2012
December 2012	Total Suspended Solids	2/Week	2	1	12/22/2012
December 2012	CBOD 5 day	2/Week	2	1	12/22/2012
January 2013	Total Suspended Solids	2/Week	2	1	1/1/2013
January 2013	CBOD 5 day	2/Week	2	1	1/1/2013
December 2012	Total Suspended Solids	1/Week	1	0	12/22/2012
December 2012	CBOD 5 day	1/Week	1	0	12/15/2012
December 2012	CBOD 5 day	1/Week	1	0	12/22/2012
January 2013	Total Suspended Solids	1/Week	1	0	1/1/2013
January 2013	CBOD 5 day	1/Week	1	0	1/1/2013

Items discussed with Mr. Hicks during the May 29<sup>th</sup> inspection at the Eaton Homes WWTP include the following:

- 1) Since the last inspection, MLSS concentrations in the aeration tanks have been kept at lower operating levels, and sludge wasting has increased. The number of suspended solids violations has been somewhat reduced, but the Eaton Homes WWTP is still experiencing problems with suspended solids violations, mostly during times of precipitation events.
- 2) The County has continued with its efforts in Inflow & Infiltration (I/I) reduction in the Eaton Homes sanitary sewer system. Sewer main lining, and smoke testing of laterals has been conducted in the development.
- 3) A total of 481 residences were smoke tested, with 45 found to have illegal connections or lateral repairs needed. Approximately 20 of those needing illegal connections removed, or repairs needed, were made as of October 2012.
- 4) The forthcoming NPDES permit renewal will contain a few minor changes to the final effluent table (STA 001).

- a. There will be an interim table in effect the first 11 months, in which fecal coliform limits will be kept as in the old permit, and E. coli will be monitored. As of 12 months after the permit effective date, the final table will become effective, and the fecal coliform monitoring will be eliminated, and replaced with E. Coli limits. Also, upstream and downstream fecal coliform monitoring will be replaced with E. coli monitoring.
- b) Monitoring for nitrate-nitrite nitrogen, and total dissolved solids, will be required in the final effluent.
- c) The renewed NPDES permit will also require posting of a sign at the WWTP outfall, which identifies the discharge as effluent from the WWTP, its permit number, and a contact telephone number.
- d) The renewed permit will include additional operator record keeping requirements in the form of an operator's log book. The log book will need to be hardbound, with numbered pages, and at a minimum, contain the following recorded information:
  - Date and times of arrival and departure for the operator of record, and another operator in attendance.
  - Specific O&M activities performed at the WWTP which affect, or have the potential to affect the quality or quantity of effluent being produced.
  - Results of tests performed, and samples taken, unless documented on a lab sheet.
  - Performance of preventative maintenance and repairs, or requests for repairs of equipment, having the potential to affect the quality or quantity of effluent being produced.
  - Identification of the persons making entries into the log book for that day.
- 5) Mr. Hicks indicated he would be retiring from the Lorain County Sanitary Engineers office by the end of June 2013. He was instructed to submit a written notification to this office, indicating when he would no longer be the responsible person in charge of the operation of the WWTP.
- 6) Upon Mr. Hicks' retirement, the County needs to name a properly licensed person as the Operator of Record for the WWTP, and submit the necessary ORC Form (EPA Form 5121) to this Agency.

The last Eaton Homes WWTP CEI report to the County (dated August 9, 2012) required the submission of an SNC Compliance Plan Report to the Ohio EPA. The SNC Compliance Plan Report was to address the significant effluent violations at the WWTP caused by the I/I problem in the development; summarize the County's efforts and capital expended to try and correct the I/I problem; and to evaluate if there was a correlation between precipitation events and final effluent limit violations. The required SNC report was received October 16, 2012, and addressed all 4 County WWTPs.

This office is requesting a follow-up meeting, preferably by August 1, 2013, to discuss the continuing effluent violations at the Eaton Homes Lake WWTP; to discuss the results presented in the SNC Compliance Plan; and to agree upon what additional efforts will be extended by the County to bring the Eaton Homes WWTP back into continued compliance.

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If there are questions or comments regarding this correspondence, please contact this writer at (330) 963-1110.

Respectfully,



Charles E. Allen  
Environmental Engineer  
Division of Surface Water

CEA/cs