Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

January 24, 2012

RE: LORAIN COUNTY
VILLAGE OF WELLINGTON WWTP
COMPLIANCE EVALUATION INSPECTION
NPDES NO. 3PC00014

Village of Wellington
Village Administrator and Council
115 Willard Memorial Square
Wellington, OH 44090
Attn: Mr. Steven Pyles, Village Administrator

Dear Village Administrator and Council:

On January 4, 2012, a Compliance Evaluation Inspection (CEI) was conducted at the Village of Wellington wastewater treatment plant (WWTP). Present during the inspection were Messrs. Mark Rosemark and Greg Frank, representing the Village of Wellington; Mr. John Sabo of the Lorain County Health Department; and this writer, of the Ohio EPA.

The purpose of the inspection was to evaluate the treatment plant processes, effluent discharge quality, and general compliance with the intent of the National Pollutant Discharge Elimination System (NPDES) permit terms and conditions. The last CEI conducted at the Wellington WWTP was on October 30, 2007.

At the time of the January 4th inspection, the following observations were made:

1) Influent enters the WWTP, passes through a bar screen, and continues to the aerated grit removal tank. The aerated grit removal tank was well aerated, with contents being turbid gray in color. Grit and screenings are collected and hauled to the Allied Waste landfill in Oberlin (approx. 2 c.y. per month).

2) Influent continues to two circular primary settling tanks, both of which were on-line. Contents of the primary settling tanks were also turbid gray in color, with a very slight presence of floating grease. The mechanical sludge scrapers were operating in the settling tanks.

3) Following primary settling, the chemical alum is fed to the wastewater to aid in solids settling further in the treatment process.

4) After alum addition, the wastewater enters three contact tanks aerated with fine bubble diffusion. The contact tanks are operated in parallel. Dissolved oxygen content of the aeration tanks ranges from approximately 4.5 ppm in the summer, to 7.0 ppm in the winter.

5) Following aeration in the contact tanks, the wastewater enters the roughing trickling filter, which was on-line.

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6) Two circular final settling tanks follow the roughing trickling filter, and their contents were light gray in color. Settled effluent in the troughs was clear, and the effluent weirs and troughs were clean and free of algae or solids.

7) Final effluent is disinfected utilizing Ultra Violet (UV) disinfection. At the time of the inspection, the UV unit was not in service, as disinfection is not required from November 1st through April 30th. The UV unit consists of two banks of UV bulbs, with four bulbs per bank.

8) Sludge at the WWTP is treated using two aerobic digesters, which are aerated using coarse bubble diffusers. Digested sludge is stored in two sludge storage lagoons, which were approximately ¾ full at the time of the inspection.

   Sludge is stored in the first lagoon for approximately two years, then transferred to the second lagoon for two years, where it is allowed to dewater. Generated sludge is considered a Class B sludge, and is land applied in Medina County by Agri-Sludge, Inc.

9) When influent wastewater flows exceed the plant hydraulic capacity, a portion of the flow is automatically diverted to the EQ basin by a recently installed (2010) automated storm gate, located at the head of the WWTP. When influent flows subside, the water is returned from the EQ basins to the head of the WWTP. Return of the EQ basin water to the WWTP is also controlled by an automated return gate.

   At the time of the inspection, the flow EQ basins were almost full of diverted storm water.

A review was conducted of the electronic discharge monitoring data (eDMR) submitted for the Wellington WWTP for the period of October 1, 2007 through January 1, 2012. The following is a summary of NPDES permit effluent limit numeric violations during that period:

VILLAGE OF WELLINGTON WWTP
NPDES PERMIT (3PC00014)
FINAL EFFLUENT NUMERIC VIOLATIONS
(OCT. 1, 2007 – JAN. 1, 2012)

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
March 2008	CBOD 5 day	30D Conc	10	10.6875	3/1/2008
March 2008	CBOD 5 day	30D Qty	28	30.7995	3/1/2008
May 2008	Total Suspended Solids	30D Conc	15	15.625	5/1/2008
May 2008	Total Suspended Solids	30D Qty	43	44.7188	5/1/2008
May 2008	Total Suspended Solids	7D Conc	20	20.5	5/22/2008
June 2008	Total Suspended Solids	7D Qty	57	64.1027	6/1/2008
December 2008	Total Suspended Solids	30D Qty	43	47.0570	12/1/2008
December 2008	Total Suspended Solids	7D Qty	57	77.1212	12/22/2008
January 2009	Total Suspended Solids	30D Conc	15	15.375	1/1/2009
February 2009	Total Suspended Solids	30D Conc	15	15.75	2/1/2009
February 2009	Total Suspended Solids	30D Qty	43	62.4132	2/1/2009

February 2009	Total Suspended Solids	7D Conc	20	21.5	2/8/2009
February 2009	Total Suspended Solids	7D Qty	57	137.499	2/8/2009
February 2009	CBOD 5 day	7D Qty	43	61.6389	2/8/2009
February 2009	Total Suspended Solids	7D Qty	57	65.0206	2/15/2009
March 2009	Total Suspended Solids	30D Conc	15	17.25	3/1/2009
March 2009	Total Suspended Solids	30D Qty	43	45.6494	3/1/2009
March 2009	Total Suspended Solids	7D Conc	20	22.	3/8/2009
March 2009	Total Suspended Solids	7D Qty	57	66.5838	3/8/2009
March 2010	Total Suspended Solids	30D Qty	43	53.3642	3/1/2010
March 2010	Total Suspended Solids	7D Qty	57	99.2710	3/8/2010
March 2010	CBOD 5 day	7D Qty	43	48.0929	3/8/2010

The following items were discussed during our January 4th inspection:

1) The current treatment scheme used at the Wellington WWTP has been in operation since major plant improvements were completed in December 2005. However, the WWTP is still experiencing NPDES permit violations due to recurring total suspended solids violations, particularly during those times of year with high precipitation events.

   Mr. Rosemark indicated several process/equipment modifications have been implemented in an attempt to eliminate the cause of the suspended solids excursions.

   Mr. Rosemark feels that excess air to the contact tanks could be causing shear of settleable solids, not allowing the solids to properly settle in the final settling tank. Different blowers for the contact tank may be a solution if that is found to be the case.

   Relocation of the alum chemical feed has also been tried, in an effort to allow for better floc formation and thus enhanced solids settleability.

2) It was discussed that serious consideration will have to be given by the Village, for the installation of some type of tertiary filtration, which will enable the WWTP to consistently meet the final effluent limits for total suspended solids. One potential type of tertiary treatment is membrane filters.

   The current NPDES permit, which is due to expire in August 2012, contains secondary treatment level limits for suspended solids (15 mg/l), while the CBOD limits are tertiary limits (10 mg/l). There is the possibility that the suspended solids limits in the renewed NPDES permit may be revised to tertiary limits (12 mg/l) for suspended solids.

3) Mr. Rosemark was reminded that the NPDES permit renewal application is to be submitted to the Ohio EPA no later than six months prior to the expiration date of the current NPDES permit. The permit renewal application due date is August 2012.

4) The current NPDES permit contains an effluent mercury 30 day average limit of 1.3 ng/l. Effluent mercury data submitted to the Ohio EPA for the Wellington WWTP ,

covering the period since the effective date of the permit (March 1, 2008), reports effluent mercury ranging from a low value of 1.68 ng/l, to a high value of 14.3 ng/l.

Per Part II, Item S. of the NPDES permit, an evaluation of the WWTP's ability to meet the 1.3 ng/l effluent mercury limit was to be conducted the first 12 months of the permit. A letter was to be submitted to the Ohio EPA by March 1, 2009, indicating whether the WWTP could comply with the 1.3 ng/l limit, or an application for consideration of a variance to the mercury limit was to have been submitted to the Ohio EPA Columbus office. Mr. Rosemark was informed that neither item had been received by the Ohio EPA, and it remains past due.

5) The mercury variance request application can be found at the following Ohio EPA web link:

http://www.epa.ohio.gov/dsw/permits/technical_assistance.aspx#Mercury

6) An additional requirement of the current NPDES permit (Part II, Item D.) is the reporting of any sanitary sewer overflows (SSO) experienced by the Village. A sanitary sewer overflow is an overflow, spill, release, or diversion of wastewater from a sanitary sewer system. Although SSOs do not include wet weather discharges from combined sewer overflows specifically listed in Part II of the Village's NPDES permit (there are none listed), all SSOs are prohibited.

An annual report of all SSOs experienced in the Wellington collection system, including those that do not enter waters of the state, is due by March 31st each year. Mr. Rosemark indicated there had been no sanitary sewer overflows in the system for the past several years. However, when asked if there had been any complaints of water in basement (WIB) reported by any Village residents, Mr. Rosemark stated he believed there had been such calls over the past few years.

Mr. Rosemark was informed that WIB reporting is also one of the NPDES permit Annual SSO reporting requirements (Part II, Item D.2.b), and therefore should have been / needs to be reported annually. Mr. Rosemark indicated he would gather any such information, compile a report, and submit it to the Ohio EPA by March 31st.

It is noted that entities serving less than 10,000 persons need not submit an annual SSO report if there has been no SSO or WIB activity in the year since the last report. Mr. Rosemark stated the population of Wellington is approximately 4500 persons.

7) Also required by the current NPDES permit is a sign erected on the stream bank at the effluent of the WWTP, where it enters the receiving stream. The sign requires the posting of information pertaining to the discharge: the NPDES permit and outfall number; the name of the NPDES permit owner; and a telephone contact number.

Mr. Frank provided an escort to the sign location, and the installation of the sign was verified. However, it was noted that the sign faced the WWTP premises, and was not readable from the embankment along the stream. Mr. Frank was requested to orient the sign such that it could be read from the stream embankment.

8) There are four persons employed, in rotation, at the WWTP. The plant is manned by three employees from 7:00 am to 3:30 pm, seven days per week. The WWTP is monitored 24/7 by the SCADA system, and if an emergency situation were to arise during the unmanned hours, the SCADA system automatically notifies the on-call plant personnel via telephone.

9) Sample analyses are conducted both in-house (CBOD, SS, Ammonia, pH, D.O., Fecal Coliform), and by a contracted outside lab. Outside labs used are Jones & Henry, and the City of Lorain Black River Plant (Oil & Grease, Phosphorus, Nitrate-Nitrite, Heavy Metals).

10) There are approximately 12 industrial users (IU) tributary to the Wellington sanitary sewer system. The majority of the IUs have been visited and inspected at some point in the past, although some may not have been visited for several years. It was suggested to Mr. Rosemark that an Industrial Waste Survey (IWS) be sent out to all the industries tributary to the sewer system, and follow up inspections be conducted to verify the information supplied.

Since Wellington does have a problem meeting its mercury effluent limit, the IWS will be an important step in potentially finding, and eliminating, any sources of mercury tributary to the WWTP. Such a program is also necessary in receiving, and fulfilling the requirements necessary for a mercury variance.

An example of an IWS is enclosed with this report.

The Village of Wellington should continue with all efforts that will enable the WWTP to consistently meet its NPDES Permit limits. Particular attention should be paid to determination of the cause of the suspended solids effluent violations, and the implementation of corrective actions as required in this correspondence.

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

Respectfully,

Charles E Allen

Charles E. Allen
Environmental Engineer
Division of Surface Water

CEA/cs
Enclosure