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

June 11, 2013

RE: CUYAHOGA COUNTY
CITY OF NORTH OLMSTED WWTP
NPDES PERMIT NO. OH0026778
OHIO EPA PERMIT NO. 3PD00016
COMPLIANCE EVALUATION INSPECTION

Mayor Kevin Kennedy and Council
North Olmsted City Hall
5200 Dover Center Road
North Olmsted, OH 44070

Dear Mayor Kennedy and Council:

On May 8, 2013, a Compliance Evaluation Inspection (CEI) was conducted at the City of North Olmsted Wastewater Treatment Plant (WWTP) by Mr. Dean Stoll and the undersigned. The City was represented by Superintendent Brian Blum, Asst. Superintendent CarrieAnne Rosemark, City Engineer Pietro DiFranco, and representatives of Hazen & Sawyer. The purpose of the inspection was to evaluate the status of the ongoing treatment plant improvements.

NPDES Permit Status/ Facility Description

The NPDES permit for North Olmsted WWTP will was issued on June 1, 2010 and expires on January 31, 2014. The permit authorizes an average daily discharge of 7.0 MGD from the facility to the Rocky River.

The facility, located at 23775 Mastick Road, provides sanitary sewer service to the City of North Olmsted, City of Fairview Park – Ward 5, and a portion of Olmsted Township.

The existing wet stream treatment process consists of bar screens, primary clarification, aeration, secondary clarification, microscreens, and chlorination/dechlorination prior to discharging to the Rocky River. Sludge from the primary clarifiers are thickened and mixed with sludge from the secondary clarifiers and dewatered through the centrifuge. The sludge cake is hauled off-site for proper disposal.

Historically, the City has experienced elevated flows in portions of its collection system during wet weather conditions due to excessive infiltration and inflow (I/I). In addition to creating significant operational problems at the WWTP, this excess water flow has resulted in unauthorized sanitary sewer overflows (SSOs) in the collection system. To address these issues, the NPDES permit includes a "Schedule of Compliance" designed to increase peak hydraulic capacity of the WWTP, eliminate internal WWTP bypasses, and eliminate the sanitary sewer overflows in the collection system. At a minimum, the permit requires the following improvements:

- Improvements to the LeBern and Dover collection system and pump stations.
- New WWTP headworks
- New biological system with increased wet weather capacity

- Improved clarifier capacity
- Solids dewatering improvements
- Tertiary treatment system

Treatment Plant Improvements

The intent of the treatment plant improvements is to achieve a more efficient and cost-effective facility by increasing peak hydraulic capacity, improving treatment reliability, eliminating untreated bypasses, reducing the potential for odors, etc. Construction of the permitted improvements began in December 2012. The major improvements are to consist of the following:

New Vactor Truck Unloading Station: The existing station will be replaced with a larger (38 ft. x 34.75 ft.) station in the same location. Flows from the dewatered material will be conveyed to the existing plant drain pump station via gravity.

Plant Influent, Preliminary, and Primary Treatment Facilities: A junction chamber will be added to re-direct flows from the existing 36-inch diameter influent sewer to the new Preliminary Treatment Facility (PTF). Two (2) parallel 36-inch diameter sewers will convey flows from the chamber to PTF. Preliminary treatment will utilize two (2) channels with automated perforated plate screens that will capture and remove debris for flows up to 40 mgd. A bypass channel with a manually cleaned bar screen will be provided as back-up to the screens. Grit will be removed and conveyed to grit dewatering equipment.

The project will also eliminate the existing primary clarifiers.

Expansion and Modification of Aeration Process: The aeration system will be expanded and modified to a Vertical Loop Reactor (VLR) process. Each zone or reactor is a separate VLR. The tank is separated into upper and lower halves with a horizontal divider baffle. Mixing and aeration is provided by orbal aeration discs, with supplemental aeration provided by coarse bubble diffusers in the lower half of the basin. Control of both dissolved and mixing can be achieved to create favorable conditions for simultaneous nitrification/denitrification and biological phosphorus removal, improve settling, and increase energy efficiency.

New Secondary Clarifiers: Three (3) 105 feet diameter clarifiers with a side water depth of 16.67 feet will be constructed. These clarifiers will be equipped with energy dissipating inlets and density current baffles to improve settling performance, and a suction arm for rapid sludge removal.

New Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) Pump Station: A 45 ft x 32.67 ft RAS/WAS pump station will be constructed between final clarifier 2 and 3. RAS will be conveyed to the head of the plant via the RAS pumps while the WAS the sludge storage tanks 1 and 2. This pump station will house five (5) RAS pumps and two (2) WAS pumps.

Chemical Phosphorus Removal: The chemical feed system will be housed in the Chemical Storage Building. The dosage point will be at the end of the aeration basins to allow for floc formation.

New Tertiary Filters: The new disc filters will be sized for a capacity of 15 mgd and a total capacity of 22.5 mgd. During wet weather conditions, flow of up to 20 mgd will be treated through the filters and flows above 20 mgd will be routed around the tertiary filters and blended with the tertiary filter effluent prior to disinfection.

New Ultraviolet (UV) Disinfection: The UV system will have a capacity of 30 mgd. The UV system will have three (3) channels with each channel capable of handling 10.5 mgd of flow.

New Non-Potable Water System: The anticipated flows for the new system will range from 250 gpm to 1000 gpm.

Modifications to the Flow Equalization Basin: Excess flow from the preliminary treatment facility will be conveyed to the EQ basin. During low flow period, the flows from the basin will be fed back to the preliminary treatment facility.

Modifications to Solids Handling: The existing sludge storage tanks will be modified to function as aerated holding tanks. In addition, new centrifuge equipment will be installed to aid in the dewatering of sludge. The existing centrifuge equipment will be retained as a standby unit.

Inspection Findings/Compliance Status

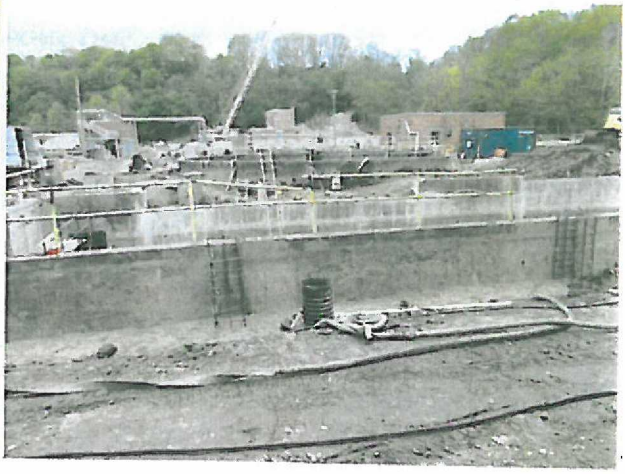
At the time of the inspection, the following observations and comments were noted:

- As documented in the accompanying pictures, the various construction activities are well underway.

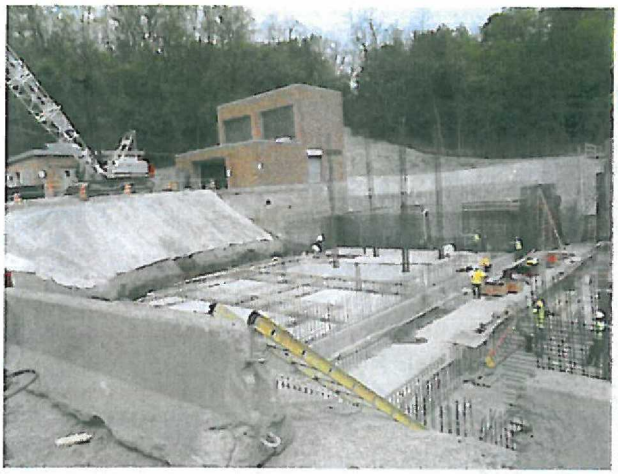
- With the demolition of the four (4) primary clarifiers and final (old) clarifiers 5 and 6, the maximum hydraulic flow thru the secondary process is temporarily restricted to approximately the design flow (7.5 – 8.0 MGD). Flows in excess of this capacity are bypassed from the EQ basin via Station 604. This loss of treatment and tank capacity has placed an additional burden on the existing final clarifiers. To minimize the potential for solids washout until the new clarifiers are placed in service in Fall 2013, the facility has instituted additional standard operating procedures (SOPs) for wet-weather operations.

- With the construction of the new effluent building, the chlorine contact tank has been taken off-line. Engineering calculations by Hazens and Sawyer determined that adequate effluent chlorination and dechlorination contact times could be satisfied using temporary "in-line" feed systems. These systems will be eliminated once the new UV system is completed and placed online.

- Given the limitations imposed by the ongoing construction activities and small plant footprint, the general operation and maintenance of the treatment units appeared to be acceptable. A visual observation of the plant effluent revealed no significant signs of excessive solids, floating debris, oil & grease, or foam in the discharge.








Discharge Monitoring Reports

Discharge monitoring reports (DMR) received by Ohio EPA for the period, June 2012 – April 2013, were reviewed for compliance with the final effluent limitations and monitoring requirements of the NPDES. The specific violations of the NPDES permit at Outfall 001 are as follows:

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
August 2012	001	Phosphorus, Total (P)	30D Conc	1.0	1.61	8/1/2012
August 2012	001	Phosphorus, Total (P)	30D Qty	26.5	27.7508	8/1/2012
August 2012	001	Phosphorus, Total (P)	7D Conc	1.5	1.8	8/8/2012
August 2012	001	Phosphorus, Total (P)	7D Conc	1.5	2.15	8/22/2012
August 2012	001	Phosphorus, Total (P)	7D Qty	39.7	40.6990	8/22/2012
December 2012	001	Mercury, Total (Low Le	30D Conc	2.6	5.63	12/1/2012
December 2012	001	Mercury, Total (Low Le	30D Qty	0.000069	.00014	12/1/2012
February 2013	001	Phosphorus, Total (P)	7D Conc	1.5	2.28	2/1/2013
February 2013	001	Phosphorus, Total (P)	7D Qty	39.7	56.6805	2/1/2013
February 2013	001	Total Suspended Solids	7D Conc	45	50.	2/22/2013
March 2013	001	Mercury, Total (Low Le	30D Conc	2.6	2.83	3/1/2013
March 2013	001	Mercury, Total (Low Le	30D Qty	0.000069	.00007	3/1/2013
April 2013	001	Mercury, Total (Low Le	30D Conc	2.6	3.37	4/1/2013

Please be advised that failure to comply with the terms and conditions of your NPDES permit may be subject to enforcement actions pursuant to Chapter 6111 of the Ohio Revised Code. Such actions can result in fines of up to $10,000 per day of violation. Additionally, please be advised that past or present issues of noncompliance can continue as subjects of future enforcement actions by Ohio EPA.

If you should have any questions please contact this office at (330) 963-1196.

Respectfully,

Ermelindo Gomes
Environmental Engineer
Division of Surface Water

EG/cs

cc: Brian Blum, Superintendent, City of North Olmsted WWTP