Ohio EPA
40 years and moving forward

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

July 12, 2013

Mayor and Council
City of Union
118 North Main Street
Municipal Building
Union, Ohio 45322

RE: City of Union Reconnaissance Inspection

Dear Mayor and Council:

On June 19, 2013, a Reconnaissance Inspection was conducted at the Union Waste Water Treatment Plant, 120 Randolph Street, Union. The inspection was performed to determine the City's compliance status with respect to their NPDES permit.

The inspection findings are included in the attached report. There are no items that require a response.

If you have any questions, please call me at (937) 285-6097.

Sincerely,

Joseph Reynolds
Environmental Specialist
Division of Surface Water

JR/kb

cc: John Applegate, City Manager
Marlin Applegate, Waste Water Superintendent

OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	**NPDES#**	**Month/Day/Year**	**Inspection Type**	**Inspector**	**Facility Type**
1PB00030*GD	OH0021644	6/19/2013	R	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
City of Union WWTP 120 North Randolph Street Union, Ohio 45322	8:45 AM	10/1/2012
	Exit Time	**Permit Expiration Date**
	12:30 PM	9/30/2017
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
John Applegate, City Manager Marlin Applegate, Superintendent	(937) 836 - 8624 (937) 836 - 4018	
Name, Address and Title of Responsible Official	**Phone Number**	
Mayor and Council 118 North Main Street Municipal Building Union, Ohio 45322	(937) 836 - 8624	

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	N	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	N	Sludge Storage/Disposal	N	Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

See attached report.

Inspector	Reviewer
7/12/13	
Joe Reynolds Division of Surface Water Southwest District Office Date	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office Date

Inspection Findings

The city of Union currently holds National Pollutant Discharge Elimination System (NPDES) permit number 1PB000030*GD. The permit was issued on September 11, 2012 and will expire on September 30, 2017.

The treatment systems consist of coarse and fine screening, contact stabilization aeration, aerated tertiary lagoon (15 million gallons), chlorination / dechlorination, and cascade post aeration. Sludge is currently being processed in geo bags and a flow trim drying box.

The waste water treatment plant is designed to treat an average daily flow of 1.0 million gallons. As flows approach 1.3 million gallons there is a weir jump that will direct excess flows to the tertiary treatment lagoon. This flow combines with the regular plant flow before entering the chlorination / dechlorination / post aeration system. The combined flows are monitored as part of the final effluent.

The City is currently conducting bench scale test on an experimental media designed to remove nutrients from the waste water effluent. Preliminary test have achieved phosphorus reductions below 1 mg/l (0.3 mg/l to 0.4 mg/l).

As part of the next phase in the nutrient removal pilot test, media will be suspended in the tertiary lagoon. As this is part of the active treatment system, a Permit to Install will be required before this installation occurs.

Along with the test on the new nutrient removal system, the City is looking at land application of their effluent during certain times of the year. The City has 60 acres of land next to the plant that potentially could be used for land application. Approval through a NPDES permit and Land Application Management Plan is required prior to implementation.

New ISCO flow proportioned automatic samplers were installed two to three months ago. In addition to the samplers, a back-up generator (powers entire plant) has been installed at the plant.

Influent flows are measured at the head works prior to the influent screens. A duel head transponder reads flows entering the plant and any secondary bypass flows (weir jump at the influent flow measurement chamber).

The preliminary treatment system includes four hydro sieves. Typically, one or two screens are used at a time. Automatic valves will bring additional screens on-line as flows necessitate. The system is rated at 1.3 to 1.5 MGD.

The treatment system is being operated in contact stabilization mode (one contact tank, three stabilization tanks). The mixed liquor was chocolate brown. The plant had good mixing (two Roots VFD, 25 Hp blowers).

There are two final clarifiers at the plant. The effluent was clear; some pin floc solids were leaving the tanks. The addition of a third final clarifier is being evaluated.

After clarification, the flow passes through a tertiary treatment lagoon. From the lagoon, flow enters the chlorination inlet chamber. This chamber has a transducer / weir to measure flows. Chlorine is fed at the effluent end of the chamber (new peristaltic pump). Dechlorination (new peristaltic pump) occurs at the effluent end of the chlorine tank. Effluent from the chlorine system passes through a cascade aeration system.

Waste solids are treated in an aerobic digester prior to pumping to a combination trim box and geo bag dewatering system. Polymer is fed into the sludge prior to introduction into the dewatering systems. A new metal structure was built over the old drying beds to house the trim box system. This reduces the potential for freezing during the winter.

Between January 1, 2012, and February 1, 2013, the city of Union reported 1 final effluent limitation violations (dissolved oxygen). During this same time period there were 15 frequency violations, and 5 code violations.