Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

Re: Lima WWTP
Inspection
NPDES
Allen County
2PE00000

December 15, 2017

Mr. Michael Caprella, Director, Utilities Department
City of Lima
50 Town Square
Lima, Ohio 45801-4900

Dear Mr. Caprella:

On December 5, 2017, Mr. Andrew Gall and I conducted a compliance evaluation inspection at the Lima wastewater treatment plant (WWTP). Mr. David Schnipke, Environmental Compliance Manager, Mr. Eric Markley, WWTP Supervisor, and Ms. Ange Layton, Chemist, were also present during the inspection.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your National Pollutant Discharge Elimination System (NPDES) permit and to evaluate the operation and maintenance of the plant.

Findings:

1. All treatment units were in service during the inspection.
2. The nitrification towers have not yet been seeded to treat wet weather flows.
3. The final effluent discharging to the Ottawa River was clear, colorless and had no noticeable odors.

If you have any questions or comments concerning the enclosed inspection report, please contact me at 419-373-3006 or by e-mail at Peggy.Christie@epa.ohio.gov.

Sincerely,

Peggy B. Christie
Division of Surface Water

/jlm
Enclosures
ec: Mr. David Schnipke, Environmental Compliance Manager, City of Lima
Mr. Eric Markley, WWTP Supervisor, City of Lima
Mr. Andrew Gall, DSW, NWDO
Inspection Tracking

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING						
Permit #	NPDES #	Inspection Type	Sig. Non-Compliance	Inspection Date	Entry Time	Exit Time
OH0026069	2PE00000	CEI	No	12/5/2017	10:30 AM	1:45 PM

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Lima WWTP 1200 Fort Amanda Rd. Lima, Ohio	1/1/2013 Permit Expiration Date 2/28/2015
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Mr. Eric Markley, Supervisor Mr. David Schnipke, Environmental Compliance Manager Ms. Ange Layton, Laboratory	419-221-5198 419-221-5294 419-998-5557
Name and Title of Responsible Official	Phone Number
Mr. Michael Caprella, Utilities Director	419-221-5294

SECTION C: AREAS EVALUATED DURING INSPECTION		
Evaluated? Y-Yes; N-No	Area Evaluated	Recommendations noted in report? Y – Yes; N – No; N/A – Not Applicable
Y	E. NPDES Compliance	N
Y	F. Operations & Maintenance	N
Y	G. Operator Certification	N
Y	H. Collection System	N
Y	I. Sludge Management	N
N	J. Storm Water	N
Y	K. Self-Monitoring Program	N
Y	L. Laboratory	N
Y	M. Effluent / Receiving Water Observations	N

Comments:

Signatures	
Peggy B. Christie 12/11/17	Thomas Poffenbarger 12/12/17
Peggy B. Christie Date Compliance and Enforcement Division of Surface Water Northwest District Office	Thomas Poffenbarger, P.E. Date Water Quality Engineer II/Unit Supervisor Division of Surface Water Northwest District Office

Compliance Data for Lima WWTP between 7/1/2017 and 11/1/2017

Summary

Permit Effluent Limit Violations: 0
Permit Effluent Code Events: 9
Permit Effluent Frequency Violations: 0
Compliance Schedule Milestones Not Entered: 0
Reported SSO Events: 104

Code Events				
Reporting Period	**Station**	**Parameter**	**Reported Value**	**Event Date**
July 2017	003	Overflow Volume	AD	7/7/2017
July 2017	002	Overflow Volume	AD	7/7/2017
July 2017	004	Overflow Volume	AD	7/10/2017
July 2017	005	Overflow Volume	AD	7/10/2017
July 2017	006	Overflow Volume	AD	7/10/2017
July 2017	604	Water Temperature	AB	7/21/2017
July 2017	001	Dissolved Oxygen	AB	7/21/2017
July 2017	001	Dissolved Oxygen	AB	7/24/2017
July 2017	001	E. coli	AK	7/24/2017

Lima WWTP SSO Events			
Parameter	**Units**	**Date**	**Reported Value**
Overflow Occurrence	No./Month	7/1/2017	84
Overflow Occurrence	No./Month	8/1/2017	12
Overflow Occurrence	No./Month	10/1/2017	8

High Flow Data for Lima WWTP between 7/1/2017 and 11/1/2017

Top 10 Flows	
Date	Flows (MGD)
7/13/2017	32.870
7/14/2017	32.730
7/12/2017	32.470
7/11/2017	31.430
7/15/2017	31.400
7/17/2017	29.100
7/16/2017	25.570
7/1/2017	25.270
7/18/2017	25.000
7/23/2017	25.000
Average	14.076

SECTION D: PERMIT VERIFICATION

	Yes	No	N/A
a. Correct name and mailing address of permittee	☒	☐	
b. Correct name and location of receiving waters	☒	☐	
c. Flows and loadings conform with NPDES permit	☒	☐	
d. Treatment processes are as described in permit application	☒	☐	
e. New treatment process added since last inspection	☒	☐	
f. Notification given to State of new, different or increased discharges	☒	☐	☐
g. All discharges are permitted	☒	☐	
h. Number and location of discharge points are as described in permit	☐	☒	☐
i. Are all storm water discharges properly permitted?	☒	☐	
For Industrial Facilities Only			
j. Products and production rates conform with permit application?	☐	☐	☒
k. Do categorical standards apply? If yes, which ones?	N/A		

Comments:

- Since previous CEI, new screens, new grit/grease removal, new primary clarifiers, new secondary effluent pump station and new disinfection have been installed.
- h. The 001-outfall structure has move approximately 130' upstream as part of the plant upgrades. Current permit the latitude and longitude are roughly at the intersection on Adgate Road and Fort Amanda.

SECTION E: COMPLIANCE

See previous page for more compliance information.

	Yes	No	N/A
a. NPDES renewal app submitted 180 days prior to expiration	☒	☐	☐
b. Permittee has a compliance schedule	☒	☐	☐
c. Document containing compliance schedule	NPDES		
d. Permittee is meeting compliance schedule	☒	☐	☐
e. Any bypasses since last inspection	☒	☐	
f. Regulatory agency notified of all bypasses	☒	☐	☐
g. Permittee or representative reporting all noncompliance per Part III of NPDES	☒	☐	☐

Comments:

- e. July 2017 lighting strike damaged the main switch gear to the plant and a caused a complete loss of power. Aeration tanks and final clarifiers overflowed, flooding the plant. Temporary pumping and generators were used to dewater the plant.

SECTION F: OPERATION AND MAINTENANCE

a. Standby power available	Generator
b. Standby power provides power to which treatment components?	Two diesel generators will run the entire plant. The exhaust was recently upgraded, allowing the plant to once again participate in EnerNOC.
c. Which treatment components have alarm system available for power or equipment failures?	All - SCADA

	Yes	No
d. All treatment units in service other than backup units	☒	☐
e. Routine and preventative maintenance scheduled and performed	☒	☐
f. Any major equipment breakdown since last inspection	☒	☐
g. Operation and maintenance manual provided and maintained	☒	☐
h. Any operational problems due to influent quality or quantity since last inspection	☐	☒
i. Are WWTP operations changed during high-flow events?	☒	☐

j. Does your facility accept trucked in wastewater, and if so, from what sources?	Yes, septage and restaurant grease traps. City requires analytics on any new wastewater.

Comments:

- b. The City used to participate in the EnerNOC program with the electric company, but the generators did not meet the emission standards. The electric company added an air pollution control device, so the WWTP can participate again in this program.
- e. City Works program generates all work orders and preventative maintenance.
- f. July flood/power outage
- g. New manual still being written for the plant upgrades.
- i. Once the towers are seeded, primary clarifier effluent will be diverted to the towers and the secondary pump station will pump secondary effluent directly to the chlorine contact tanks. Due to weather, the towers won't be seeded until the spring.

SECTION G: OPERATOR CERTIFICATION

a. Wastewater Treatment Works Classification	IV		
	Yes	No	N/A
b. Operator of Record holds unexpired license of class required by Permit?	☐	☒	
c. Current Operator of Record form submitted?	☒	☐	
d. Copy of certificate of Operator of Record displayed on-site?	☒	☐	
e. Minimum operator staffing requirements fulfilled (OAC 3745-7)	☒	☐	
f. If a Staffing Reduction plan has been approved, are the stipulations of the plan being met?	☒	☐	☐
g. Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred?	☒	☐	☐
h. Operator of Record log book provided?	☒	☐	
i. Log book location	Eric's office		
j. Logbook Format	Both hardbound and electronic		
Log book contains the following:			
k. Identification of treatment works	☒	☐	
l. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7	☒	☐	
m. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)	☒	☐	
n. Laboratory results (unless documented on bench sheets)	Bench Sheets		
o. Identification of person making entries	☒	☐	

b. Eric has been approved to be the operator of record while he works on getting his class IV. (letter dated July 28, 2016)
j. Eric's times are kept in his log book. Other operators keep daily logs in their log book. All maintenance records are kept electronically.

SECTION H: COLLECTION SYSTEM

Collection System Overview

a. Which department oversees collection system operation and maintenance	Utility Field Services maintains pipe, WWTP maintains the pump stations.
b. Who is the certified Collection System Operator?	Larry Huber, Supervisor Utility Field Service
c. Is there a plan for collection system maintenance? If yes, to what extent is this plan being implemented?	Yes, CMOM; being implemented and reported to USEPA
d. Were there any major repairs or improvements to collection system since last inspection?	No
e. Name the satellite communities that discharge into your collection system	Findlay Road Area. Allen maintains the pipes, but is discharged to the City of Lima.

Pumps and Force Mains

a. How many lift stations are within the collection system?	31
b. How many lift stations have alarms?	All are monitored by SCADA
c. How many lift stations are equipped with permanent standby power or equivalent?	5 have permanent power, the rest have generator hook-ups. The city has three standby generators on trailers.

Capacity / SSOs / I&I / WIB	Yes	No
a. Are portable pumps used to relieve the system?	☐	☒
b. Any complaints received since last inspection of basement flooding?	☒	☐
c. Have there been any SSOs since the last inspection?	☒	☐

d. What progress has been made in SSO elimination if applicable?	Consent Decree. New duck bill installed at the Timberlake overflow.
e. Are any portions of the sewer system at or near dry weather capacity? If yes, describe plans.	No – have the ability to use portable pumps for emergencies.
f. Is there an inflow and infiltration reduction plan being followed? If yes, describe plans.	Yes – as part of the water in basement program, remove footer tiles and downspouts from sanitary

Continued... SECTION H: COLLECTION SYSTEM

Combined Sewer System	Yes	No
a. Does the collection system include combined sewers?	☒	☐
Skip following questions if there are no combined sewers		
b. Are all CSOs included in your NPDES permit? If not, explain.	Yes	
c. What is the status of the LTCP implementation?	The City is currently about 3 years ahead of the schedule in the LTCP. The PTI application for the CSO basin has been submitted to DEFA for review.	
d. If there is no LTCP, what is the status of preparation of the LTCP?	N/A	

SECTION I: SLUDGE MANAGEMENT

a. Date of last sludge inspection	12/05/2017 (previous was 02/18/2015)	
b. Sludge disposal method	Land Application*	
c. Name of sludge disposal contractor	Wright Mulch/Lima Composting	
d. How many days of sludge storage are provided at plant?	90 days at the WWTP and 90 days at Lima Composting Facility	
	Yes	No
e. Has amount of sludge generated changed significantly since last inspection?	☐	☒
f. Sludge records maintained for a minimum of 5 years?	☒	☐
g. Any complaints received last year regarding sludge	☐	☒
h. Is sludge adequately processed (digestion, pathogen control)	☒	☐
i. Is inadequate sludge handling causing operational problems?	☐	☒

Comments:
*Some biosolids were landfilled due to the excess solids from cleaning/upgrading the anaerobic digesters.

SECTION J: STORM WATER PROGRAM – Not Evaluated

SECTION K: SELF-MONITORING PROGRAM

Flow Measurement	Yes	No
a. Actual flow discharged is measured?	☒	☐
b. Flow measurement equipment adequate to handle full range of flows	☒	☐
c. Is the primary flow measuring device calibrated at least annually or in accordance with manufacturers specifications	☒	☐
d. Date of last calibration	May 2017	
e. Who calibrates the flow measuring device?	CCI	
f. Frequency of calibration	Annually	
g. How often is the flow measuring device checked for functionality?	Twice a shift.	

Sampling, Monitoring, and Records	Yes	No	N/A
a. Secondary instruments operated and maintained	☒	☐	
b. Sampling location(s) are as specified by permit	☒	☐	
c. Sampling frequency agree with permit (look at compliance table for frequency violations or missing DMRs)	☒	☐	
d. Are proper sampling methods used (i.e. Oil & Grease collected in a glass container)	☒	☐	
e. Are the proper sampling types used (i.e., Grab, Composite, Flow proportionate, etc.)	☒	☐	
f. Are the field parameters (pH, DO, total residual chlorine, temperature) measured within 15 minutes of collection?	☒	☐	☐
g. Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e. continuous monitoring instrumentation, calibration and maintenance records)	☒	☐	

Comments: Automatic analyzers on final effluent for DO, pH, temperature and chlorine residual.

SECTION L: LABORATORY

In-House Sampling:

Parameter	Analytical testing methods used
TSS	SM 2540 D
CBOD	SM 5210 B
Ammonium	ASTM D6919-09
Phosphorus	SM 4500 P
COD	HACH 8000
Hexavalent Chromium	SM 3500 Cr B
Nitrate + Nitrite	ASTM D4327-03
Total Filterable Residue	SM 2540 C
Total Solids	EPA 160.3 160.4
E. coli	SM 9223 B
Biosolids fecal	SM 9221 E, C
pH	SM 4500-H+ B
Hardness	SM 2340 C
Chlorine residual	SM 4500-Cl-E
Orthophosphate	SM 4500 P

	Yes	No	N/A
a. Quality assurance manual provided and maintained?	☒	☐	
b. Does quality assurance manual contain SOPs for all sampling and analyses conducted on site?	☒	☐	
c. If alternate procedures are used, are they U.S. EPA approved?	☐	☐	☒
d. Are permit required parameters analyzed more frequently than required by the permit?	☒	☐	
i. If yes, are results recorded in permittee's e-DMR report?	☒	☐	☐

d. Very infrequently.

SECTION L: LABORATORY - continued

Commercial Laboratory Sampling:

Laboratory Name: Alloway

Parameter	Analytical testing methods used
O & G	EPA 1664 A
TKN	EPA 351.2
Metals	EPA 200.8
Cyanide	SM 4500 CN E
Bis-2	EPA 625
Low level Mercury	EPA 1631 E
Bioassay	EPA-2000, 1000, 2002, 1002
Potassium	SW-6010B
Nitrate + Nitrite	EPA 353.2 / SM 4500 NO3
Total Solids	SM 2540 G
Phosphorus	EPA 365.3
Ammonia - N	EPA 350.1

Quality Assurance and Quality Control	Yes	No	N/A
a. Does the lab participate in DMRQA or other QC programs?	☒	☐	
b. Has corrective action been taken for any parameters found unsatisfactory in the last DMRQA or water Pollution Studies?	☒	☐	☐
i. Date of last study	July 2017		
ii. Parameters found unsatisfactory (see note b.)	☒	☐	☐
c. Has a Performance Audit Inspection (PAI) been conducted by Ohio EPA, Division of Environmental Services since the last inspection?	☐	☒	
i. If yes; have the recommendations from that PAI been implemented?	☐	☐	☒

b. Ammonia was not an analysis error, but a calculation error (reported Ammonia, not Ammonia – N).

SECTION M: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	yes	no	no	no	no	no	no	

Comments: Final effluent was clear, colorless, with clean odor.

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

RATING CODES: S = Satisfactory; **U** = Unsatisfactory; **M** = Marginal; **IN** = In Operation; **OUT** = Out of Operation; **NE**=Not evaluated

CONDITION OR APPEARANCE		RATING	COMMENTS
General	Grounds	S	
	Buildings	S	
	Potable Water Supply Protection	S	Backflow preventers installed - will be inspected by health dept.
	Safety Features	S	Fence around property.
	Bypasses	OUT	Bypass at head of WWTP not used in years. Station 057 in NPDES permit.
	Storm Water Overflows	NE	USEPA inspection in June 2017
	Alternate Power Source	S	Two Diesel Generators. Put under load every five weeks. Participates in EnerNOC. Auto switch after 7 seconds of lost power.
Preliminary	Maintenance of Collection Systems	NE	Handled by collections department.
	Pump Station	NE	
	Ventilation	S	12 air exchanges when lights on; 6 when lights are off.
	Mechanical Bar Screen	IN	Four 1/4 inch chain and rake screens. Each can treat 18 MGD
	Bar Screen	IN	On standby. Used when mechanical screens are out of service.
	Disposal of Screenings	S	Landfill
	Grit Removal	IN	Four tanks, aerated; 4 grit cyclones; one grit classifier.
	Disposal of Grit	S	Landfill
	Grease Removal	S	Grease compactor. Hauled grease trap waste is unloaded to scum pit.
	Septage Receiving	IN	Septage receives full treatment. All trucks are weighed, manifested.
Primary	Settling Tanks	IN	4 large tanks. Three small tanks (5, 6 & 7) used for higher flows. All in serv.
	Scum Removal	IN	Skimmer units. Goes to scum pit, then to scum concentrator.
	Sludge Removal	IN	Bottom collector units; 4 centrifugal pumps. Goes to thickners
	Chemical Addition	IN	Ferrous Chloride and polymer added to primary influent channel.
	Primary Clarifier Effluent	S	Gray
Secondary-Tertiary	Aeration Tanks	IN	Five tanks. Three passes each tank. Diffused air. Fine bubble.
	Blowers	IN	Four units. Two small and two large. One in use. Others on standby.
	Pre-aeration Chamber (Settled)	IN	Adds air to primary effluent before entering aeration tanks.
	RAS Channel	IN	RAS from final tanks is returned to the aeration tanks - aerated.
	Final Clarifiers	IN	Four tanks. All in service.
	Final Clarifier Pump Station	IN	Three vertical turbine pumps; used during during wet weather
	Final Clarifier Effluent	S	Clear
	Nitrification Towers	IN	Two units/plastic media. Will treat final clarifier effluent during dry weather, primary effluent during wet weather.
Other	Flow Meter and Recorder	IN	Magmeter
	Records	S	See inspection forms.
	Lab Controls	S	See lab inspection form.
	Automatic Samplers	IN	Three units. Raw, Final and station 604.
Sludge Disposal	Anaerobic Digesters	IN	Two primary, one secondary. Three used for gas storage.
	Temperature and pH	S	Use N-viro method to treat to exceptional quality sludge
	Gas Production	IN	Used to power two micro-turbines. Plans to have third.
	Heating Equipment	IN	3 boilers and a heat exchanger. Micro turbines have their own heat exchangers.
	Sludge Pumps	IN	Two WAS pumps, 325,000 gpd. Three RAS pumps, 17-20 MGD.
	Gravity Thickners	IN	Two tanks. South used as a thickener, North used for County's Sludge.
	Gravity Thickner pumps	IN	Two digester feed, one piston (scum), two cyclone degritter.
	Sludge Storage Tanks	IN	Two tanks. Feeds belt press.
	Belt Presses	IN	Three units. One on standby. About 52 % solids off.
	Chemical Addition	IN	N-Viro process. Lime (2 silos), fly ash (2 silos) and polymer (3 tanks) added.
	Windrow Building	IN	Four bunkers for sludge storage.
	Disposal of Sludge	S	Class A land application; contract with Wright.
Disinfection	Disinfection System	OUT*	Sodium hypochlorite disinfection. Two addition locations (603 and 604).
	Chlorine contact tanks	S	4 tanks
	Effective Dose	S	Parasaltic pumps, 4 units on chlorine feed and 4 units on dechlorination
	Dechlorination	OUT*	Sodium Bisulfate. Two feed points to ensure full dechlorination.
	Final Effluent Pumps	IN	Four pumps; pump to towers.
	Final Effluent	S	Clear and colorless with no noticeable odor.

*Not disinfecting during winter months