Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

March 14, 2022

Transmitted Electronically

Mr. Michael Caprella, Utilities Director
Lima WWTP
50 Town Square
Lima, Ohio 45801

Re: Lima WWTP
Inspection
NPDES
Allen County
2PE00000

Subject: Ohio Environmental Protection Agency NPDES Inspection

Dear Mr. Caprella:

On February 22, 2022, Ms. Peggy Christie and I conducted an inspection of the Lima Wastewater Treatment Plant (WWTP) located in Lima, Ohio. Ms. Kim Furry, Mr. Larry Huber, Ms. Emily Kerber, Mr. Eric Bontrager, and Mr. Shawn Dershem were present during the inspection to provide technical and operational information.

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. At the time of inspection, final effluent was slightly turbid and light brown with no noticeable odor.

2. The plant was operating in wet weather mode, meaning a side stream of primary clarifier effluent was being sent to the nitrification tower for secondary treatment and blending with the final clarifier effluent.

3. Wright Mulch/Lima Composting is contracted with the city to manage the land application of Class A biosolids. The City is required to maintain copies of the beneficial use records and has had problems getting these records from Wright Mulch. **Wright Mulch is operating without a valid Land Application Management Plan. Their plan expired on February 28, 2022, and no renewal application has been received.**

Recommendations:

The recommendation(s) set out below are not Orders. The recommendations are offered by Ohio EPA in an effort to provide compliance assistance to your facility.

1. Please submit documentation validating that the bypass has been eliminated so it can be removed from the permit.

2. Please develop and implement procedures to ensure that the city complies with the biosolids record keeping requirements found in Ohio Administrative Code 3745-40-09 (C)(1).

If you have any questions or comments concerning the enclosed inspection report, please contact me at (419) 373-3008 or email at mallorey.smith@epa.ohio.gov.

Sincerely,

Mallorey Smith

Mallorey Smith
Environmental Specialist II
Compliance and Enforcement
Ohio EPA Division of Surface Water
Northwest District Office

/cle

ec: Peggy Christie, DSW-NWDO
Emily Kerber, Utility Operations Manager
Eric Bontrager, P.E., Environmental Compliance Manager
Michael Caprella, Utilities Director
Larry Huber, Utility Field Services Supervisor
Kim Furry, Wastewater Treatment Plant Manager
Shawn Dershem, Assistant Supervisor

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	Yes	2/22/2022	10:15 AM	2:17 PM

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Lima WWTP 1200 Fort Amanda Rd. Lima, Ohio	8/1/2018 Permit Expiration Date 8/31/2022
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Ms. Kim Furry, Plant Supervisor Mr. Larry Huber, Utility Field Services Supervisor Ms. Emily Kerber, Utility Operations Manager Mr. Eric Bontrager, Environmental Compliance Manager Mr. Shawn Dershem, Assistant Supervisor	(419) 221-5198 (419) 221-5276 (419) 998-5539 (419) 998-5512 (419) 221-5191
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	Y – See recommendation 1
Y	F. Operations & Maintenance	N
Y	G. Operator Certification	N
Y	H. Collection System	N
Y	I. Sludge Management	Y – See recommendation 2
N	J. Storm Water	N/A
Y	K. Self-Monitoring Program	N
Y	L. Laboratory	N
Y	M. Effluent / Receiving Water Observations	N

Signatures	
Mallorey Smith 03/07/2022	*Thomas Poffenbarger* 3/10/22
Mallorey Smith 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 3/1/2019 and 2/1/2022

Summary

Permit Effluent Limit Violations: 12
Permit Effluent Code Events: 6
Permit Effluent Frequency Violations: 1
Compliance Schedule Milestones Not Entered: 1
Reported SSO Events: 648

Limit Violations

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
May 2019	001	pH, Minimum	1D Conc	6.5	5.3	5/20/2019
June 2019	001	E. coli	30D Conc	126	205.933	6/1/2019
June 2019	001	E. coli	7D Conc	284	1765.78	6/8/2019
July 2019	001	E. coli	7D Conc	284	921.035	7/8/2019
August 2019	001	pH, Minimum	1D Conc	6.5	6.4	8/10/2019
October 2019	001	pH, Minimum	1D Conc	6.5	6.3	10/18/2019
January 2020	001	Mercury, Total (Low Le	30D Conc	3.7	5.72	1/1/2020
July 2020	001	Phosphorus, Total (P)	30D Conc	1.0	1.01867	7/1/2020
August 2020	001	pH, Minimum	1D Conc	6.5	6.3	8/14/2020
November 2020	604	Total Suspended Solids	7D Conc	20	24.4857	11/1/2020
July 2021	001	E. coli	7D Conc	284	377.255	7/15/2021
September 2021	001	E. coli	7D Conc	284	560.474	9/22/2021

Code Events

Reporting Period	Station	Parameter	Reported Value	Event Date
June 2019	901	E. coli	AK	6/20/2019
August 2019	801	E. coli	AK	8/14/2019
July 2020	801	E. coli	AK	7/28/2020
July 2020	901	E. coli	AK	7/28/2020
October 2021	601	Total Suspended Solids	AB	10/6/2021
October 2021	604	Total Suspended Solids	AB	10/6/2021

Frequency Violations

Reporting Period	Station	Parameter	Sample Frequency	Expected	Reported	Violation Date
July 2021	001	Oil and Grease, Hexane	1/Week	1	0	7/1/2021

Compliance Schedule Milestones					
Schedule Due Date	**Completion Date**	**Event Code**	**Schedule Type**	**Schedule Milestone**	**Permit Reference Part 1, C (page)**
August 2022		5699	Construction	Final Compliance w/ Eff Limits	A.5 (29)

Lima WWTP SSO Events			
Parameter	**Units**	**Date**	**Reported Value**
Overflow Occurrence	No./Month	3/1/2019	27
Overflow Occurrence	No./Month	4/1/2019	53
Overflow Occurrence	No./Month	5/1/2019	69
Overflow Occurrence	No./Month	6/1/2019	23
Overflow Occurrence	No./Month	7/1/2019	33
Overflow Occurrence	No./Month	8/1/2019	27
Overflow Occurrence	No./Month	9/1/2019	12
Overflow Occurrence	No./Month	10/1/2019	9
Overflow Occurrence	No./Month	12/1/2019	7
Overflow Occurrence	No./Month	1/1/2020	18
Overflow Occurrence	No./Month	2/1/2020	20
Overflow Occurrence	No./Month	3/1/2020	62
Overflow Occurrence	No./Month	4/1/2020	23
Overflow Occurrence	No./Month	5/1/2020	30
Overflow Occurrence	No./Month	6/1/2020	7
Overflow Occurrence	No./Month	7/1/2020	9
Overflow Occurrence	No./Month	8/1/2020	4
Overflow Occurrence	No./Month	9/1/2020	15
Overflow Occurrence	No./Month	10/1/2020	16
Overflow Occurrence	No./Month	11/1/2020	4
Overflow Occurrence	No./Month	1/1/2021	11
Overflow Occurrence	No./Month	2/1/2021	9
Overflow Occurrence	No./Month	3/1/2021	14
Overflow Occurrence	No./Month	4/1/2021	7
Overflow Occurrence	No./Month	5/1/2021	17
Overflow Occurrence	No./Month	6/1/2021	7
Overflow Occurrence	No./Month	7/1/2021	30
Overflow Occurrence	No./Month	8/1/2021	15
Overflow Occurrence	No./Month	9/1/2021	7
Overflow Occurrence	No./Month	10/1/2021	18
Overflow Occurrence	No./Month	11/1/2021	3
Overflow Occurrence	No./Month	12/1/2021	41
Overflow Occurrence	No./Month	1/1/2022	1

High Flow Data for Lima WWTP between 3/1/2019 and 2/1/2022

Top 10 Flows	
Date	Flows (MGD)
5/19/2020	64.580
9/22/2021	63.385
10/27/2019	62.600
1/10/2020	60.037
2/10/2020	57.419
3/19/2020	56.424
9/23/2021	55.390
10/25/2021	54.691
3/20/2020	52.878
5/9/2021	52.800
Average	12.690

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 on April 4, 2019	☐	☒	
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:

-

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 on April 4, 2019	☐	☒	
f. Regulatory agency notified of all bypasses	☐	☐	☒
g. Permittee or representative reporting all noncompliance per Part III of NPDES	☒	☐	☐

Comments:

- **The city believes that the plant bypass was eliminated during the construction of the new headworks. We will need documentation in order to remove the bypass (Outfall 057) from the permit renewal.**

SECTION F: OPERATION AND MAINTENANCE

a. Standby power available	Diesel Generator		
b. Standby power provides power to which treatment components?	Entire plant		
c. Which treatment components have alarm system available for power or equipment failures?	Everything is connected to 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 on April 4, 2019		☐	☒
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?	Only residential septage		

Comments:

- **e. Cityworks is used for scheduling all preventative maintenance. Working on training personnel on utilizing cityworks to its fullest potential.**
- **i – following wet weather plan. Dry weather mode used for 0-30 MGD (all flow goes to secondary treatment and nitrification towers), wet weather mode is for 30-40 MGD (all flow goes through secondary treatment, but 30 MGD goes to towers, and 0-10 MGD bypasses the towers),, and peak wet weather mode is for 40-70 MGD (40 MGD goes through secondary treatment, and 0-30 MGD bypasses secondary treatment and goes to towers. These flows are blended prior to disinfection). Primary effluent is used to seed the nitrification towers to ensure the biology is available for wet weather secondary treatment. Routine flushing of the seed line is performed to prevent buildup of solids accumulation.**

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 certificate(s) and renewal card(s) of all professional operators displayed on-site?		☒	☐	
e. Minimum operator staffing requirements fulfilled (OAC 3745-7)		☒	☐	
f. If required (Class A or 1), are daily visits conducted by an owner's representative?		☐	☐	☒
g. If a Staffing Reduction plan has been approved, are the stipulations of the plan being met?		☒	☐	☐
h. 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?		☒	☐	☐
i. Professional Operator of Record logbook provided?		☒	☐	
j. Logbook location	Kim's Office			
k. Logbook Format	Hardbound & Electronic			
l. Has the professional Operator of Record(s) completed their electronic time submission (DMR or other option)?	Yes			
m. Do the electronic time submissions match the logbook?	Yes			
Logbook contains the following:				
n. Identification of treatment works		☒	☐	
o. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7		☒	☐	
p. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)	Electronic			
q. Laboratory results (unless documented on bench sheets)	Bench Sheets			
r. Identification of person making entries		☒	☐	

g. Reduced staffing hours approved on 7/26/2021
k. Operation maintenance kept electronically; ORC staffing hours are in a hardbound book.
r. Operations has their own logbook with initials, Shawn has his own logbook, and so does Kim.

SECTION H: COLLECTION SYSTEM

Collection System Overview

a. Which department oversees collection system operation and maintenance	Utility Field Services
b. Who is the certified operator serving as the professional Operator of Record for the collection system?	Larry Huber
c. Professional Operator(s) of Record holds unexpired license of class required by Permit?	Yes
d. Current Operator of Record form submitted?	Yes
e. Copy of certificate(s) and renewal card(s) of all professional operators displayed on-site?	Yes
f. Minimum operator staffing requirements fulfilled (OAC 3745-7)	Yes
g. Is there a plan for collection system maintenance? If yes, to what extent is this plan being implemented?	Yes; Following CMOM; semi-annual progress reports completed and submitted to USEPA for consent decree. Probably 5-7% versus the standard 10% of sewers are checked annually.
h. Were there any major repairs or improvements to collection system since last inspection?	Yes, CSO basin was constructed. Finished phase II sewer relining, ~1700'; phase I still not completed (Jameson and High; in litigation with contractors). Mumaugh & Cable Road lift stations redone
i. Name the satellite communities that discharge into your collection system	Shared areas with the County

Pumps and Force Mains

a. How many lift stations are within the collection system?	31 separate, 1 combined (Baxter) so 32 total
b. How many lift stations have alarms?	32
c. How many lift stations are equipped with permanent standby power or equivalent?	32; 5 permanent & the rest have generator hookup

Comments: WWTP oversees lift stations

Continued… SECTION H: COLLECTION SYSTEM

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 order with USEPA. CCTV sewer investigation; Lost Creek Basin SSO has been eliminated, waiting on final report from engineers.	
e. Are any portions of the sewer system at or near dry weather capacity? If yes, describe plans.	No	
f. Is there an inflow and infiltration reduction plan being followed? If yes, describe plans.	Yes, consent decree order with USEPA	

Comments:
b – WIB included in semi-annual reporting with USEPA, 10 or less complaints. Program to raise laterals or install check valves has been put on hold due to COVID-19.
d – county owns, Lima maintains. Joint effort

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?	Incorporated into consent decree. Consent decree trumps LTCP.	
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	April 4, 2019	
b. Sludge disposal method	Land Application of Class A; Class B goes to landfill	
c. Name of sludge disposal contractor	Class A: Farmers haul from plant to fields Class B: Republic Services to Carey Landfill	
d. How many days of sludge storage are provided at plant?	~ 180 days	
	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:

- **They accept county sludge.**
- **Wright Mulch/Lima Composting is contracted with the city to manage Class A sludge. Wright Mulch has a LAMP permit with Ohio EPA. The application was due on September 1, 2021, but we have not received it. Farmers come directly to the plant for biosolids. When demand is low for class A, they will switch to class B and landfill the sludge. We recommend that the management of the biosolids program be moved to the responsibility of the City of Lima.**
- **Lima WWTP is now getting the required documentation from the farmers. Application rates are being documented.**
- **Prior to June 7, 2021, sludge records were not being maintained. Since then, documentation has been kept.**

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	Unknown	
e. Who calibrates the flow measuring device?	CCI (Commerce Controls)	
f. Frequency of calibration	Annually	
g. How often is the flow measuring device checked for functionality?	Every shift	

Comments:
a. Magmeter
d. Calibration is now on track to be conducted annually.

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:
c. One frequency violation in July 2021 for oil and grease, letter was sent to Ohio EPA

SECTION L: LABORATORY

In-House Sampling;

Parameter	Analytical testing methods used
TSS	I-3750-85
CBOD	SM 5210 B
Ammonium	ASTM D6919-09
Phosphorus	SM 4500 P
COD	HACH 8000
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?	☒	☐	☐

Commercial Laboratory Sampling:
Laboratory Name: Alloway

Parameter	Analytical testing methods used
Hexavalent Chromium	3500 CRV
O & G	EPA 1664 A
TKN	EPA 351.2
Metals	EPA 200.8
Cyanide	ASTM D7237-10
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	October 2021		
ii. Parameters found unsatisfactory, phosphorous	☒	☐	☐
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. ii. Lima WWTP lab didn't pass DMRQA twice for phosphorus, so they opted to have Phosphorous contracted out.
c. i. 2017 or 2018

SECTION M: EFFLUENT/RECEIVING WATER OBSERVATIONS								
Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Odor
001	Yes	No	No	Slight	No	No	Light brown	None

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. City believes station 057 was removed during the headworks construction. Facility will verify.
	Storm Water Overflows	NE	
	Alternate Power Source	S	Two Diesel Generators. Put under load every five weeks. Participates in ENEL-X. Auto switch after 7 seconds of lost power.
Preliminary	Maintenance of Collection Systems	S	Handled by collections department.
	Pump Station	NE	
	Ventilation	NE	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; two grit classifier.
	Disposal of Grit	S	Landfill
	Grease Removal	S	Grease compactor.
	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. During dry weather: 1 new, 1 old primary clarifier in service.
	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. 2 not working & being replaced
	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	NE	
	Automatic Samplers	IN	5 units. Raw (before primary clarifiers), Final, station 604, 603, 001B (process control)
Sludge Disposal	Anaerobic Digesters	IN	Two primary, one secondary. Third is used for gas storage.
	Temperature and pH	S	Use N-viro method to treat to exceptional quality sludge
	Gas Production	IN	Used to power boilers. Currently micro turbines not running
	Heating Equipment	IN	3 boilers and a heat exchanger.
	Sludge Pumps	IN	Two WAS pumps, 325,000 gpd. Three RAS pumps, 17-20 MGD.
	Gravity Thickners	IN	Two tanks. Both used as a thickener, South 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. ~26-28% solids off, ~65% after lime. 4-5 days/wk
	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. During peak: send effluent to towers (always in use). Either secondary bypass, final effluent or blended
	Final Effluent	S	Slightly turbid, light brown color

***NOT DISINFENCTING DURING WINTER MONTHS