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1PD0001920110823

MIAMI TROY WWTP MILLER, JOSEPH 2011/08/23

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August 22, 2011

City of Troy
Attn: Mayor and Council
100 South Market Street
PO Box 3003
Troy, OH 45373

RE: Compliance Evaluation Inspection (CEI)
City of Troy Wastewater Treatment Facility
NPDES Permit 1PD00019*LD/OH0027758
Troy, Miami County

Ladies and Gentlemen,

On August 4, 2011, I conducted a Compliance Evaluation Inspection (CEI) at the City of Troy Wastewater Treatment Facility. This inspection was conducted to review plant performance and compliance with the NPDES permit requirements.

Overall, the wastewater treatment facility was rated as "Satisfactory". A detailed inspection report is attached.

Provide a response to the section entitled "**ITEMS REQUIRING RESPONSE**" by **September 16, 2011**. The requested information deals specifically with the collection system. Should you have any questions, I can be reached by telephone at (937) 285-6109 or by email at joe.miller@epa.state.oh.us.

Sincerely,

Joe Miller
Division of Surface Water

ec: Tim Snider, City of Troy
Thomas Parsons, City of Troy
Thomas Funderburg, City of Troy
Debbie Swan, City of Troy

Southwest District Office
401 East Fifth Street
Dayton, OH 45402-2911

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Compliance Evaluation Inspection (CEI)
City of Troy, Miami County
August 4, 2011

Overview

The City of Troy wastewater treatment plant (WWTP) is located on Dye Mill Road south of Troy in Miami County. Effluent discharges to the Great Miami River at River Mile 105.62. The Great Miami River is designated for the following uses under Ohio's Water Quality Standards (OAC 3745-1-21): Exceptional Warmwater Habitat (EWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Primary Contact Recreation (PCR).

The Troy WWTP has a permitted average design flow of 7.0 MGD (million gallons per day). Wet stream processes include screening (Parkson Fine Screens), grit removal (Eutek systems), screw pumps (Spaans Babcock, four sets of two stage pumps), primary settling and scum removal (Eimco), flow equalization, activated sludge aeration (Hoffman – Ott fine bubble diffusers, secondary clarification (Eimco), ultraviolet disinfection (Infilco Degremont), and post aeration (Hoffman). Influent flow monitoring is obtained via ultrasonic flow metering and parshall flume. Effluent flow monitoring is measured by magmeter. Two – 1 Million Gallon equalization basins are utilized during storm events resulting in flow in excess of plant treatment capacity. Solid stream processes include: sludge thickening, dewatering with belt filter press, lime stabilization, and disposal by hauling to a mixed waste landfill.

The Troy wastewater treatment facility is currently manned twenty-four hours a day, however, an evaluation of staffing reduction by utilizing SCADA is underway.

Plant Compliance

The only reported effluent limitation violation was a low level mercury monthly loading of 0.00034 kg/day (limitation is 0.0003 kg/day). Average daily flow during the period from August 2010 July 2011 was 5.64 MGD. There were no complaints received regarding odor or sludge disposal.

On March 5 and 6, 2011, an outage of the SCADA system resulting in coding violations from outfalls 601 and 001 for the parameters temperature, pH, flow rate, and dissolved oxygen.

E.Coli and Ammonia-Nitrogen Effluent Limitations

New limitations for both Ammonia-Nitrogen and E.Coli are included in NPDES permit renewal effective August 1, 2011. A Schedule of Compliance is included in the NPDES permit for meeting the reduced ammonia-nitrogen limitations.

Collection System

In the 2010 inspection, the initiation of a CMOM program (Capacity, Management, Operations, and Management) was discussed. Establishment of a CMOM program will provide the City of Troy with a means to identify and address areas of need to prevent problems, protect the capacity of the sanitary sewer to convey wastewater, operate the system efficiently, and maintain and prolong the useful life of the collection system using widely accepted wastewater industry practices. Aging wastewater collection infrastructure requires management and maintenance. Currently, the Troy collection system maintenance program is more reactive than proactive.

Provide a report describing collection system improvements during the last year and projects planned for the upcoming year. This report should include any lift station improvements as well as sewer collection replacement and lining projects.

ITEMS REQUIRING A RESPONSE

1. **CMOM Update** – Provide an update on implementation of a CMOM program.

2. **Collection System Report** – Provide a short report detailing collection system improvements completed during the past year as well as those planned and funded for the upcoming year.

Permit # : 1PD00019*LD
NPDES #: OH0027758

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**
1PD00019*LD	OH0027758	8/4/2011	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
City of Troy WWTP 1400 Dye Mill Road Troy, OH 45373	9:30 AM	9/1/2006
	Exit Time	**Permit Expiration Date**
	12:00 PM	1/31/2011
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
Timothy Snider, WWTP Superintendent Phil Osting, WWTP Assistant Superintendent Mitch Beckner, Pretreatment/Operations Manager Thomas Funderburg, Asst. Dir. of Public Service & Safety	937-339-1410 937-339-1410 937-339-1410 937-339-7639 937-335-1914	
Name, Address and Title of Responsible Official	**Phone Number**	
Mayor and Council City of Troy 110 South Market Street Troy, OH 45373	937-339-1221	

Section C: Areas Evaluated During Inspection (S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	S	Flow Measurement	S	Pretreatment
S	Records/Reports	S	Laboratory	S	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	S	Other
S	Collection System				

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

Inspector	Reviewer
Joe Miller 8/22/11 Date Division of Surface Water Southwest District Office	Martyn G Burt 8/23/11 Date Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Sections E thru K: Complete on all inspections as appropriate
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

Section E: Permit Verification

Inspection observations verify the permit

(a) Correct name and mailing address of permittee	Y
(b) Flows and loadings conform with NPDES permit.....	Y
(c) Treatment processes are as described in permit application...	Y
(d) All discharges are permitted.....	Y
(e) Number and location of discharge points are as described in permit.....	Y
(f) Storm water discharges properly permitted.....	N/E

Comments/Status:

Average flow during the period of August 2010 to August 2011 was 5.64 MGD. Design flow is 7.0 MGD.
Effluent discharges to Great Miami River near bike path bridge.
Upstream sampling location is GMR at the State Route 41 Bridge.
Downstream sampling location is the GMR at the Tipp-Elizabeth Road bridge.

Section F: Compliance

(a) Any significant violations since the last inspection.....	Y
(b) Appropriate Non-compliance notification of violations.....	Y
(c) Permittee is taking actions to resolve violations.....	Y
(d) Permittee has a compliance schedule.....	Y
(e) Compliance schedule contained in...NPDES Permit Compliance Schedule	
(f) Permittee is in compliance with schedule.....	Y
(g) Has biomonitoring shown toxicity in discharge since last inspection	N

Comments/Status:

Effluent violation for low level mercury monthly loading

Coding violation due to SCADA outage March 5 and 6, 2011

Compliance Schedule in NPDES permit for meeting Ammonia-Nitrogen limitations

Compliance Schedule in NPDES permit for local limits evaluation

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

(a) Standby power available.....generator ☒ or dual feed ☐..... Y

i. What does the back-up power source operate.....

Entire facility

ii. How often is the generator tested under load.....

Generator tested bi-monthly under load, monthly otherwise

(b) Which components have an alarm system available for power or equipment failures.....

Return activated sludge lines (RAS), Ultraviolet Disinfection (UV), high water alarms on influent and screw pumps, malfunction alarms on screw pumps, RAS, finals
PLC malfuntion alarm

(c) All treatment units in service other than backup units..... N

(d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....

Work orders tracked with a spreadsheet are assigned daily, monthly, semi-annually, and annually.

(e) Any major equipment breakdown since last inspection..... N

(f) Operation and maintenance manual provided and maintained..... Y

(g) Any plant bypasses since last inspection..... N

(h) Any plant upsets since last inspection..... N

Comments/Status:

Two clarifiers off-line during low flow period.

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

(a) Wastewater Treatment Works classification (OAC 3745-7)..... III
(b) Operator of Record holds unexpired license of class required by Permit..... Y
(c) Copy of certificate of Operator of Record displayed on-site..... Y
(d) Has the Operator of Record submitted an ORC Notification form.. Y
(e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... Y
(f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met.....N/A
(g) Operator of Record log book provided..... Y
(h) Format of log book (e.g. computer log, hard bound book)

not evaluated

(i) Log book kept onsite (in an area protected from weather)..... Y
(j) Log book contains the following:
  I. Identification of treatment works..... N/E
  II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... N/E
  iii. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)..... N/E
  iv. Laboratory results (unless documented on bench sheets)... N
  v. Identification of person making entries..... N
(k) 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..... Y

Comments/Status:

Operators on staff: 7 Class III Operators, 1 Class II Operator, 1 Class I Operator

Section G: Operation & Maintenance con't

Collection System:

(a) Are there pump stations in the collection system..... Y
- i. How many publicly-owned pump stations equipped with permanent standby power or equivalent.....4
- ii. How many pump stations have telemetered alarms.....0*
- iii. How many pump stations have operable alarms.....0*

(b) Any chronic collection system overflows since last inspection..... N
(c) Regulatory agency notified of all overflows..... N/A
(d) Are there CSOs in the collection system..... N
if so, what is the LTCP status.....

(e) How are CSOs monitored (chalk, block, level sensor, etc.).....

(f) Portable pumps available for collection system maintenance..... Y
(g) RDII Program established and active..... N
(h) Any WIB complaint received since last inspection..... Y
(i) Is there a WIB response plan..... Y
(j) Is any portion of the collection system at or near dry weather capacity..... N

Comments/Status:

*Currently there are 8 primary lift stations.
1. Southview LS - currently not alarmed, emergency power provided by portable generator
2. Dorset LS - currently not alarmed, emergency power provided by portable generator
3. Kirk Lane LS - currently not alarmed, emergency power provided by portable generator
(The above 3 lift stations are planned to be provided with SCADA by September 2010, delayed from '09)
4. Nottingham - not alarmed, emergency power provided by portable generator
5. Trade LS - not alarmed, pumper bypass used during power outages
6. Fernwood LS - not alarmed, pumper bypass used during power outages
7. Haywood LS - not alarmed, pumper bypass used during power outages
8. Duke Park LS - not alarmed, pumper bypass used during power outages
Other: Barn in the Park LS - not alarmed, pumper bypass used during power outages

Miami County lift stations tributary to the City of Troy include: Camp Troy LS, Casstown LS, and Miami County Fairgrounds LS.

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Section H: Sludge Management

(a) Method of Sludge Disposal...
- ☐ Land Application
- ☒ Haul to Another NPDES Permitee
- ☐ Haul to a Mixed Solid Waste Landfill

*if one of the selected methods is land application, complete applicable charts.

Class A - Exception Quality Sewage Sludge (monitoring station 584)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 – >75% Percent Solids without Unstabilized Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 – Time and Temperature Regime (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – High pH and High Temperature (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Other Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 4 – Unknown Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Composting (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Drying (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Treatment (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Thermophilic Aerobic Digestion (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Beta Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Gamma ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Pasteurization (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 6 - Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐

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Class B Sewage Sludge (monitoring station 581)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options									
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 – >75% Percent Solids without Unstabilized	Option 8 - >75% Percent Solids with Unstabilized	Option 9 – Land Injection	Option 10 – Immediate Incorporation
Alternative 1 - Geometric Mean of Seven Fecal Samples (84369)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Aerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Air Drying (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Anaerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Composting (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Lime Treatment (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(b) Has amount of sludge generated changed significantly since the last inspection..... Y

(c) How much sludge storage is provided at the plant.....

10 days

(d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y

(e) Any complaints received in last year regarding sludge..... Y

(f) 5/8" screen at headworks for facilities that land apply sludge..... Y

(g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/E

(h) Is a contractor used for sludge disposal..... Y

If so, what is the name of the contractor.....

Synagro

Comments/Status:

3 Gravity Thickeners: 2 - Waste (137,000 Gal), 1 - Primary (127,500); 631,000 Gal Sludge Holding Tank
Hauling sludge to Jay County, IN. landfill

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):

Effluent Magmeter; Influent Ultrasonic and Parshall Flume

(b) Flow meter calibrated annually ..... Y
(Date of last calibration: continuous)

(c) 24-hour recording instruments operated and maintained..... Y

(d) Flow measurement equipment adequate to handle full range of flows..... Y

(e) All discharged flow is measured..... Y

Comments/Status:

Section I: Self-Monitoring Program (con't)

Sampling:

(a) Sampling location(s) are as specified by permit..... Y

(b) Parameters and sampling frequency agree with permit..... Y

(c) Permittee uses required sampling method..... Y
(see GLC page)

(d) 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)..... Y

Comments/Status:

Total Suspended Solids samples taken every day and reported on eDMRs.

See attached General Lab Criteria evaluation.

Section I: Self-Monitoring Program (con't)

Laboratory:

General

(a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... Y

(b) Do SOP's include the following if applicable..... N/E

- Title
- Scope and Application
- Summary
- Sample Handling and Preservation
- Interferences
- Apparatus and Materials
- Reagents
- Procedure
- Calculations
- Quality Control
- Maintenance
- Corrective Action
- Reference (Parent Method)

Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of know precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

(c) EPA approved analytical testing procedures used (40 CFR 136.3).. Y

(d) If alternate analytical procedures are used, proper approval has been obtained..... N/A

(e) Analyses being performed more frequently than required by permit. Y

(f) If (e) is yes, are results in permittee's self-monitoring report..... Y

(g) Satisfactory calibration and maintenance of instruments/equipment. Y (see score from GLC page)

(h) Commercial laboratory used..... Y

Parameters analyzed by commercial lab: NH3, TKN, Nitrite-Nitrate, O&G, total phosphorus, mercury, metals

Lab name: Test America

Discharge Monitoring Report Quality Assurance (DMRQA)

(a) Participation in latest USEPA quality assurance performance sampling..... Y

Date:

(b) Were any parameters "Unsatisfactory"..... N

(c) Reasons for "Unsatisfactory" parameters.....

Comments/Status:

E.Coli being analyzed in-house for new reporting requirements

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Section J: Effluent/Receiving Water Observations

Outfall # 001
Outfall Description: Headwall near bike path, turbulent discharge, effluent clear

Receiving Stream: Great Miami River
Receiving Stream Description: EWH

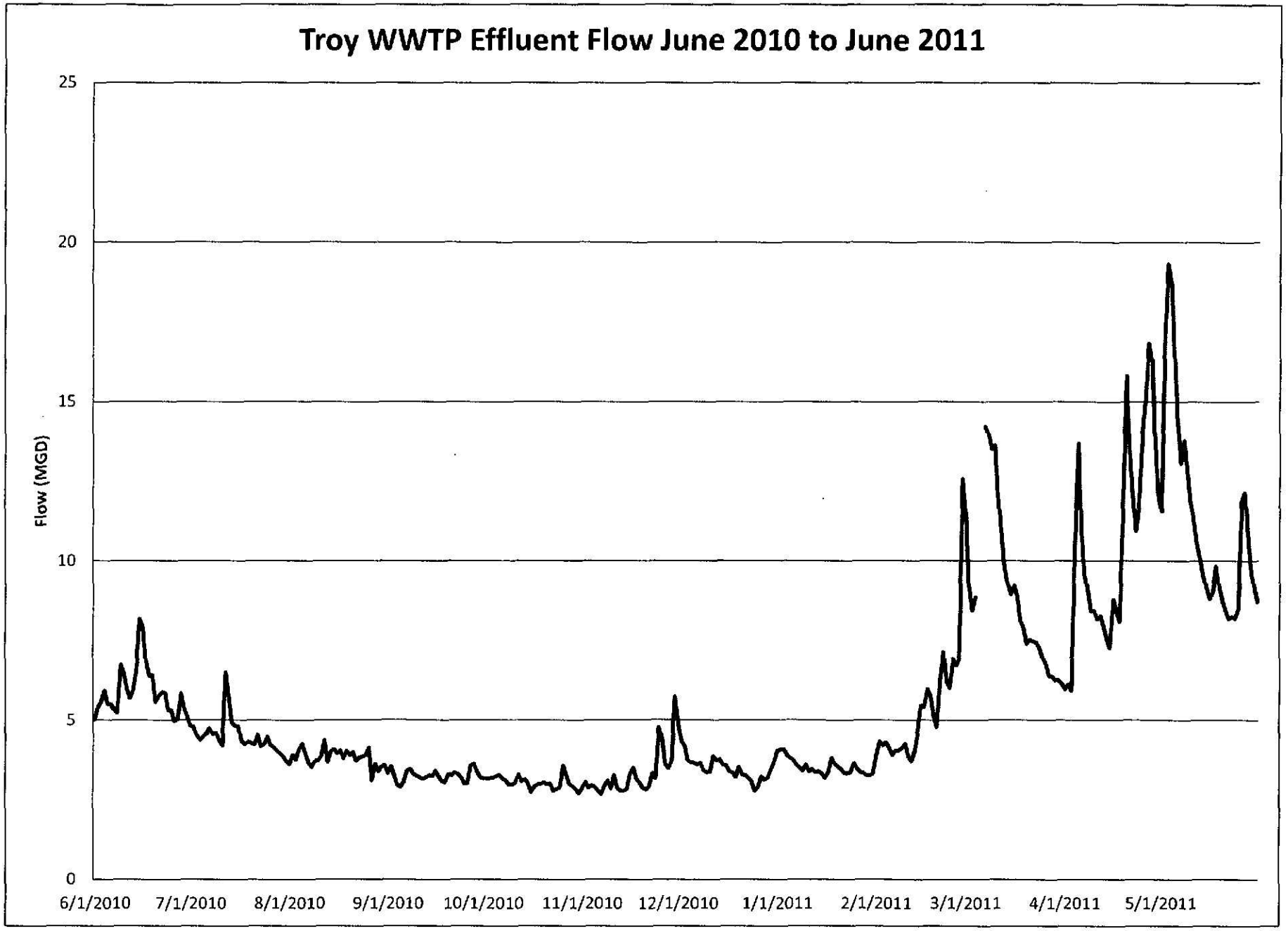
Comments/Status:

Section K: Multimedia Observations

(a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
(b) Do you notice staining or discoloration of soils, pavement or floors.. N
(c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
(d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
(e) Do you notice any unusual odors or strong chemical smells..... N
(f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

If any of the above are observed, ask the following questions:
(1) What is the cause of the condition?
(2) Is the observed condition or source a waste product?
(3) Where is the suspected contaminant normally disposed?
(4) Is this disposal permitted?
(5) How long has the condition existed and when did it begin?

Comments/Status:


Troy WWTP Effluent Flow June 2010 to June 2011
Flow (MGD)
25
20
15
10
5
0
6/1/2010
7/1/2010
8/1/2010
9/1/2010
10/1/2010
11/1/2010
12/1/2010
1/1/2011
2/1/2011
3/1/2011
4/1/2011
5/1/2011