



Environmental
Protection Agency

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

April 3, 2012

Dave Gale, Operator
Marengo Village
4442 State Route 229
Marengo, OH 43334

Re: **Marengo Village**
NPDES Permit # 00101/ OH0058881
Compliance Evaluation Inspection
Morrow County

Dear Mr. Gale:

On March 22, 2012, a Compliance Evaluation Inspection was conducted at the Marengo Village. Present for the inspection were yourself, representing the Village of Marengo and myself of the Ohio EPA, Central District Office, Division of Surface Water.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your NPDES permit and to evaluate the operation and maintenance of the plant. The Compliance Inspection raised several concerns which must be addressed in the following areas:

Effluent Flow Meter and Equalization Pump: At the time of the inspection, the effluent flow meter was inoperable to a power surge and one of the two flow equalization pumps was out of service following a lightning strike. Repairs to both of these units are expected to occur within the next two weeks. Please notify this office when these units are repaired and placed in service.

Tertiary Sand Filters: Significant solids accumulations were observed on the surface of all the sand beds. Please have the solids removed from these units as soon as the weather permits and make every attempt to maintain these units in condition which is free of solids and weeds at all times.

If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3848 or e-mail at mike.sapp@epa.ohio.gov.

Sincerely,

Michael Sapp
Compliance and Enforcement Unit
Division of Surface Water
Central District Office

ec: Mike Sapp

MS/nsm Marengo WWTP 12

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NPDES Compliance Inspection Report

SECTION B: IDENTIFICATION DATA AND SCHEDULING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PA00101	OH0053881	CEI	S	Public
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
3/22/2012	9:25 AM	10:45 AM	No	No

SECTION C: FACILITY INFORMATION	
Name and Location of Facility Inspected	Permit Effective Date
Marengo Village 4442 State Route 229 Marengo, Ohio 43334	7/1/2008
	Permit Expiration Date
	6/30/2013
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Dave Gale, Plant Operator	(419) 253-1392
Name and Title of Responsible Official	Phone Number
Dave Gale, Operator	(419) 253-1392

SECTION C: AREAS EVALUATED DURING INSPECTION		
Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated		
S	NPDES Compliance	
S	Operations & Maintenance	
S	Facility Site Review	
S	Collection System	
U	Flow Measurement	Effluent flow meter was out of service
M	Receiving Waters	Effluent loading violations due to high flows.
S	Laboratory	

Comments: (see attached)

Signatures			
	3/28/12		3/29/12
Michael Sapp, Inspector Compliance & Enforcement Division of Surface Water Central District Office	Date	Erin Sherer, Reviewer Compliance & Enforcement Supervisor Division of Surface Water Central District Office	Date

SECTION E: PERMIT VERIFICATION

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee Y
- (b) Correct name and location of receiving waters..... Y
- (c) Product(s) and production rates conform with permit application (Industries)..... NA
- (d) Flows and loadings conform with NPDES permit..... Y*
- (e) Treatment processes are as described in permit application... Y
- (f) New treatment process(es) added since last inspection..... N
- (g) Notification given to State of new, different or increased discharges..... Y
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

SECTION F: COMPLIANCE

- (a) Any significant violations since the last inspection..... Y*
- (b) Permittee is taking actions to resolve violations..... Y*
- (c) Permittee has a compliance schedule..... N
- (d) Compliance schedule contained in NA
- (e) Permittee is meeting compliance schedule..... NA

SECTION G: OPERATION & MAINTENANCE

Treatment Works:

Treatment facility properly operated and maintained

- (a) Standby power available.....generator X or dual feed Y*
- (b) Adequate alarm system available for power or equipment failures.. N*
- (c) All treatment units in service other than backup units..... Y
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... I
- (e) Operator of Record holds unexpired license of class required by permit..... Y*
Class: II
- (f) Copy of certificate of Operator of Record displayed on-site..... Y
- (g) Minimum operator staffing requirements fulfilled (OAC 3745-7)... Y*
- (h) Routine and preventative maintenance scheduled/performed... Y*
- (i) Any major equipment breakdown since last inspection..... N
- (j) Operation and maintenance manual provided and maintained.... Y
- (k) Any plant bypasses since last inspection..... N

- (l) Regulatory agency notified of bypasses..... NA
On MORs and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... Y

Record Keeping:

- (a) Log book provided..... Y
- (b) Format of log book (i.e. computer log, hard bound book)

Hard bound book and computer entries

- (c) Log book(s) kept onsite (in an area protected from weather)..... Y
- (d) Log book contains the following:
 - I. Identification of treatment works..... Y
 - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... N*
 - III. Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... Y
 - IV. Laboratory results (unless documented on bench sheets)... Y
 - V. Identification of person making log entries..... Y
- (d) Has the operator of record submitted written notification 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

Collection System:

- (a) Percent combined system: 0%
- (b) Any collection system overflows since last inspection..... N
(CSO and/or SSO)
- (c) Regulatory agency notified of overflows (SSOs)..... NA
- (d) CSO O&M plan provided and implemented..... NA
- (e) CSOs monitored and reported in accordance with permit..... NA
- (f) Portable pumps used to relieve system..... N
- (g) Lift station alarms provided and maintained..... Y*
- (h) Are lift stations equipped with permanent standby power or equivalent..... N*
- (i) Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection..... Y*
- (j) Any complaints received since last inspection of basement flooding N
- (k) Are any portions of the sewer system at or near capacity..... N

SECTION H: SLUDGE MANAGEMENT

- (a) Sludge management plan (SMP)
 Submitted date: _____ Approval #: _____ Not submitted N/A
- (b) Sludge management plan current..... Y
- (c) Sludge adequately disposed..... Y*
 (Method: hauling to another POTW _____)
- (d) If sludge is incinerated, where is ash disposed of _____
- (e) Is sludge disposal contracted..... Y
 (Name: Poors Septic for hauling)
- (f) Has amount of sludge generated changed significantly since
 last inspection..... N
- (g) Adequate sludge storage provided at plant..... Y
- (h) Land application sites monitored and inspected per SMP..... NA
- (i) Records kept in accordance with State and Federal law..... NA
- (j) Any complaints received in last year regarding sludge..... N
- (k) Is sludge adequately processed (digestion, pathogen control)..... Y

SECTION I: SELF-MONITORING PROGRAM

Flow Measurement:

- (a) Primary flow measuring device operated and maintained..... Y*
 Type of device: Ultrasonic & Parshall flume Ultrasonic & Weir Weir
 Calculated from influent Other X(Specify:Magmeter)
- (b) Calibration frequency adequate Y*
 (Date of last calibration: _____)
- (c) Secondary instruments operated and maintained..... Y
- (d) Flow measurement equipment adequate to handle full range
 of flows..... Y
- (e) Actual flow discharged is measured..... Y
- (f) Flow measuring equipment inspection frequency
Daily Weekly monthly other

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 5 and 8)
- (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

Laboratory:

General

- (a) Do you have written Standard Operating Procedures (SOP's) for all analysis performed onsite? Y
- (b) Do SOP's include the following if applicable:
- 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: SOP's are required per Standard Methods 1020A and states "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."

- (c) EPA approved analytical testing procedures used for all analysis (40 CFR 136.3, see GLC page 8). Y
- (d) If alternate analytical procedures are used, proper approval has been obtained..... NA
- (e) Analyses being performed more frequently than required by permit. N
- (f) If (e) is yes, are results in permittee's self-monitoring report..... NA

Quality Control/Quality Assurance

- (g) Quality assurance manual provided and maintained..... N
- (h) Satisfactory calibration and maintenance of instruments/equipment. Y* (see score from GLC page 7)
- (i) Results of latest USEPA quality assurance performance sampling program: NA
Satisfactory Marginal Unsatisfactory
Date:
- (j) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: all parameters except dissolved oxygen and pH

Lab name: MASI

Comments/Status:

SECTION J: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place?	Oil sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	NO	NO	NO	NO	NO*	NO	Clear	NA

* Foam present in post aeration tank but not present at outfall.

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?

Compliance Data for Marengo Village between 9/1/2010 to 2/28/2012

Summary

Permit Effluent Limit Violations: 12
 Permit Effluent Code Violations: 0
 Permit Effluent Frequency Violations: 2
 Compliance Schedule Violations: 0

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation D
February 2011	001	Total Suspended Solids	30D Conc	12	14.	2/1/2011
February 2011	001	Total Suspended Solids	30D Qty	1.7	2.98447	2/1/2011
February 2011	001	CBOD 5 day	30D Qty	1.4	1.95306	2/1/2011
February 2011	001	Total Suspended Solids	7D Conc	18	26.	2/8/2011
February 2011	001	Total Suspended Solids	7D Qty	2.6	6.39665	2/8/2011
February 2011	001	CBOD 5 day	7D Qty	2.2	2.70628	2/8/2011
February 2011	001	Total Suspended Solids	7D Qty	2.6	3.06585	2/15/2011
February 2011	001	CBOD 5 day	7D Qty	2.2	2.24829	2/15/2011
February 2011	001	CBOD 5 day	7D Qty	2.2	2.43754	2/22/2011
May 2011	001	Nitrogen, Ammonia (NH3)	7D Conc	2.3	4.	5/15/2011
May 2011	001	Nitrogen, Ammonia (NH3)	7D Qty	0.3	.57532	5/15/2011
October 2011	001	Fecal Coliform	30D Conc	1000	1000.	10/1/2011

Frequency Violations						
Reporting Period	Station	Parameter	Sample Frequency	Expected	Recorded	Violation Date
December 2010	001	Odor, Severity	1/Day	1	0	12/09/2010
December 2010	001	Water Temperature	1/Day	1	0	12/10/2010

Flow Data for Marengo Village between 9/1/2010 and 2/28/2012

	Date	Flows (MGD)
Ten Highest Flows	5/4/2011	0.137
	3/6/2011	0.135
	11/25/2010	0.110
	2/19/2011	0.100
	2/20/2011	0.100
	3/1/2011	0.100
	3/11/2011	0.100
	4/5/2011	0.100
	3/2/2011	0.095
	3/10/2011	0.090
Average Flow Rate		0.035

ADDITIONAL INFORMATION
Marengo Wastewater Treatment Plant
4PA00101 – OH0053881

General

The Marengo Wastewater Treatment Plant has a design treatment capacity of 38,000 gpd with a direct discharge to Big Walnut Creek. Wet stream processes provided at the facility include influent pumping, flow equalization, extended aeration, final settling, tertiary sand filtration, ultraviolet disinfection and post aeration. Solids handling consists of sludge holding, thickening and hauling the sludge to another POTW for disposal.

Section E - Permit Verification

- (d.) The average daily flow at outfall 001, for the time period between September 2010 – February 2012, was approximately 35,000 gpd. The peak daily flow during rain events often exceeds 100,000 gpd. High flow events of 135,000 gpd and 127,000 were reported on March 6 and May 4, 2011, respectively. Both the average and peak flows appear to have decreased significantly since the previous inspection. The operator attributed this to the closing of the elementary school in May 2011 which had a significant I/I problem.

Section F. - Compliance Schedule Violations

- (a.) The attached table contains a summary of NPDES permit violations at the Marengo WWTP from August 2010 – February 2012. The February violations, which were primarily loading violations, were attributed to high flows. The fecal coliform violation in February 2011 was caused by a power outage.
- (b.) The plant operator attributed the fecal violation in June 2009 to insufficient cleaning of the UV bulbs. No explanations were provided for the other violations.

Section G. - Operation and Maintenance

Treatment Works

- (a.) The plant is equipped with a diesel powered generator capable of providing back-up power to the entire plant and the main pump station. The generator is not equipped with an automatic transfer switch and must be placed in operation manually.
- (b.) The plant is not equipped with an autodialer or any other sort of alarm system. The operator lives across the street from a pump station and uses the visual alarm on the unit for indication of power failure.
- (e.) Dave Gale currently holds a Class II license.

- (g.) Plant visits are made daily (six or seven days a week) for approximately 2 hours/day. Additional time is spent at the plant on weekends (2-4 hours).
- (h.) The operator greases the blowers during the first of every month.
- (i.) At the time of the inspection, the effluent flow meter was inoperable due to a power surge and one of the two flow equalization pumps was out of service following a lightning strike. Repairs to both of these units are expected to occur within the next two weeks.

Record Keeping

- (d.) The log books did not contain notations of arrival and departure times by the operator of record. Please begin including arrival and departure times for daily entries as soon as possible.

Collection System

- (g.) There are 5 lift stations in the collection system served by the Marengo plant. All of the pump stations are equipped with audible or visual alarms.
- (h.) Only pump stations 1 and 2 are equipped with back-up power. The other three units are small and only serve a small number of residences.
- (i.) An inflow and infiltration problem exists as evidenced by the presence of flows exceeding 100,000 gpd during storm events. Peak flows seemed to have dropped following the closing of the elementary school. The Village has made some improvements and repairs to the storm sewer system which has helped to keep some storm water out of the sanitary system.

Section H. - Sludge Management

- (c.) Sludge is hauled to the Village of Mt. Gilead WWTP for further treatment and processing. Poor's Septic is contracted for hauling and has hauled sludge three times over the past year.

Section I. - Self monitoring Program

Part 1. - Flow Measurement

- (a.) Effluent flows are measured with a magmeter installed on the line from the post aeration tank.
- (b.) The magmeter is being calibrated in accordance with manufacturer's specifications.

Part 2. Sampling

(c.) The effluent sampler collects time-weighted composite samples.

Part 3. - Laboratory

(h.) The operator only performs analyses for dissolved oxygen and pH. All of the remaining analyses are being sent out to MASI. Calibration was satisfactory for both the pH and dissolved oxygen meters.

SUMMARY OF FINDINGS AND COMMENTS Marengo Wastewater Treatment Plant

1. At the time of the inspection, the following general observations were made regarding the operation and maintenance of the plant:
 - The air in the aeration tanks is cycled on and off (45 minutes on followed by 30 minutes off). Air on cycles are increased in the south aeration tank due to problems with the air piping. The flow equalization blower is run continuously. The operator will replace the air piping (aluminum drop tubes and diffusers) in one of the two aeration tanks this summer. Replacement in the second tank will likely occur the following summer.
 - The steel tank housing the flow equalization, sludge holding, aeration and clarifier units was rusting. The Village should consider rehabilitation of these units before further deterioration occurs.
 - The UV bulbs are cleaned weekly.
 - MLSS concentrations are maintained around 2200 mg/L. This concentration is increased slightly in the winter.
 - Approximately 250 gallons of WAS is wasted every Saturday morning.
 - The post-aeration mixer cycles on and off every half hour.
2. The plant operator shuts off the air to the aeration tanks during sustained high flow events for the retention of solids.
3. When permit violations occur, please ensure that you submit an email or a letter of explanation outlining the actions you have taken or are taking to correct certain instances of non-compliance with NPDES permit limits. Formal responses were not submitted for all of the violations that occurred since the previous inspection.
4. Individual residences within the Village still have septic tanks with the outlets connected to small diameter gravity sewers. The Village is responsible for pumping tanks on an as needed basis. In general, the tanks are pumped once every ten years or when back-up problems begin to occur. The operator suspects that the septic tanks result in higher than normal influent ammonia concentrations.
5. Significant solids accumulations were observed on the surface of all the sand beds. Please have the solids removed from these units as soon as the weather permits and make every attempt to maintain these units in a condition which is free of solids and weeds at all times.

6. The effluent composite sampler did not appear to maintain a temperature at or below 6°C. Please place a thermometer in the sampler and correct the temperature accordingly.