



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

May 13, 2013

Mr. Joshua Rice, Village Administrator  
Village of South Charleston  
P.O. Box X  
South Charleston, Ohio 45368

**RE: Village of South Charleston Compliance Evaluation Inspection / Notice of Violation**

Dear Mr. Rice:

On April 26, 2013, representatives of the Ohio EPA Southwest District Office conducted a Compliance Evaluation Inspection at the village of South Charleston waste water treatment plant. The inspection was conducted as part of a compliance review of the plant with respect to the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Village.

The findings from this inspection are included in the attached report. The report identifies effluent, frequency, and code violations that occurred between January 2010 and April 2013. Written explanations as to the cause of the violations have already been provided. No additional information is needed at this time. There are three items that require a written response. Please provide a response to these items by the dates noted.

If you have any questions regarding the report, you may contact Joe Reynolds at (937) 285-6097.

Sincerely,

Martyn G. Burt  
Environmental Supervisor  
Division of Surface Water

MB/kb

Enclosure

cc: Steve Canter, Superintendent / Village Engineer

Permit #: 1PB00028\*FD  
 NPDES #: OH0020052



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
1PB00028*FD	OH0020052	4/26/2013	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Village of South Charleston 352 Clifton Road South Charleston, Ohio 45368	9:30 AM	7/1/2008
	Exit Time	Permit Expiration Date
	12:45 PM	6/30/2013
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Steve Canter, Superintendent / Village Engineer Aaron Moore, Operator	(513) 934 - 1512 (937) 462 - 7625	
Name, Address and Title of Responsible Official	Phone Number	
Joshua Rice, Village Administrator P. O. Box X South Charleston, Ohio 45368	(937) 462 - 8888	

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	S	Sludge Storage/Disposal	N	Other
M	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)	
See attached report.	
Inspector	Reviewer
 Joe Reynolds, Sandy Leibfritz Division of Surface Water Southwest District Office Date: 5/13/13	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office Date: 5/10/13

Permit # : 1PB00028\*FD  
NPDES #: OH0020052

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

**Comments/Status:**

The main storm water exposures at the plant are associated with salt storage and yard waste. These activities are not associated with the waste water plant operations. The NPDES permit currently has storm water language (Parts IV, V, and VI). This language will be removed from the renewal permit.

**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...N/A
- (f) Permittee is in compliance with schedule..... Y
- (g) Has biomonitoring shown toxicity in discharge since last inspection N/A

**Comments/Status:**

The village had significant violations for phosphorus in November and December, 2012. The phosphorus limits in the NPDES permit are going to be changed to summer only (per TMDL recommendation). This will eliminate the significant violations.

**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

- (a) Standby power available.....generator  or dual feed ..... N
- i. What does the back-up power source operate.....
- A standby generator that will run all of the plant equipment has been approved as part of the plant Permit to Install.
- ii. How often is the generator tested under load.....
- NA
- (b) Which components have an alarm system available for power or equipment failures.....
- The only alarms are on the lift stations. The plant is checked daily by representatives of the village.
- (c) All treatment units in service other than backup units..... Y
- (d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....
- Work orders are used to schedule maintenance activities.
- (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:**

Burgess and Niple developed a plant Operations and Maintenance manual in 1990. This manual will need to be updated when the plant upgrade is completed later this year.

**Section G: Operation & Maintenance con't**

**Record Keeping/Operator of Record:**

- (a) Wastewater Treatment Works classification (OAC 3745-7)..... II
- (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)  

Hard bound book.
- (i) Log book kept onsite (in an area protected from weather)..... Y
- (j) 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..... Y
  - iii. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)..... Y
  - iv. Laboratory results (unless documented on bench sheets)... Y
  - v. Identification of person making entries..... Y
- (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..... N/A

**Comments/Status:**

**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.....0
  - ii. How many pump stations have telemetered alarms.....1
  - iii. How many pump stations have operable alarms.....4
  
- (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/A  
if so, what is the LTCP status.....  

The collection system is 100% separate.
  
- (e) How are CSOs monitored (chalk, block, level sensor, etc.).....  

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

**Comments/Status:**

There are four lift stations in the system. One on Berschet, one on Route 42, one at the Yamada North America plant, and one at the waste water plant. A portable diesel pump is available to provide back-up to the stations.

**Section H: Sludge Management**

- (a) Method of Sludge Disposal...  Land Application  
 Haul to Another NPDES Permittee  
 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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - High pH and High Temperature (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 - Other Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 4 - Unknown Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Composting (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Drying (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Treatment (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Thermophilic Aerobic Digestion (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Beta Ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Gamma ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Pasteurization (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 6 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Aerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Air Drying (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Anaerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 – Composting (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Lime Treatment (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 – Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (b) Has amount of sludge generated changed significantly since the last inspection..... N
- (c) How much sludge storage is provided at the plant.....
- (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..... N
- (f) 5/8" scree n at headworks for facilities that land apply sludge..... N
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... Y
- (h) Is a contractor used for sludge disposal..... N  
 If so, what is the name of the contractor.....

**Comments/Status:**

The village land applies liquid sludge with immediate injection and dry with a manure spreader and immediate incorporation.

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):
- (b) Flow meter calibrated annually ..... Y  
(Date of last calibration: Currently out of service)
- (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:**

Due to a lightning strike the flow meter is currently out of service. Both the influent and effluent meters are scheduled for replacement with the plant upgrade.

**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:**

Influent samples are collected ahead of the bar screen. Effluent samples are collected after post aeration; fecal samples are collected after the UV disinfection system.

**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..... Y
  - 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 known 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. N
- (f) If (e) is yes, are results in permittee's self-monitoring report..... N/A
- (g) Satisfactory calibration and maintenance of instruments/equipment. Y (see score from GLC page)
- (h) Commercial laboratory used..... Y  
Parameters analyzed by commercial lab: All but D.O., pH, S.S, and CBOD  
Lab name: Belmont Labs.

*Discharge Monitoring Report Quality Assurance (DMRQA)*

- (a) Participation in latest USEPA quality assurance performance sampling..... N  
Date:
- (b) Were any parameters "Unsatisfactory"..... N/A
- (c) Reasons for "Unsatisfactory" parameters.....

**Comments/Status:**

---

**Section J: Effluent/Receiving Water Observations**

Outfall # 001

Outfall Description: Sand and gravel channel

Receiving Stream: Tributary of Gilroy Ditch

Receiving Stream Description: The final effluent was clear. Some filamentous algae and solids were noted in the effluent channel.

**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:**

## Inspection Findings

National Pollutant Discharge Elimination System (NPDES) permit number 1PB00028\*FD was issued to the village of South Charleston on June 11, 2008. This permit will expire on June 30, 2013. An NPDES permit renewal application was submitted on January 24, 2013.

The Village's NPDES permit has a compliance schedule which provides time to evaluate options necessary to meet final effluent phosphorus limits (1.0 mg/l monthly, 1.5 mg/l weekly). In order to meet the new nutrient limits, the Village installed new aeration valves to regulate oxygen levels in various zones of the aeration tanks (an anoxic zone at the head of the system). The two aeration tanks are run in series. This modification has allowed the Village to comply with the new limit.

The treatment plant is designed to treat 0.24 MGD. The treatment train consist of a bar screens, comminutor, flow equalization, aeration (anoxic zone), clarification, and UV disinfection. Solids are processed in an aerobic digester and two sludge drying beds.

Infiltration and Inflow into the system has contributed to peak flows that exceed design (0.24 MGD). Maximum flows of 0.92 MGD (2009), 1.69 MGD (2010), and 2.16 MGD (2011) were recorded.

Staffing at the plant includes: Steve Canter (Plant Superintendent, Class III operator), Aaron Moore (Plant operator, Class II operator), Dave Mathews (Plant operator, Class I operator), and Ed White (Plant Maintenance, working towards Class I operator license). The plant and all lift stations are inspected at least once daily 7 days per week.

The Village is looking into a System Control and Data Acquisition (SCADA) oversight system in order to reduce the staffing hours required per week.

## Inspection Findings (cont.)

On April 11, 2013 the Village was issued Permit to Install number 927306 for upgrades to the waste water treatment plant. These upgrades include a new influent screen with screw conveyor, four new aeration blowers (one dedicated to the sludge digester) , diffusers, valves, grates, and effluent box slide gates, new non-potable pump station, UV system replacement, and new influent and effluent flow meters and samplers. A new plant generator also is included in the upgrade.

The Village currently is collecting multiple grab samples to meet permit composite sample requirements. With the installation of the new flow meters and samplers, the Village will be able to collect flow proportioned composite samples as per permit.

The Village currently produces Class B sludge. Approximately 46 tons of liquid and dry solids were generated in 2012. Solids are treated in an aerobic digestion process followed by sand drying beds. The Village land applies both solid (manure spreader with immediate disking) and liquid (immediate incorporation) sludge. There are over 150 days of storage at the plant.

During the inspection we discussed the possible use of the Ohio EPA Compliance Assistance Group to help review plant design and performance. A contact for more information on the program is Mark Stump, (614) 644-2028.

Between January 2010 and April 2013, the Village reported the following final effluent limitation violations: Suspended Solids (2), CBOD5 (1), Fecal Coliform (10), Ammonia (3), and Phosphorus (1). During this same time period there were (9) frequency and (4) code violations.

## Plant Inspection

The plant has two influent lines, a force main from the northeast quadrant, and a gravity line. Preliminary treatment includes an influent bar screen and comminutor. Influent flow is measured through a parshall flume.

There are four equalization tanks. A horizontal gate allows excess flows to enter the equalization system.

## Plant Inspection (cont.)

There are two aeration tanks that are run in series. An anoxic zone is being maintained at the head of the system. The aeration valves are set on timers to provide phased aeration zones within the tanks.

From aeration flow is divided between the two final clarifiers. The sludge blanket is being maintained between 2 and 4 feet. Pin floc solids were noted leaving the clarifiers. Ash solids were noted behind the scum baffle. The final effluent was clear.

After clarification, the flow enters the post aeration tank. The effluent from post aeration appeared clear. Final effluent samples (minus bacteria samples) are collected at the weir of the post aeration system.

After post aeration, the flow enters the UV disinfection system. The system was not operating at the time of the inspection (disinfection season runs May through October).

The final effluent was clear. No foam was noted. The effluent channel had some residual solids and filamentous algae.

During the site review it was noted that the Village stores vehicles, yard waste and maintains a salt storage barn on-site. Because the majority of the storm water exposures at the site are associated with activities not involving the waste water treatment plant, the storm water management requirements (parts IV, V, and VI) will be removed from the renewal permit.

## Items Requiring a Response

1. Please provide a brief description of Village activities (vehicle maintenance, yard waste storage / disposal, salt storage, etc.) that are currently being performed at the waste water treatment plant site. Along with this information please describe all storm water management practices that have been implemented to prevent / control the run-off of contaminated storm water. This information must be submitted by no later than June 17, 2013.

## Items Requiring a Response (Cont.)

2. A written update that details infiltration and inflow work completed in the last year and planned for the next must be provided by no later than June 17, 2013. Budget allowances and expenditures should be included in this update.
3. Please provide a brief summary of any storm mode operational changes being used to maintain solids in the system during peak flow periods. This summary should detail if / when (at what flows) this mode of operation is entered into, what operational actions are required as part of storm mode operations, and what monitoring is performed to evaluate system performance. This summary must be submitted by no later than June 17, 2013.