

Ohio

Environmental
Protection Agency

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

4PC00006 C

FILE COPY

February 2, 2011

The Honorable Melissa Hartfield
Mayor, Village of Granville
P.O. Box 514
141 East Broadway
Granville, OH 43023

Dear Mayor Hartfield:

Enclosed is a report regarding a Compliance Evaluation Inspection that I performed at the Village of Granville wastewater treatment plant (WWTP) on January 7, 2011. During this inspection I met with Mr. Erik Holmquist the WWTP superintendent.

Attachment "A" in this report lists wastewater discharge permit effluent limitations violations that occurred during the period of time extending from June 1, 2009, through December 31, 2010. Continued violations are unacceptable.

It was good to hear that additional WWTP improvements are scheduled to occur later this year to help provide consistent wastewater discharge permit compliance. It was also good to hear that work is underway to resolve ownership and easement issues associated with the sanitary sewer line serving the Kendall facility located southwest of Granville.

If there are questions regarding this report I can be contacted by telephone at 614-728-3850 or by e-mail at jan.rice@epa.state.oh.us.

Sincerely,



Jan A. Rice
Environmental Specialist
Compliance/Enforcement Group
Division of Surface Water
Central District Office

c: Ms. Alison Terry, Acting Village Administrator
Mr. Erik Holmquist, WWTP Superintendent

JAR/nsm Granville 1-7-11 CEI covltr

Central District Office
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

614 | 728 3778
614 | 728 3898 (fax)
www.epa.ohio.gov



,

,

NPDES Compliance Inspection Report

A. NATIONAL DATA SYSTEM CODING

Permit No. 4PC00006*GD	NPDES No. OH0023345	Month/Day/Year 1/7/11	Inspection Type C	Inspector S	Facility Type 1
----------------------------------	-------------------------------	---------------------------------	-----------------------------	-----------------------	---------------------------

B. FACILITY DATA

Name and Location of Facility Inspected Village of Granville Wastewater Treatment Plant (WWTP) 456 S. Main Street Granville, Ohio 43023	Entry Time 9:30 A.M.	Permit Effective Date 8/1/10
	Exit Time 12:00 P.M.	Permit Expiration Date 7/31/15

Name(s) and Title(s) of On-Site Representative(s)	Phone Number(s)
Erik Holmquist, Superintendent	740-587-2304
Name(s) Address and Title(s) of Operator of Record	Phone Number(s)
Erik Holmquist, Superintendent 456 S. Main Street Granville, Ohio 43023	740-587-2304
Name, Address and Title of Responsible Official	Phone Number
Alison Terry, Acting Village Manager P.O. Box 514, 141 E. Broadway, Granville, Ohio 43023	740-587-3997

C. AREAS EVALUATED DURING INSPECTION (S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

- S Permit
- N/S Records/Reports
- S Operations & Maintenance
- S Facility Site Review
- S Collection System
- S Flow Measurement
- S Laboratory
- M/S Effluent/Receiving Waters - effluent limitation violations (see Attachment "A") are being addressed through WWTP improvements.
- S/S Sludge Storage/Disposal
- N Pretreatment - no pretreatment program
- N/A Compliance Schedules
- S Self-Monitoring Program

D. SUMMARY OF FINDINGS/COMMENTS: The permittee intends continuing WWTP improvements later in 2011. This work will include air line replacement and installation of an Ultra Violet disinfection system. Density current baffles have been installed in the clarifiers to help prevent suspended solids violations. The permittee has completed a WWTP & Sanitary Collection System Study dated 5/26/09. Excerpts from the Study are included in this report as Attachment "B".


 Inspector, Jan Rice, Ohio EPA, Central District Office


 Date


 Reviewer, Erin Sherer, Compliance & Enforcement Supervisor
 Ohio EPA, Central District Office

2.2.11
 Date

E. PERMIT VERIFICATION (Do Inspection Observations Verify Permit)

	Yes	No	N/A	N/E
a. Correct name and mailing address of permittee	X			
b. Correct name and location of receiving waters	X			
c. Product(s) and production rates conform with permit application (industries)			X	
d. Flows and loadings conform with NPDES permit	X			
e. Treatment processes are as described in permit application/briefing memo	X			
f. New treatment process(es) added since last inspection (last inspection 6/1/09)		X		
g. Notification given to state of new, different, or increased discharges		X		
h. All discharges are permitted	X			
i. Number and location of discharge points are as described in permit	X			

F. COMPLIANCE

	Yes	No	N/A	N/E
a. Any significant violations since the last inspection	*X			
b. Permittee is taking actions to resolve violations	*X			
c. Permittee has compliance schedule		X		
d. Compliance schedule contained in			X	
e. Permittee is meeting compliance schedule			X	

Comments: *a.- effluent limitation violations are included in Attachment "A" of this report.

b.- the permittee has scheduled air line replacement and installation of an Ultra Violet disinfection system in the winter of 2011/2012. Completion of this work will resolve dissolved oxygen and chlorine residual violations. Density current baffles have been installed in the clarifiers to help prevent suspended solids violations.

G. OPERATION AND MAINTENANCE

Treatment Works:		Yes	No	N/A	N/E
a.	Standby power available: Generator <u>X</u> Dual Feed	X			
b.	Adequate alarm system available for power or equipment failures	X			
c.	All treatment units in service other than backup units		*X		
d.	Wastewater Treatment Works classification (OAC 3745-7) <u>II</u>				
e.	Operator of Record holds unexpired Class <u>III</u> license.	X			
f.	Copy of certificate of Operator of Record displayed on-site	X			
g.	Minimum operator staffing requirements fulfilled (OAC 3745-7)	X			
	System Classification				
	Staffing Requirement				
	Class A				
	Class I				
	Class II	X			
	Class III and IV				
h.	Routine and preventive maintenance schedule/performed on time	X			

i. Any major equipment breakdown since last inspection		X		
j. Operation and maintenance manual provided and maintained	X			
k. Any plant bypasses since last inspection		X		
l. Regulatory agency notified of bypasses on MORS and/or Spill Hotline (1-800-282-9378)			X	
m. Any hydraulic and/or organic overloads experienced since last inspection	*X			

Comments: *c.- only one of two clarifiers is needed for service at this time. m.- the superintendent indicated that the WWTP is subject to hydraulic surges during wet weather periods of time. The superintendent indicated that several of the WWTP influent pump station pumps now have variable speed controllers to provide a more uniform flow through the WWTP.

Record Keeping:	Yes	No	N/A	N/E
a. Log book provided	X			
b. Format of log book (i.e. computer log, hard bound book. Some of the formats in which the records may be maintained include, but are not limited to, hard bound books with consecutive page numbering, time cards, separate operation and maintenance records, or well organized computer logs.): The permittee does not use hard bound books but information for a log is readily available from separate records at the WWTP.				
c. Log book(s) kept onsite (in an area protected from weather)	X			
d. Log book(s) contain the following:				
I. Identification of treatment works	X			
II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7	X			
III. Daily record of operation and maintenance activities (including preventative repairs and request for repairs)	X			
IV. Laboratory results (unless documented on bench sheets)	X			
V. Identification of person making log entries	X			
e. 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	X			

Collection System:	Yes	No	N/A	N/E
a. Percent combined system: 0 %				
b. Any collection system overflows since last inspection (CSO ___ SSO ___)		X		
c. Regulatory agency notified of overflow (SSOs)			X	
d. CSO O&M plan provided and implemented			X	
e. CSOs monitored and reported in accordance with permit			X	
f. Portable pumps used to relieve system		X		
g. Lift station alarm systems provided and maintained	*X			
h. Are lift stations equipped with permanent standby power or equivalent	*X			
i. Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection	*X			
j. Any complaints received since last inspection of basement flooding		X		
k. Are any portions of the sewer system at or near capacity				*X

Comments: *g & h.- there are eight lift stations in the collection system and all have an alarm system. Five of the lift stations are equipped with permanent backup power and two others can be operated through use of portable backup power. Three of the lift stations have a connection for use of a portable pump if necessary. The Granville South lift station is scheduled for installation of a permanent backup pump in 2012.

i.- all major I/I sources have been removed however, minor sources still need to be addressed.

k.- the permittee has completed a WWTP & Sanitary Collection System Study dated 5/26/09. Excerpts from the Study are included in this report as Attachment "B". The permittee is working to resolve ownership and easement issues associated with the sanitary sewer line serving the Kendall facility located southwest of Granville.

G. SLUDGE MANAGEMENT

Sludge management plan (SMP)	Yes	No	N/A	N/E
a. Submitted date: 8/1/00 Approval#: 01-283-PW Not submitted: N/A		*X		
b. Sludge Management Plan current		*X		
c. Sludge adequately disposed (Method: land application)	X			
d. If sludge is incinerated, where is ash disposed of			X	
e. Is sludge disposal contracted (Name:)		X		
f. Has amount of sludge generated changed significantly since last inspection		X		
g. Adequate sludge storage provided at plant	X			
h. Land application sites monitored and inspected per SMP	X			
i. Records kept in accordance with state and federal law (minimum 5 years)	X			
j. Any complaints received in last year regarding sludge		X		
k. Is sludge adequately processed (digestion, dewatering, pathogen control)	X			

Comments: *b.- sludge must be disposed in accordance with Ohio Administrative Code Chapter 3745-07.

I. SELF-MONITORING PROGRAM

Flow Measurement	Yes	No	N/A	N/E
a. Primary flow measuring device properly operated & maintained Type of device: <input type="checkbox"/> ultrasonic & parshall flume <input type="checkbox"/> calculated from influent <input type="checkbox"/> weir <input type="checkbox"/> Other (Specify:) <input checked="" type="checkbox"/> ultrasonic & weir	X			
b. Calibration frequency adequate (date of last calibration: 6/9/10)	X			
c. Secondary instruments (totalizers, recorders etc.) operated and maintained	X			
d. Flow measurement equipment adequate to handle expected ranges of flows	X			
e. Actual flow discharged is measured	X			
f. Flow measuring equipment inspection frequency: <input checked="" type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Other				

Sampling	Yes	No	N/A	N/E
a. Sampling location(s) are as specified by permit	X			
b. Parameters and sampling frequency agree with permit	X			
c. Permittee uses required sampling method	X			
d. Monitoring records (e.g., flow, pH, D.O., etc.) maintained for a minimum of three years including all original strip chart recordings (e.g., continuous monitoring instrumentation, calibration, and maintenance records)	X			

Laboratory - General	Yes	No	N/A	N/E
a. Does laboratory have written Standard Operating Procedures (SOP's) for all analysis performed onsite (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.")	X			
b. Do SOP's include the following if applicable:*				
1. Title				X
2. Scope and Application				X
3. Summary				X
4. Sample Handling and Preservation				X
5. Interferences				X
6. Apparatus and Materials				X
7. Reagents				X
8. Procedure				X
9. Calculations				X
10. Quality Control				X
11. Maintenance				X
12. Corrective Action				X
13. Reference (Parent Method)				X
c. EPA approved analytical testing procedures used for all analysis (40 CFR 136.3)				X
d. If alternate analytical procedures are used, proper approval has been obtained			X	
e. Analyses being performed more frequently than required by permit		X		
f. If (e) is yes, are results reported in permittee's self-monitoring report			X	

Comments: *b.- SOPs exist for the parameters pH, D.O. and temperature which are analyzed by the permittee but the SOPs may not yet include all information referenced in Item b. The superintendent will review the SOPs to ensure that they reflect Item b. A copy of the Ohio EPA General Lab Criteria checklist was provided to the superintendent for use in checking laboratory procedures.

Laboratory - Quality Control/Quality Assurance	Yes	No	N/A	N/E
g. Quality assurance manual provided and maintained				X
h. Satisfactory calibration and maintenance of instruments/equipment				X
i. Results of latest USEPA quality assurance performance sampling program: Satisfactory: _____ Marginal: _____ Unsatisfactory: _____			X	
j. Commercial laboratory used	X			
Parameters analyzed by commercial lab: MASI analyzes all parameters except pH, D.O., temperature and biomonitoring. Alloway Labs performs biomonitoring analysis.				
Lab name: MASI and Alloway Labs				

J. EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall #	Outfall Sign Installed	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
1	Yes	None	None	None	Slight	None	Clear	

K. MULTIMEDIA OBSERVATIONS

	Yes	No	N/A	N/E
a. Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories		X		
b. Do you notice staining or discoloration of soils, pavement, or floors		X		
c. Do you notice distressed (unhealthy, discolored, dead) vegetation		X		
d. Do you see unidentified dark smoke or dustclouds coming from sources other than smokestacks		X		
e. Do you notice any unusual odors or strong chemical smells		X		
f. Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities		X		

Attachment "A"

Village of Granville
 Effluent Limitation Violations
 6/1/09 - 12/31/10

Permit No	Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
4PC00006*FD	August 2009	001	50060	Chlorine, Total Residue	1D Conc	0.038	.54	8/27/2009
4PC00006*FD	October 2009	001	00530	Total Suspended Solids	30D Conc	20	20.5	10/1/2009
4PC00006*FD	October 2009	001	50060	Chlorine, Total Residue	1D Conc	0.038	.07	10/6/2009
4PC00006*FD	October 2009	001	00530	Total Suspended Solids	7D Conc	30	46.	10/8/2009
4PC00006*FD	June 2010	001	00610	Nitrogen, Ammonia (NH3)	30D Conc	3.5	4.1	6/1/2010
4PC00006*FD	June 2010	001	00610	Nitrogen, Ammonia (NH3)	7D Conc	5.3	7.3	6/8/2010
4PC00006*FD	July 2010	001	00300	Dissolved Oxygen	1D Conc	5.0	4.4	7/2/2010



WASTEWATER TREATMENT PLANT & SANITARY COLLECTION SYSTEM STUDY

May 26, 2009

Prepared By:



2875 W. Dublin-Granville Road • Columbus, OH 43235
Phone: 614.761.1661 • Fax: 614.761.1328 • www.birdbull.com

SECTION 1

INTRODUCTION

The Village of Granville is situated east of Columbus along S.R. 161 in Licking County. It is in a desirable area because of its character, its schools, its services, its proximity to Columbus, and its convenient access to multiple state routes, including the recently widened S.R. 161. Denison University is located in Granville and is an integral part of the community.

Raccoon Creek is the major receiving stream in the area and is currently receiving flow from Granville's wastewater treatment facility. Raccoon Creek is a tributary of the Licking River and the Ohio River Basin. The Ohio Environmental Protection Agency (OEPA) has been working with several entities in the region to coordinate the development of sewer service areas. The most recent update was incorporated into the State Water Quality Management Plan (SWQMP) in 2007. OEPA requires that Granville consider several regional concepts for the improvements to the sewage collection and treatment system. The agency also requires that the Village consider alternative waste disposal concepts in addition to treatment and discharge to Raccoon Creek.

The Village of Granville owns and operates a Publicly Owned Treatment Works (POTW) consisting of approximately 25 miles of sanitary sewers, eight (8) lift stations, and a wastewater treatment plant (WWTP). The wastewater drains to the wastewater treatment plant (WWTP) located on the southern edge of the Village at 456 S. Main Street. The existing WWTP is designed for an average daily flow (ADF) of 1.224 million gallons and a peak flow of 3.1 million gallons per day (MGD) to meet advanced secondary limits prior to discharge into the Raccoon Creek. The wet stream portion of the treatment facilities were constructed in 1986.

Given the age of the infrastructure and the tightening of environmental regulations, the Village of Granville commissioned Bird+Bull, Inc. to prepare this Wastewater Treatment Plant & Sanitary Collection System Study. The existing WWTP has some operational issues and needs to be evaluated in order to budget for short-term and long-term repairs and/or replacement. The collection system needs to be evaluated in order to establish adequacy with regard to the long-term planning for the area.



SECTION 3

SUMMARY AND RECOMMENDATIONS

GENERAL

- Submit the Granville Facility Plan Update to Ohio EPA for inclusion in the State WQM Plan.
- Require that proper permits for onsite WWTPs to serve new buildings in unsewered areas be issued prior to beginning construction.
- Report to Licking County Health Dept. or Ohio EPA on all incidences of unsanitary conditions attributed to buildings within unsewered areas.
- Cooperate with Ohio EPA on development of the Total Maximum Daily Load (TMDL) report for Raccoon Creek and the Licking River. TMDLs are quantitative assessments of water quality problems and contributing sources of pollution within watersheds. They will specify the amount of pollutant reductions required to meet Ohio Water Quality Standards, allocate where pollutant reductions will take place, and provide the basis for actions that are needed for restoration.

COLLECTION SYSTEM

- Continue the program for removal of extraneous water from the sanitary sewer system and to increase efforts to reduce sources originating on private property. Infiltration and inflow efforts should include capital to initiate repairs as necessary.
- Remeasure flows at MH 103 and MH 535 to determine the magnitude of infiltration and inflow from these portions of the collection system.
- Clean and televise the oldest portions of the collection system and determine if any structural deficiencies exist.
- Conduct annual flow monitoring of the collection system at critical locations to establish a baseline for comparison with future flow monitoring.
- Continue use of odor control chemicals at the Erinwood pump station.
- Monitor sanitary load on Clear Run pump station and 8" Broadway sewer between Granger St. and College St.
- East Service Zone – Extend sewer to Fern Hill area.
- East Service Zone – Construct sanitary pump station and extend sewer to serve unsewered areas in and around Clouse Lane and Fairview Ave. This includes redirecting the East Side pump station into the new collection system to alleviate burden on the collection system and pump stations along Newark-Granville Rd.
- South Service Zone – Extend River Rd. sewer south of S.R. 16.



- South Service Zone – Extend Kendal sewer to serve Owens Corning and eliminate Owens Corning WWTP.
- South Service Zone – Upgrade Granville South pump station and force main to accommodate additional sanitary flow.
- North Service Zone -- *Extend sewer as demand/development necessitates.*

WASTEWATER TREATMENT PLANT

The following recommendations are for the WWTP. They are listed in order of priority as of the date of this report.

1. Evaluate WWTP staffing requirements and the need for additional training in conjunction with recent changes to operator certification requirements.
2. Proceed with the design and installation of a replacement air piping system for the extended aeration tanks and the post-aeration tank.
3. Proceed with design and installation of UV equipment to replace the existing chemical disinfection WWTP facilities.
4. Install Stamford baffles in the existing final clarifiers to facilitate better settling and enhance solids capture.
5. Conduct odor evaluation at the WWTP and in the collection system. Consult with engineer to identify likely source of the odors, conduct testing, coordinate multiple chemical vendors, equipment options, system options, compare alternatives and to make recommendations.
6. Install VFD's on the 2 smaller influent pumps.
7. Install VFD's on the 2 smaller RAS pumps.
8. Investigate cause/source of foaming issues and identify possible remedies.
9. Redirect scum from clarifiers to aerobic digestion process.
10. Replace/improve clarifiers.
11. Provide additional digestion/liquid sludge holding capacity once tankage because available for this use.
12. Modify sludge thickening process to facilitate better automated thickening of sludge.
13. Convert existing aeration tanks to Vertical Loop Reactor or other treatment process to enhance biological treatment and increase loading capability.
14. Construct additional dewatered sludge storage facilities.
15. Construct equipment storage garage.
16. Purchase and install redundant automatic influent fine screen.



WASTEWATER TREATMENT PLANT

The following recommendations for the WWTP are suggested improvements should future effluent limitations be implemented or should additional treatment capacity necessitate expansion of the facility (beyond 1.224 MGD).

- Design and install facilities for phosphorus reduction through biological or chemical means.
- Design and install tertiary treatment (filters).
- Design and install membrane bioreactor treatment.

