pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0113697**
Facility Type	**Non-Municipal**	APS ID	**995389**
Major / Minor	**Minor**	Authorization ID	**1277006**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**David & Teresa Spiwak**	Facility Name	**Country Manor WWTF**
Applicant Address	603 E 4th Street	Facility Address	Millertown Road
	Bloomsburg, PA 17815-2018		Bloomsburg, PA 17815
Applicant Contact	Teresa Spiwak	Facility Contact	John L. Bauer
Applicant Phone	570-441-5645	Facility Phone	570-784-1653
Client ID	96232	Site ID	257211
Ch 94 Load Status	Not Overloaded	Municipality	Mount Pleasant Township
Connection Status	N/A	County	Columbia
Date Application Received	June 10, 2019	EPA Waived?	Yes
Date Application Accepted	July 03, 2019	If No, Reason	
Purpose of Application	Renewal of NPDES authorizing discharge from WWTF serving apartment buildings		

Summary of Review

INTRODUCTION

David and Teresa Spiwak, Owners, have proposed the renewal of the existing National Pollution Discharge Elimination System (NPDES) authorizing the discharge from the on-site wastewater treatment facility (WWTF) serving the Country Manor Apartments in Mount Pleasant Township, Columbia County.

APPLICATION

John L. Bauer, WWTF Operator and application consultant, submitted the NPDES Application for Individual Permit to Discharge Sewage Effluent from Minor Sewage Facilities (DEP #3800-PM-BCW0342b). This application was received by the Department on June 10, 2019 and was considered administratively complete on July 03, 2019. The client contact is Teresa Spiwak. Her additional contact information is (email) tspiwak.ts@outlook.com. The site contact and licensed WWTF operator is John L. Bauer of JLB Systems from Bloomsburg, PA. His contact information is (phone) 570-784-1653, (fax) 570-784-1455 and (email) jlbsystm@ptd.net.

PUBLIC PARTICIPATION

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

The case file, permit application package and the draft permit will be available for public review at the Department's Northcentral Regional Office. The address is 208 West Third Street, Suite 101, Williamsport, PA 17701. An appointment can be made to review these materials during the comment period by calling the file coordinator at 570-327-3636.

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APPROVE	DENY	SIGNATURES			DATE
X		Jeffrey J. Gocek, EIT	Jeffrey J. Gocek	Project Manager	07/24/2020
X		Nicholas W. Hartranft, PE	Nicholas W. Hartranft	Environmental Engineer Manager	07/24/2020

DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION

Outfall No.	001	Design Flow (MGD)	0.0025
Latitude	41° 01' 43.01"	Longitude	-76° 27' 58.40"
Quad Name	Bloomsburg	Quad Code	1034
Wastewater Description:	Treated domestic wastewater from eight apartment units		
Receiving Waters	Unnamed Tributary to Fishing Creek	Stream Code	27752
NHD Com ID	65640233	RMI	0.26
Drainage Area	0.72	Yield (cfs/mi^2)	0.06
Q_{7-10} Flow (cfs)	0.0441	Q_{7-10} Basis	Gage #01539000
Elevation (ft)	524	Slope (ft/ft)	N/A
Watershed No.	5-C	Chapter 93 Class.	CWF, MF
Existing Use	None	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	United Water PA, Inc.		
PWS Waters	Fishing Creek	Flow at Intake (cfs)	N/A
PWS RMI	N/A	Distance from Outfall (mi)	2.394

$Q_{7,10}$ Determination

The $Q_{7,10}$ is the lowest seven consecutive days of flow in a 10 year period and is used for modeling wastewater treatment plant discharges. 25 PA § 96.1 defines $Q_{7,10}$ as "the actual or estimated lowest seven consecutive day average flow that occurs once in 10 years for a stream with unregulated flow or the estimated minimum flow for a stream with regulated flow".

A nearby stream gage, "*Fishing Creek near Bloomsburg, PA*" (USGS #01539000), is located downstream of the discharge. A $Q_{7,10}$ flow for that gage (16.8 CFS) was obtained from "Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania" (USGS Open Files Report 2011-1070). Knowing the drainage area at the discharge (0.72 mi^2) and both the drainage area (274 mi^2) and the $Q_{7,10}$ (16.8 CFS) at the reference gage, the $Q_{7,10}$ at the discharge was calculated to be 0.044 CFS.

See Attachment 01 for the $Q_{7,10}$ determination.

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TREATMENT FACILITY SUMMARY

David and Teresa Spiwak own the Country Manor Apartments, which is an eight-unit apartment complex in Mount Pleasant Township, Columbia County.

See Attachment 02 for a map of the WWTP location.

The treatment system consists of two treatment trains, one for each of the two apartment buildings. Each train consists of a septic tank, Nayadic aeration unit and a Zabel filter. The Nyadic aeration unit consists of an aeration tank surrounded by a settling tank. Both trains combine prior to the single erosion chlorinator and the single chlorine contact tank.

See Attachment 03 for a treatment flow schematic.

WWTP characteristics are as follows.

Waste Type	Degree of Treatment	Process Type	Disinfection	Annual Average Design Flow (MGD)
Sewage	Secondary	Extended Aeration	Erosion Chlorination	0.0025
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0025	Undetermined	Not Overloaded	None	Landfill

The above design was first approved by Water Quality Management (WQM) permit #1987409, first issued November 17, 1987 to Abha and Kalyan Ghosh. This permit was first transferred to C & C Investors on November 6, 1992 as WQM #1987409-T1. It was again transferred on November 19, 1997 to David and Teresa Spiwak as WQM #1987409-T2.

The first NPDES permit for this WWTP was issued to Abha and Kalyan Ghosh on November 17, 1987. It was later transferred twice with the WQM permit (see above) to C & C Investors and the Spiwaks.

COMPLIANCE HISTORY

The WMS Query *Open Violations for Client by Permit Number* revealed no open violations for the Spiwaks.

The most recent Department inspection, a compliance evaluation inspection (CEI), was conducted January 10, 2020. At the time of the inspection, all required treatment units appeared online and operational. No sample was collected. No violations were noted during this inspection.

Recent Discharge Monitoring Report (DMR) data, from June 2019 to May 2020, is presented in the table below.

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Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
Flow (MGD) Average Monthly	0.0004	0.0004	0.0003	0.0003	0.0004	0.0002	0.0006	0.0005	0.0004	0.0006	0.0007	0.0007
Flow (MGD) Daily Maximum	0.0004	0.0004	0.0003	0.0003	0.0004	0.0002	0.0006	0.0005	0.0004	0.0006	0.0007	0.0007
pH (S.U.) Minimum	6.7	6.7	6.7	6.7	6.8	6.7	6.7	6.7	6.7	6.4	6.7	6.6
pH (S.U.) Instantaneous Maximum	6.9	6.9	6.8	6.9	6.9	6.9	6.9	7.1	6.9	6.9	6.8	6.8
DO (mg/L) Minimum	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.0	5.0	6.0
TRC (mg/L) Average Monthly	0.2	0.20	0.20	0.2	0.20	0.20	0.20	0.20	0.20	0.2	0.2	0.3
TRC (mg/L) Instantaneous Maximum	0.2	0.20	0.20	0.3	0.20	0.20	0.30	0.27	0.30	0.2	0.3	0.6
CBOD5 (mg/L) Average Monthly	< 6.0	< 6.72	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 7.22	< 6.0	< 6.0	< 6.0	< 6.3
CBOD5 (mg/L) Instantaneous Maximum	< 6.0	7.43	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	8.43	< 6.0	< 6.0	< 6.0	6.5
TSS (mg/L) Average Monthly	< 7.2	13.7	6.0	< 5.1	6.9	< 10	7.5	9.3	< 5.4	5.1	6.4	< 6.0
TSS (mg/L) Instantaneous Maximum	9.4	18	7.0	5.2	7.1	14	9.5	13	5.7	5.1	7.1	7.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	< 1.0	< 1.0
Total Nitrogen (lbs/day) Average Monthly						GG						
Total Nitrogen (mg/L) Average Monthly						16.70						
Ammonia (mg/L) Average Quarterly			< 0.2			0.204			0.402			0.23
Total Phosphorus (lbs/day) Average Monthly						GG						
Total Phosphorus (mg/L) Average Monthly						1.59						

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EXISTING PERMIT LIMITATIONS

The following limitations were established at the last renewal issuance which occurred January 26, 2015.

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/Week	Weir
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	5/Week	Grab
Dissolved Oxygen	XXX	XXX	4.0	XXX	XXX	XXX	5/Week	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	5/Week	Grab
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/Month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/Month	Grab
Fecal Coliform (CFU/100mL) (05/01-09/30)	XXX	XXX	XXX	200 Geometric Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (CFU/100mL) (10/01-04/30)	XXX	XXX	XXX	2,000 Geometric Mean	XXX	10,000	2/Month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/Quarter	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/Year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/Year	Grab

DEVELOPMENT OF EFFLUENT LIMITATIONS

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

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Total Residual Chlorine

The Department's *TRC_CALC spreadsheet* is a model used to evaluate Total Residual Chlorine (TRC) effluent limitations. This model determines applicable acute and chronic wasteload allocations (WLAs) for TRC based on the data supplied by the user and then compares the WLAs to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document (for Water Quality-based Toxics Control).

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Residual Chlorine	0.50	1.635

See Attachment 04 for the TRC_CALC output.

Water Quality-Based Limitations

$CBOD_5$, NH_3-N and DO

WQM 7.0 for Windows is a DEP computer model used to determine wasteload allocations and effluent limitations for $CBOD_5$, NH_3-N and DO for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH_3-N module simulates the mixing and degradation of NH_3-N in the stream and compares calculated instream NH_3-N concentrations to the water quality criteria. The DO module simulates the mixing and consumption of DO in the stream due to degradation of $CBOD_5$ and NH_3-N and compares the calculated instream DO concentrations to the water quality criteria. The model then determines the highest pollutant loading the stream can assimilate and still meet water quality under design conditions.

This model recommended the following limitations.

Parameter	Effluent Limitations (mg/L)		
	30 Day Average	Maximum	Minimum
$CBOD_5$	25		
NH_3-N	25	50	
DO			3.0

See Attachment 05 for the WQM model output.

Best Professional Judgment (BPJ) Limitations

In the absence of applicable effluent guidelines for the discharge or pollutant, permit writers must identify and/or develop needed technology-based effluent limitations (TBELs) TBELs on a case-by-case basis (best professional judgment (BPJ)), in accordance with the statutory factors specified in the Clean Water Act.

A minimum limitation of 4.0 mg/L was established at the last issuance as BPJ. This value was selected since the receiving stream is protected for Cold Water Fishes (CWF) and Migratory Fishes (MF) and allows the Department to ensure adequate operation and maintenance of the WWTF.

Anti-Backsliding

In order to comply with 40 CFR § 122.44(l) (anti-backsliding requirements), the Department must issue a renewed permit with limitations as stringent as that the of the previous permit. No less stringent limitations have been proposed for this draft.

DEVELOPMENT OF EFFLUENT MONITORING

Ammonia Nitrogen

Since modeling demonstrates that the effluent is meeting the technology-based limitation (monthly average) of 25 mg/L as an existing discharge, a monitoring requirement is being introduced to confirm. This parameter is being introduced per policy.

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REMOVAL OF EFFLUENT MONITORING

Chesapeake Bay TMDL

Despite 25 years of extensive restoration efforts, the Chesapeake Bay Total Maximum Daily Load (TMDL) was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. This TMDL, required by the Clean Water Act, is the largest ever developed by the Environmental Protection Agency (EPA). This document identifies the necessary pollution reductions of nitrogen, phosphorus and sediment across Delaware, Maryland, New York, Virginia, West Virginia, District of Columbia and Pennsylvania. It also sets pollution limits necessary to meet applicable water quality standards in the Bay, tidal rivers and embayments.

Pennsylvania explains how and when it will meet its pollution allocations in its Watershed Implementation Plan (WIP), which is incorporated into the TMDL. Pennsylvania's permitting strategy for significant dischargers has been outlined in the Phase I WIP and incorporated in the Phase II WIP by reference, and imposes Total Nitrogen (TN) and Total Phosphorus (TP) cap loads on the significant dischargers.

Because the design of this facility is less than 0.2 MGD, the Department considers this an existing Phase 5 sewage facility for the purposes of implementing the Chesapeake Bay TMDL. This system has a design flow of 0.0085 MGD. According to the Department's Wastewater Supplement to Phase III WIP (last revised December 17, 2019), renewed Phase 5 facilities are required to contain monitoring and reporting for TN and TP throughout the permit term at a frequency of no less than annually, unless two years of data has been collected.

Nutrient data was collected during the previous permit term. This data is summarized below.

Year	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)
2016	61.4	6.08
2018	23.11	2.82
2019	16.70	1.59

RECEIVING STREAM

Stream Characteristics

The receiving stream is an Unnamed Tributary to Fishing Creek. According to 25 PA § 93.9K, this stream is protected for Cold Water Fishes (CWF) and Migratory Fishes (MF). These are the streams *Designated Uses*, which are defined in 25 PA § 93.1 as "those uses specified in §§ 93.9a – 93.9z for each waterbody or segment whether or not the use is being attained". Designated uses are regulations promulgated by the Environmental Quality Board (EQB) throughout the rulemaking process. This stream currently has no *Existing Use*. Existing Use is defined in 25 PA § 93.1 as "those uses actually attained in the waterbody on or after November 28, 1975 whether or not they are included in the water quality standards".

It is located in Drainage List K and State Water Plan 5C (Fishing Creek). It is identified by stream code 27752.

Impairment

According to Department's data, this stream is attaining its designated uses for 1. supporting aquatic life and 2. fish consumption.

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ADDITIONAL CONSIDERATIONS

Hauled-In Wastes

According to the application materials, the Country Manor WWTF has not received hauled-in wastes during the past three years and does not anticipate receiving hauled-in wastes in the next five years.

Whole Effluent Toxicity (WET) Testing

According to the application materials, the Country Manor WWTF does not accept wastewater from industrial users. Because of this, a WET test evaluation is not required.

Rounding of Limitations

Limitations have been rounded in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Limit Multipliers

The instantaneous maximum limitations have been calculated using multipliers of 2.0 (for conventional pollutants) and 2.5 (for toxic pollutants) for determining the monthly average. This practice is in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Sample Frequencies and Types

The sample type and minimum measurement frequencies are in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Standard Operating Procedures (SOPs)

The review of this permit application was performed in accordance with the Department's *SOP for New and Reissuance Sewage Individual NPDES Permit Applications* and *SOP for Establishing Effluent Limitations for Individual Sewage Permits* (SOP #BPNPSM-PMT-033).

Special Permit Conditions

Stormwater Prohibition
Approval Contingencies
Proper Waste Disposal
Municipal Facilities Availability
Treatment Tank Requirements

Supplemental Discharge Monitoring Reports

Daily Effluent Monitoring
Non-Compliance Reporting
Biosolids Production and Disposal
Hauled-in Municipal Waste
Influent and Process Control
Lab Accreditation

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PROPOSED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The limitations and monitoring requirements specified below are proposed for the draft permit and reflect the most stringent limitations amongst technology, water quality and BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/Week	Weir
pH (SU)	XXX	XXX	6.0 Instant. Min.	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Instant. Min.	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/Day	Grab
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/Month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/Month	Grab
Fecal Coliform (CFU/100mL) (05/01-09/30)	XXX	XXX	XXX	200 Geometric Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (CFU/100mL) (10/01-04/30)	XXX	XXX	XXX	2,000 Geometric Mean	XXX	10,000	2/Month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/Quarter	Grab

END of Fact Sheet.