

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0060232
 APS ID 981988
 Authorization ID 1253703

Applicant and Facility Information

Applicant Name	<u>Army Corps of Engineers Baltimore District</u>	Facility Name	<u>Tompkins Recreation Area</u>
Applicant Address	<u>710 Ives Run Lane</u> <u>Tioga, PA 16946-8643</u>	Facility Address	<u>Bliss Road</u> <u>Lawrenceville, PA 16946</u>
Applicant Contact	<u>Robert Schnell</u>	Facility Contact	<u>Lamar Taylor</u>
Applicant Phone	<u>570-835-5281</u>	Facility Phone	<u>570-835-5281 X109</u>
Client ID	<u>43653</u>	Site ID	<u>262250</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Lawrence Township</u>
Connection Status	<u>N/A</u>	County	<u>Tioga</u>
Date Application Received	<u>November 28, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 17, 2018</u>	If No, Reason	<u>N/A</u>
Purpose of Application	<u>Renewal of NPDES permit</u>		

Summary of Review

INTRODUCTION

Robert Schnell, Operations Manager for the Army Corps of Engineers (ACOE) Baltimore District, proposed the renewal of the existing NPDES permit authorizing the treated discharge from the wastewater treatment facility (WWTF) serving the Tompkins Recreation Area and Campground.

APPLICATION

The ACOE submitted the National Pollution Discharge Elimination System (NPDES) Application for Individual Permit to Discharge Sewage Effluent from Minor Sewage Facilities (DEP #3800-PM-BPNPSM0342b). This application was received by the Department on November 28, 2018 and considered administratively complete on December 17, 2018. Schnell is the client contact. His additional contact information is (fax) 570-835-5422. The site contact is Lamar W. Taylor, Wastewater Treatment Plant Operator. His additional contact information is (fax) 570-835-5422 and (email) lamar.w.taylor@usACOE.army.mil.

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 draft permit will be available for public review at Department's Northcentral Regional Office. The address for this office 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	Signature	Date
		Jeffrey J. Gocek, EIT Project Manager	
		Nicholas W. Hartranft, PE Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.02
Latitude	41° 58' 53.05"	Longitude	-77° 10' 49.19"
Quad Name	Tioga, PA	Quad Code	41077
Wastewater Description:	Sewage Effluent		
Receiving Waters	Cowanesque River (WWF)	Stream Code	30995
NHD Com ID	57349749	RMI	4.27
Drainage Area (mi ²)	292	Yield (cfs/mi ²)	0.027
Q ₇₋₁₀ Flow (cfs)	7.937	Q ₇₋₁₀ Basis	USGS Gage #01520000
Elevation (ft)	1060	Slope (ft/ft)	N/A
Watershed No.	4-A	Chapter 93 Class.	WWF
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	See Narrative Below		
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	PA-NY Border		
PWS Waters	Cowanesque River	Distance from Outfall (mi)	3.0

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 7 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 stream gage just downstream of the Cowanesque Reservoir (impoundment), *Cowanesque River near Lawrenceville, PA* (USGS #01520000), was selected as a reference gage. A Q_{7,10} flow for that gage was obtained from “*Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania*” (USGS Open File Report 2011-1070). Knowing the drainage area at the discharge (292 mi²) and both the drainage area (298 mi²) and Q_{7,10} (8.10 cubic feet per second (CFS)) at the reference gage, the ratio method was used to calculate a Q_{7,10} at the discharge of 7.937 CFS.

The Q_{7,10} is not applicable in this situation since the discharge is to the Cowanesque Reservoir, which was created by the past damming of the Cowanesque River.

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

TREATMENT FACILITY

See Attachment 02 for a map of the treatment facility location.

The Tompkins Recreation Area and Campground is located along the north shore of Cowanesque Lake, 3 miles west of Lawrenceville on Bliss Road. The campground has 83 campsites, 16 hike-in sites, a 24-site group camp, boat launch and beach for camper use.

Wastewater from this area is treated by a 0.02 MGD WWTF consisting of three pumping stations, a bar screen, a comminutor, an equalization tank, an aeration tank, a final settling tank, chemical addition (Alum), a mixing and flocculation tank, two rapid sand filters, two tablet chlorinators, two chlorine contact tanks, and a sludge holding tank.

The WWTF characteristics are as follows.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.02
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.02	Undetermined	Not Overloaded	None	Other WWTF

This design was approved by Water Quality Management (WQM) permit #5995401, issued March 20, 1995.

The discharge from this recreation area is seasonal and typically occurs from May to September. Effluent from this facility is discharged to the Cowanesque Reservoir via a submerged outfall.

COMPLIANCE HISTORY

The last Department inspection, a compliance evaluation inspection (CEI), was conducted August 09, 2019. The facility was toured, and records were reviewed.

Recent discharge monitoring report (DMR) data, from August 2018 to July 2019, is as follows.

Parameter	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18
Flow (MGD) Average Monthly	0.0037	0.0041									0.004	0.0034
pH (S.U.) Minimum	6.9	7.16									7.0	6.44
pH (S.U.) Maximum	7.64	8.12									7.9	7.77
TRC (mg/L) Average Monthly	0.4	0.3									0.5	0.6
TRC (mg/L) Instantaneous Maximum	0.71	0.74									1.02	1.48
CBOD5 (mg/L) Average Monthly	< 2.0	3.0									< 3.0	6.0
TSS (mg/L) Average Monthly	< 4.0	< 9.0									< 5.0	10
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1.0	< 1.0									< 1.0	< 1.0
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1.0	< 1.0									< 1.0	< 1.0
Total Nitrogen (mg/L) Average Monthly												
Ammonia (mg/L) Average Monthly	< 0.4	0.6									1.0	1.2
Total Phosphorus (mg/L) Average Monthly	0.2	0.2									0.6	1.1

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The WMS Query *Open Violations for Client by Permit Number* revealed one open violation for ACOE. This open violation is summarized below.

#	Facility	Inspection ID	Violation ID	Program	Region	Violation
1	USACOE Ives Run Recreation Area	2935260	862632	Safe Drinking Water	NCRO	Failure to met design and construction standards

EXISTING EFFLUENT LIMITATIONS

The following effluent limitations were finalized in the NPDES permit issuance which occurred May 05, 2014.

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/Week	Measured
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	1.0	XXX	2.3	1/Day	Grab
CBOD ₅	XXX	XXX	XXX	25	XXX	50	2/Month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/Month	Grab
Fecal Coliform (CFU/100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (CFU/100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/Month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/Year	Grab
Ammonia Nitrogen	XXX	XXX	XXX	15	XXX	30	2/Month	Grab
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4.0	2/Month	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)

Ammonia Nitrogen

The basis of this historical limitation was a January 04, 1985 Department memo, which established that a monthly average Ammonia Nitrogen limitation of 15.0 mg/L would be assigned to lake discharges and was/is representative of secondary treatment. No winter limit was established at the time because of the seasonal nature of the WWTF. DMR data shows the WWTF is discharging at levels between 0.4 and 1.2 mg/L.

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 (WLA) for TRC based on the data supplied by the user and then compares the WLA to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document (for Water Quality-based Toxics Control). The model recommended the following limitations.

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Residual Chlorine	0.5	1.635

See Attachment 03 for the TRC model result.

In recent permit terms, the facility was required to meet an average monthly total residual chlorine (TRC) limit of 1.0 mg/L and instantaneous maximum (IMAX) limit of 2.3 mg/L. However, best available technology (BAT), as defined at 25 Pa. Code § 92a.48(b)(2), requires the facility to meet an average monthly limit of 0.5 mg/L. Recent DMR data indicates that this WWTP may or may not meet the proposed BAT TRC limitations. A compliance schedule will be included in the permit in order for the ACOE to review dechlorination and/or ultraviolet disinfection technologies, submit a Water Quality Management (WQM) permit application and install the selected/permitted technology. Language has also been included in the permit which requires the ACOE to notify the Department within 60 days if compliance will be achieved by operational changes instead of installation/construction of treatment units.

Water Quality-Based LimitationsCBOD₅, NH₃-N and DO

WQM 7.0 for Windows is a DEP computer model used to determine wasteload allocations and effluent limitations for CBOD₅, NH₃-N and DO for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH₃-N module simulates the mixing and degradation of NH₃-N in the stream and compares calculated instream NH₃-N concentrations to the water quality criteria. The DO module simulates the mixing and consumption of DO in the stream due to degradation of CBOD₅ and NH₃-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.

The model was not run since the discharge is not to a free-flowing stream, but instead to a reservoir. The significant dilution, along with the Ammonia limitation, protects both the reservoir and the downstream Cowanesque River.

Total Phosphorus

The existing Total Phosphorus limitation of 2.0 mg/L was established in 1990 as a result of the Trophic Status Index (TSI) survey of the reservoir conducted in 1986.

The Department's point source phosphorus control strategy relies on empirical lake models to estimate phosphorus loadings, which result in an appropriate level of protection or water quality improvement, considering both point and non-point sources. It is applicable to discharges into waterbodies that have a hydraulic residence time of 14 days or more, based on average annual flow conditions and considers sources from tributary streams within 3 days travel time (approximately 60 miles). Cowanesque Reservoir has a hydraulic residence time of 12.1 days. This lake does not meet the 14-day requirement, but any lakes, ponds or impoundments with the potential need for phosphorus controls are defined as those conditions receiving a score of 50 (eutrophic) or greater on the Carlson TSI. Cowanesque Lake's most recent TSI survey (2012) indicates that the lake is eutrophic with an overall TSI of 56.3. Lake Model results from a recent (2019) renewal application review of NPDES #PA0113298 (Eikland Borough Authority) indicate that no additional point source controls are recommended and therefore the existing phosphorus limit of 2.0 mg/L (monthly average) for discharges is still protective.

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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 of the previous permit. No less stringent limitations have been proposed for this draft.

DEVELOPMENT OF EFFLUENT MONITORING

Dissolved Oxygen

The monitoring of Dissolved Oxygen (DO) will not be required due to the ample dilution provided by the reservoir.

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 0.02 MGD. According to the Department's Wastewater Supplement to Phase II WIP (last revised November 09, 2018), 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.

RECEIVING STREAM

Stream Characteristics

The receiving stream is the Cowanesque Reservoir, created by the damming of the Cowanesque River. This stream, according to 25 PA § 93.9L, is protected *Warm Water Fishes* (WWF) and *Migratory Fishes* (MF). These are the streams *Designated Uses*, which is 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".

The Cowanesque River is identified by Department stream code 30995. The stream is located in (Chapter 93) drainage list H and State Water Plan 4A (Cowanesque and Tioga Rivers).

Impairment

The Cowanesque River is attaining its designated uses for *Recreation*. The Cowanesque River is NOT attaining its designated uses for 1. Fish Consumption (Mercury; Source Unknown) and 2. Aquatic Life (Impoundment; Organic Enrichment).

No TMDL has been written for this stream.

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ADDITIONAL CONSIDERATIONS

Hauled-In Wastes

According to the application materials, the ACOE WWTP 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 ACOE WWTP 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).

TRC Compliance Schedule

A compliance schedule will be incorporated into the permit for the proposed TRC limitations. The schedule will be as follows. Dates will be finalized at the issuance of the final permit.

Milestone	Due Date (Approximate)
Submit WQM Permit Application	12 months from Permit Effective Date
Compliance with Effluent Limitations	24 months from Permit Effective Date

Part C – Special Conditions

- Contingencies
- Proper Waste Disposal
- Municipal Treatment Availability
- Solids Management for Non-Lagoon Treatment Systems
- TRC Compliance Schedule

Supplemental Discharge Monitoring Reports

- Daily Effluent Monitoring
- Non-Compliance Reporting
- Biosolids Production and Disposal
- Hauled-In Municipal Wastes
- 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	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/Week	Measured
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Day	Grab
Total Residual Chlorine INTERIM	XXX	XXX	XXX	1.0	XXX	2.3	1/Day	Grab
Total Residual Chlorine FINAL ¹	XXX	XXX	XXX	0.5	XXX	1.6	1/Day	Grab
CBOD ₅	XXX	XXX	XXX	25	XXX	50	2/Month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/Month	Grab
Fecal Coliform (CFU/100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (CFU/100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/Month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/Year	Grab
Ammonia Nitrogen	XXX	XXX	XXX	15	XXX	30	2/Month	Grab
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4.0	2/Month	Grab

¹ – Final TRC Limitation will take effect approximately two years from Permit Effective Date.

END of Fact Sheet