pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0272043**
Facility Type	**Municipal**	APS ID	**985359**
Major / Minor	**Minor**	Authorization ID	**1259749**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Summit Township Authority**	Facility Name	**Summit Township Authority STP**
Applicant Address	502 Bonniebrook Road	Facility Address	Herman Road
	Butler, PA 16001		Butler, PA 16001
Applicant Contact	Roxann Stickney	Facility Contact	Roxann Stickney
Applicant Phone	(724) 285-1168	Facility Phone	(724) 285-1168
Client ID	347528	Site ID	834227
Ch 94 Load Status	Not Overloaded	Municipality	Summit Township
Connection Status	No Limitations	County	Butler County
Date Application Received	January 24, 2019	EPA Waived?	Yes
Date Application Accepted	January 29, 2019	If No, Reason	-
Purpose of Application	New NPDES Permit for a new discharge of treated sanitary wastewater from a municipal sewer system.		

Summary of Review

Act 14 - Proof of Notification was submitted and received.
A Part II Water Quality Management permit will be required for the construction of the proposed STP.
The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

A. Stormwater into Sewers
B. Right of Way
C. Solids Handling
D. Effluent Chlorine Optimization and Minimization
E. Little or no Assimilative Capacity
F. Batch Discharges

SPECIAL CONDITIONS:

II. Solids Management

There are no open violations in efacts associated with the subject Client ID (347528) as of 9/6/2019.

Approve	Deny	Signatures	Date
X		Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	
X		Justin C. Dickey, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.13
Latitude	40º 51' 11.93"	Longitude	-79º 52' 12.89"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		

Receiving Waters	Coal Run (WWF)	Stream Code	35130
NHD Com ID	126221594	RMI	46.46
Drainage Area	5.78	Yield (cfs/mi^2)	0.047
Q_{7-10} Flow (cfs)	0.27	Q_{7-10} Basis	calculated
Elevation (ft)	1031	Slope (ft/ft)	0.001604
Watershed No.	20-C	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Beaver Falls Municipal Authority - Eastvale		
PWS Waters	Beaver River	Flow at Intake (cfs)	561
PWS RMI	3.5	Distance from Outfall (mi)	66.0

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for a new discharge of 0.13 MGD of treated sewage from a new Publicly Owned Treatment Works (POTW) in Summit Township, Butler County.

Proposed treatment consists of: A comminutor, raw sewage pumps, flow equalization tank, a Sequencing Batch Reactor (SBR), and Ultraviolet (UV) light disinfection. Sludge is stored in an aerated storage tank and sent to an approved wastewater treatment plant. Alum is proposed for improved settlement.

Facility Area: See the topographical map (Attachment 1)

1. Streamflow: Coal Run @ Outfall 001:

Drainage Area:	5.78	sq. mi.		(USGS StreamStats)
Yieldrate:	0.047	cfsm		Connoquenessing Creek Watershed
% of stream allocated:	100%		Basis:	No nearby discharges
Q_{7-10}:	0.27	cfs		

2. Wasteflow:

Maximum discharge: 0.13 MGD = 0.20 cfs

Runoff flow period: 24 hours Basis: Runoff flow for a Municipal STP

There is less than 3 parts stream flow (Q7-10) to 1 part effluent (design flow). In accordance with the SOP, since this will be a new discharge, the treatment requirements in document number 391-2000-014, titled, "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers", dated April 12, 2008, will be implemented in this NPDES Permit.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, Phosphorus, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Total Residual Chlorine. NH_3-N, $CBOD_5$, and Dissolved Oxygen were evaluated using WQM 7.0 at the discharge point.

NO_2-NO_3, Fluoride, Phenolics, Sulfates, and Chlorides can be evaluated using PentoxSD at the nearest downstream potable water supply (PWS). Since there is significant dilution available, no modeling was performed for this facility.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits.

b. Total Suspended Solids

Limits are 10 mg/l as a monthly average and 20 as a daily maximum.

Basis: Application of document number 391-2000-014 technology-based limits.

c. Fecal Coliform

05/01 - 09/30:	200/100ml	(monthly average geometric mean)
	1,000/100ml	(instantaneous maximum)
10/01 - 04/30:	2,000/100ml	(monthly average geometric mean)
	10,000/100ml	(instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. Phosphorus

☒ Limit necessary due to:

☐ Discharge to lake, pond, or impoundment

☒ Discharge to stream

Basis: The monthly average limit is set to 0.5 mg/l monthly average based on document number 391-2000-014.

☒ Limit not necessary

Basis: N/A

e. Total Nitrogen

A new limit of 5 mg/l as a monthly average will be set based on document number 391-2000-014.

f. NO_2-NO_3, Fluoride, Phenolics, Sulfates, and Chlorides

Nearest Downstream potable water supply (PWS): Beaver Falls Municipal Authority - Eastvale

Distance downstream from the point of discharge: 66.0 miles (approximate)

☒ No limits necessary
☐ Limits needed

Basis: Significant dilution available.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background NH_3-N concentration: 0.1 mg/l

Basis: Default value.

Calculated NH_3-N Summer limits: 3.8 mg/l (monthly average)
7.6 mg/l (instantaneous maximum)

Calculated NH_3-N Winter limits: 11.4 mg/l (monthly average)
22.8 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer water quality-based limits above (see Attachment 2). The winter limits are calculated as three times the summer limits.

h. $CBOD_5$

Median discharge pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

$CBOD_5$ Summer limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

$CBOD_5$ Winter limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the above summer technology-based limits (see Attachment 2). The winter limits are calculated as three times the summer limits, but since the technology-based limits are more protective, they will be used. However, the more restrictive technology-based limit of 10 mg/l as a monthly average from document number 391-2000-014 will be set with this NPDES Permit.

i. Dissolved Oxygen (DO)

- ☐ 4.0 mg/l - minimum desired in effluent to protect all aquatic life
- ☐ 5.0 mg/l - desired in effluent for CWF, WWF, or TSF
- ☒ 6.0 mg/l - minimum required due to discharge falling under guidance document 391-2000-014
- ☐ 8.0 mg/l - required due to discharge going to a naturally reproducing salmonid stream

Discussion: The Dissolved Oxygen minimum is set to 6.0 mg/l as recommended in document number 391-2000-014

j. Total Residual Chlorine (TRC)

- ☒ No limit necessary
- ☐ TRC limits: _____ mg/l (monthly average)
  _____ mg/l (instantaneous maximum)

Basis: No limits for TRC were calculated since Ultraviolet (UV) light is proposed. Per the SOP, UV light intensity will be monitored.

k. Influent Total Suspended Solids and BOD_5

Monitoring for these two parameters will be added as recommended in the SOP for POTWs, as authorized under Chapter 92a.61.

l. Anti-Backsliding

Since this application is for a new NPDES Permit, anti-backsliding is not applicable.

4. Additional Information:

The following industrial/commercial users are proposed to be served by this new system.

Customer	MGD	EDUs	Category
Herman Mini-Mart	0.0005	2	Commercial
Herman Volunteer Fire Company	0.0015	5	Commercial
Bauer Excavating	0.00025	1	Commercial
Food Yogurt Ice Cream's Korner	0.0005	2	Commercial
Hays Service Center (Garage)	0.00025	1	Commercial
Sports Bar	0.0005	2	Commercial
Post Office	0.00025	1	Commercial
Denise Beauty Salon and Tanning	0.00025	1	Commercial

5. Attachment List:

Attachment 1 - Topographical Map of the Facility Area
Attachment 2 - WQM7 printouts

If viewing this electronically, please refer to the following PDF to view the above Attachments:

Adobe Acrobat Document

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. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	10.8	XXX	XXX	10.0	XXX	20	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	10.8	XXX	XXX	10.0	XXX	20	1/week	24-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/day	Recorded
Total Nitrogen	Report	XXX	XXX	5.0	XXX	10	1/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	12.3	XXX	XXX	11.4	XXX	22.8	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	4.1	XXX	XXX	3.8	XXX	7.6	1/week	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	0.5	XXX	1	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001, after Ultraviolet (UV) light disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH are technology-based on Chapter 93.7. The limits for CBOD5, Total Suspended Solids, Dissolved Oxygen, Total Nitrogen, and Total Phosphorus are technology-based on document number 391-2000-014. The limits for Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for Ultraviolet (UV) light intensity is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7. Monitoring for influent BOD5 and Total Suspended Solids is based on Chapter 92a.61.