

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

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0093262
 APS ID 1008487
 Authorization ID 1300192

Applicant and Facility Information

Applicant Name	<u>PA Department of Transportation</u>	Facility Name	<u>Washington County Maintenance Facility STP</u>
Applicant Address	<u>Bureau of Maintenance and Operations 400 North Street, 6th Floor Harrisburg, PA 17120</u>	Facility Address	<u>SR 519 N Bethlehem Twp, PA 15330</u>
Applicant Contact	<u>Nicholaus Sahd</u>	Facility Contact	<u>Edgar Harris</u>
Applicant Phone	<u>(717) 951-8685</u>	Facility Phone	<u>724-966-2278</u>
Client ID	<u>62162</u>	Site ID	<u>442960</u>
Ch 94 Load Status	<u>No limitations</u>	Municipality	<u>North Bethlehem Township</u>
Connection Status	<u>No Connection Prohibitions</u>	County	<u>Washington</u>
Date Application Received	<u>December 26, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 30, 2019</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renew NPDES permit.</u>		

Summary of Review

This application is for a renewal which was previously issued on June 2, 2015.

This draft permit is approved during the Coronavirus pandemic requiring DEP employees to telework. Electronic signatures are considered appropriate for the fact sheet. An electronic copy of the communication that transmitted approval of the draft permit documents will be saved and included with the file.

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.

Approve	Deny	Signatures	Date
x		David Ponchione David R. Ponchione / Project Manager	April 29, 2020
x		Christopher Kriley Christopher Kriley for Donald J. Leone, P.E. / Environmental Engineer Manager	April 29, 2020

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.002</u>
Latitude	<u>40° 8' 19"</u>	Longitude	<u>-80° 07' 53"</u>
Quad Name	<u>Washington East</u>	Quad Code	<u>1704</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary of Chartiers Creek (HQ-WWF)</u>	Stream Code	<u>Swale to 36943</u>
NHD Com ID	<u>99694780</u>	RMI	<u>13.9 on 36943</u>
Drainage Area	<u>0.1</u>	Yield (cfs/mi ²)	<u>0</u>
Q ₇₋₁₀ Flow (cfs)	<u>0</u>	Q ₇₋₁₀ Basis	<u>Shown as dry drainage swale on USGS map</u>
Watershed No.	<u>20-F</u>	Chapter 93 Class.	<u>HQ-WWF</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Nutrients, Pathogens, Siltation</u>		
Source(s) of Impairment	<u>Land development, removal of vegetation, residential runoff</u>		
TMDL Status	<u>Final, April 9, 2001</u>	Name	<u>Chartiers Creek</u>
	<u>July 2004</u>	Name	<u>Canonsburg Lake, Washington County</u>
Nearest Downstream Public Water Supply Intake	West View Borough Municipal Water Authority located on the Ohio River		

Changes Since Last Permit Issuance: None

Treatment Facility Summary				
Treatment Facility Name: Washington County Maintenance Facility STP				
WQM Permit No.		Issuance Date		
6375402		August 13, 1975		
6375402 A-1 T-2		April 30, 2013		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration	Ultraviolet	0.0002
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.002	4.85	No overloads	Sludge holding tank	Hauled to municipal STP

Changes Since Last Permit Issuance: None

Other Comments:

Part II Permit No. 6375402 issued on August 13, 1975, authorized construction of an activated sludge plant to treat flow generated from an office building. The plant was rated for an average design flow of 0.002 mgd.

Part II Permit No. 6375402-A1T2 was issued on April 30, 2013. A new replacement plant consisting of one flow equalization tank, one anaerobic chamber, one anoxic chamber, one aeration tank, one clarifier unit, one sludge holding tank, one dual media filter unit, and an ultraviolet disinfection unit was approved. The design hydraulic capacity is still 0.002 mgd.

The permittee submitted an NPDES application for Individual Permit to Discharge Sewage Effluent from Minor Sewage Facilities. Standard Operating Procedure for Clean Water Program-New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications- Final, November 9, 2012, Revised, May 17, 2019 (SFTF SOP) states SFTFs are those with design flows of 2,000 gallons per day (GPD) or less. All SFTFs that are for multiple homes or for businesses with design flows of less than or equal to 2,000 GPD are called SFTFs. However, the existing extended aeration process deviates significantly from the Small Flow Treatment Facilities Design Manual (362-0300-002). The existing plant requires proper operation, and the permittee employs a certified operator to ensure the plant is properly run. SFTF's do not require an operator to run the plant. For this reason, and to be consistent with previous permits, permit conditions, permit boiler plate, etc. will be prepared as though the plant is a minor facility in lieu of a SFTF. As explained below however, monitoring requirements, due to the small amount of flow, will be consistent with those for a SFTF.

Compliance History

An Operations Compliance Check Summary Report was completed by Operations on March 16, 2020. The facility had a few effluent violations in 2017 and one in February 2018. No effluent violations have been reported since then. There are currently no compliance issues with the sewage treatment plant. A copy of the report is attached to this Fact Sheet.

An inspection has not been done at the facility within the past five years. Operations is aware that the facility is due for an inspection and plans to schedule an inspection soon. It is unnecessary to wait for the inspection to occur before issuing the permit according to the SFTF SOP.

Compliance history continued

Compliance History

DMR Data for Outfall 001 (from February 1, 2019 to January 31, 2020)

Parameter	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19
Flow (MGD)	0.00110	0.00104	0.00076	0.00094	0.00054	0.00080	0.00016	0.00005	0.00007	0.00005	0.00007	0.00006
Average Monthly	0	8	2	5	5	7	2	0	2	2	6	3
pH (S.U.)												
Minimum	6.9	7.0	7.0	7.0	7.0	7.0	7.1	7.1	7.0	6.5	6.8	7.0
pH (S.U.)												
Maximum	7.4	7.3	7.3	7.3	7.3	7.4	7.3	7.5	7.4	7.2	7.8	7.3
DO (mg/L)												
Minimum	6.5	6.3	6.2	6.0	6.3	6.0	6.1	6.5	6.0	6.0	7.5	6.0
CBOD5 (mg/L)												
Average Monthly	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.0
CBOD5 (mg/L)												
Instantaneous												
Maximum	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.0
TSS (mg/L)												
Average Monthly	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
TSS (mg/L)												
Instantaneous												
Maximum	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Fecal Coliform (CFU/100 ml)												
Geometric Mean	1	1	1	1	1	1	1	1	2	1	1	2
Fecal Coliform (CFU/100 ml)												
Instantaneous												
Maximum	1	1	1	1	1	1	1	1	2	1	1	2
UV Intensity (mW/cm ²)												
Minimum	1.4	1.2	1.0	1.0	1.2	1.0	1.2	1.0	1.0	1.4	1.3	1.0
Ammonia (mg/L)												
Average Monthly	0.4	0.3	0.8	0.6	0.6	0.2	1.2	0.7	0.4	0.7	1.9	0.9
Ammonia (mg/L)												
Instantaneous												
Maximum	0.4	0.3	0.8	0.6	0.6	0.2	1.2	0.7	0.4	0.7	1.9	0.9

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Washington County Maintenance Facility STP

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.0002</u>
Latitude <u>40° 8' 19.00"</u>	Longitude <u>-80° 7' 53.00"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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
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)

Comments: The receiving stream, Drainage Swale to Little Chartiers Creek above Alcoa Dam in the Chartiers Creek and Ohio River Basins, is currently classified as a high-quality warm water fishery.

This small flow STP (average design flow ≤ 0.002 mgd) does not qualify for a General NPDES permit because the discharge is in a high-quality watershed.

The effluent limitations for this renewal permit are consistent with the previous permit. The effluent limits for the NPDES permit that became effective on April 20, 1982 through April 20, 1987 were consistent with tertiary limits imposed as a special condition in the original Part II permit. The original limits were most likely based on Implementation Plan Standards developed for that time, and are as follows:

- BOD-10 mg/l average, 20 mg/l maximum
- TSS-25 mg/l average, 50 mg/l maximum
- NH3-N warm period-1.5 mg/l average, 3.0 mg/l maximum
- NH3-N cold period-4.5 mg/l average, 9.0 mg/l maximum
- Dissolved Oxygen-6.0 mg/l minimum

The above limits were used as starting points (BOD5 was changed to CBOD5 to be consistent with policy at that time) in the WQAM 63 model and did not cause any water quality violations at the point of first use. The modeling was performed in 1995. Because there have been no changes to the discharge or the receiving stream, it is unnecessary to remodel these parameters. The attached WQPR includes the basis for the effluent limitations, modeling results and TMDL reports.

The monitoring frequencies are consistent with current policy for a SFSTF and consistent with the previous NPDES permit.

Total Maximum Daily Loads (TMDLs) were completed for the Chartiers Creek Watershed. The parameters of concern are PCBs and Chlordane (first TMDL Report), and metals and pH attributed to abandoned mine drainage (second TMDL Report). Since none of these parameters are expected to be in a domestic sewage waste stream from this small flow facility, and because any loadings from this type of facility would be insignificant, no allocations for these parameters were made in the approved TMDLs. Therefore, no limits for these parameters are necessary in the permit.

Should the STP ever increase to a hydraulic capacity of 0.02 mgd or greater, the next NPDES permit writer should be aware that a monitoring requirement should be imposed for total phosphorus. This is based on a recommendation contained in the TMDL Report dated July 2004 for Canonsburg Lake, located downstream of the facility, that requires discharges greater than 0.02 mgd to monitor and report total phosphorus monthly for a one-year period. The permittee would first need to obtain the necessary Planning Module approval, and NPDES and Water Management (Part II) permit amendments from our office before STP expansion could occur.

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Washington County Maintenance Facility STP

The following modifications have been made to be consistent with current DEP policy:

- Effluent limitations for pH and DO are to be reported as “Instantaneous Minimum” in lieu of “Minimum”.
- The units for Fecal Coliform are now “No./100 ml” in lieu of “CFU/100 ml”.

Additional Information:

Mass loading limits and influent monitoring are not applicable for non-publicly owned treatment works.

The design flow of the sewage treatment plant is less than 0.1 mgd. For this reason, the permittee is not required to report influent and effluent concentrations for various parameters as listed in the NPDES application. Total Dissolved Solids and its major constituents are therefore not currently a concern.

For SFTFs with UV systems, the SFTF SOP states it is not necessary to require UV intensity or transmittance monitoring in the permit. The previous permit required UV to be monitored and will be reapplied to prevent backsliding and to help ensure the HQ watershed is protected from fecal coliform violations.

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	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.002	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/month	Grab
DO	XXX	XXX	6.0	XXX	XXX	XXX	1/month	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/month	Grab
TSS	XXX	XXX	XXX	25.0	XXX	50.0	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
UV Intensity (mW/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/month	Recorded
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9.0	1/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3.0	1/month	Grab

Compliance Sampling Location: Outfall 001

Other Comments: Pollution Report attached.



Pol Rep PA0093262