pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0253260**
Wastewater Type	**Sewage**	APS ID	**1023832**
Facility Type	**SRSTP**	Authorization ID	**1328024**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Henry Berdine**	Facility Name	**Berdine SRSTP**
Applicant Address	559 Zediker Station Road Washington, PA 15301-3169	Facility Address	559 Zediker Station Road Washington, PA 15301-3169
Applicant Contact	Henry Berdine	Facility Contact	Henry Berdine
Applicant Phone	724-503-9664	Facility Phone	724-503-9664
Client ID	246124	Site ID	633871
SIC Code	6514	Municipality	South Strabane Township
SIC Description	Fin, Ins & Real Est - Dwelling Operators, Except Apartments	County	Washington
Date Application Received	September 14, 2020	WQM Required	Yes, Issued
Date Application Accepted	September 23, 2020	WQM App. No.	6307401

Project Description: Renewal of NPDES Permit for Single Residence Sewage Treatment Plant (SRSTP)

Summary of Review

The Berdine SRSTP is an existing single resident sewage treatment plant (SRSTP) designed to treat 400 GPD (0.0004 MGD) by use of a 1500 gallon septic tank, Premier Tech EFT-080 filter, Ecoflo Peat Based Biofilter, UV system, 950 gallon effluent tank and 47 gpm discharge pump . The system previously had a chlorinator and 200 gallon chlorine contact tank, but it was replaced with a UV system in 2016. The residence is a three-bedroom home. The discharge is via Outfall 001 to an unnamed tributary of Little Chartiers Creek, designated in 25 Pa. Code Chapter 93 as a high-quality Warm Water Fishery (HQ-WWF). This facility is not eligible for a General NPDES permit because of the high-quality stream designation in accordance with 25 Pa. Code §92a.54(a)(8).

Authorization to construct the facility was granted under Water Quality Management (WQM) Permit No. 6307401, issued on December 5, 2007. The current NPDES permit was issued on June 1, 2016 and expires May 21, 2021. The current NPDES limits are as follows:

Parameter	Instant. Minimum (mg/L)	Average Monthly (mg/L)	Instant. Maximum (mg/L)	Measurement Frequency	Sample Type
Flow (MGD)	XXX	0.0004	XXX	1/6 months	Measured
pH (S.U.)	6.0	XXX	9.0	1/6 months	Grab
Total Residual Chlorine (TRC)	XXX	Report	XXX	1/6 months	Grab
CBOD5 (May 1 – Oct 31)	XXX	10	20	1/6 months	Grab

Approve	Deny	Signatures	Date
X		Nicole H. Benoit, P.E. / Environmental Engineering Specialist	September 19, 2021
X		Christopher Kriley, P.E. / Environmental Program Manager	September 20, 2021

Summary of Review

CBOD5 (Nov 1 – Apr 30)	XXX	20	40	1/6 months	Grab
Total Suspended Solids	XXX	20	40	1/6 months	Grab
Fecal Coliform (No./100 mL) (May 1 – Sep 30)	XXX	200 Geo Mean	1000	1/6 months	Grab
Fecal Coliform (No./100 mL) (Oct 1 – Apr 30)	XXX	2000 Geo Mean	10000	1/6 months	Grab
Ammonia-Nitrogen (May 1 – Oct 31)	XXX	5.0	10.0	1/6 months	Grab
Ammonia-Nitrogen (Nov 1 – Apr 30)	XXX	15.0	30.0	1/6 months	Grab

Effluent limitations for renewal will be established in accordance with the Standard Operating Procedure *SOP No. BCW-PMT-003; Final, November 9, 2012; Revised, May 17, 2019; Version 1.8; New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications*.

Regarding new, additional or increased discharges to HQ or EV waters, the Department is to conduct an anti-degradation analysis. The SOP recommends following the guidelines in the Department's "Water Quality Antidegradation Implementation Guidance" (391-0300-002) and to consult with Central Office as needed. The Act 537 review determined that the best way to correct the malfunctioning on-lot system was to replace the single residence STP and is the Social and Economic Justice (SEJ) approve to allow for the discharge instead of a non-discharge alternative.

Appendix B of the anti-degradation guidance recommends the following effluent limitations for small flow sewage discharges of less than 2,000 gpd: 10 mg/L CBOD5 (May 1 – Oct. 31), 20 mg/L CBOD5 (Nov. 1 – Apr. 30), 20 mg/L suspended solids, 5.0 mg/L ammonia-nitrogen (May 1 – Oct. 31) and 15.0 mg/L ammonia-nitrogen (Nov. 1 – Apr. 30). The existing limits are these same as these recommended and so they will continue to be imposed. In accordance with anti-backsliding, the IMAX limits for these parameters will continue to be imposed as well.

Per SOP No. BCW-PMT-003 "Under the authority of 25 Pa. Code § 93.4c, the use of chlorine for disinfection will not be authorized for discharges to EV waters. The use of chlorine for disinfection will not be authorized for discharges to HQ waters unless the application includes a socioeconomic justification (SEJ) (for HQ waters) that justifies the need for chlorine as opposed to other alternatives." Ultraviolet (UV) light disinfects the wastewater via application of a specific wavelength of light, rather than introduction of a chemical, and therefore is preferred over the original chlorination system. TRC reporting will no longer be required in the renewed permit. Per the SOP, "For SFTFs/SRSTPs with UV systems, it is not necessary to require UV intensity or transmittance monitoring in the permit."

The SOP recommends BOD5 be limited to 10 mg/L as a monthly average and 20 mg/L as an instantaneous maximum, however this is to be applied once per year for SRSTPs. The anti-degradation limits apply during the separate summer and winter seasons. CBOD5 only accounts for the carbonaceous demand and does not include nitrogenous compounds but the imposition of ammonia-nitrogen effluent limits ensures compliance. The current permit limits will continue to be imposed.

The SOP recommends limiting TSS to 10 mg/L average and 20 mg/L instantaneous maximum. These limits are lower than the current 20 mg/L average and 40 mg/L IMAX. The renewed permit will reflect the more stringent limits.

The SOP recommends a fecal coliform limit of 200 CFU/100 mg/L as a geometric mean. This aligns with the current permit and so no changes will be made.

Sewage discharges with design flows < 2,000 gpd do not require monitoring for Total Nitrogen and Total Phosphorus in new and reissued permits. (Ammonia is limited as part of the anti-degradation requirements above).

If an existing facility has been well-maintained and monitoring frequencies in the existing permit are less stringent than those below [in the guidance document], the existing frequencies may be carried over to the renewal, but in no case may monitoring be "upon request."

The following table is a summary of the most recent DMR data:

Pollutant (mg/L)	**1/1/21–6/30/21**	**7/1/20–12/31/20**	**1/1/20–6/30/20**	**7/1/19–12/31/19**
Flow (MGD)	<0.0004	<0.0004	<0.0004	---

Summary of Review

pH (S.U.)	7.4	6.8	7.3	6.9
TRC	0.06	0.02	0.10	0.03
CBOD5 (Nov-Apr)	2.3	2.0	---	---
CBOD5 (May-Oct)	---	---	2.0	2.0
TSS	5.0	5.0	5.0	5.0
Fecal Coliform (Oct-Apr, CFU/100 mL)	2	1	---	176
Fecal Coliform (May-Sep, CFU/100 mL)	---	---	620	---
Ammonia-N (Nov-Apr)	1.6	0.3	---	---
Ammonia-N (May-Oct)	---	---	0.1	8.0

The fecal coliform concentration is limited to 200 CFU/100 mL as a monthly average geometric mean, and 1000 CFU/100 mL as an instantaneous maximum from May through September. Unless more samples are collected, one sample result in a monitoring period must meet both instantaneous maximum and monthly average limits. The samples collected in the first half of 2020 exceeded the average monthly limit. In the second half of 2019, the reported ammonia concentration was 8.0 mg/L, collected during the May-October range. This range is limited to 5.0 mg/L as a monthly average and 10.0 mg/L as an instantaneous maximum, and so the value exceeded the limit. With these two exceedances, and to protect the high-quality receiving stream, the frequency will be maintained as semi-annual.

Little Chartiers Creek is a part of the Chartiers Creek TMDL for chlordane and polychlorinated biphenyls (PCBs). Chlordane is a man-made compound widely used as a broad-spectrum agricultural pesticide and PCBs are synthetic oils used in the past as insulating fluids in electrical transforms and other products, as cutting oils and in carbonless paper. The SRSTP has not been assigned a Waste Load Allocation (WLA) in the TMDL and instead is a part of the general Load Allocation (LA). There is no expectation of these compounds being present in a residential sewage discharge and therefore no reasonable potential to exceed the water quality standards or have a measurable impact on the pollutant loading. No monitoring of either parameter will be imposed.

The applicant has complied with Act 14 Notifications and no comments were received.

The permittee does not use eDMR and current policy does not require eDMR to be used for SRSTPs.

An inspection was conducted on June 6, 2016 and no violations were noted.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0004
Latitude	40º 8' 36.93"	Longitude	-80º 10' 8.46"
Quad Name	Washington East, PA	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of Chartiers Creek (HQ-WWF)	Stream Code	37001
NHD Com ID	99694716	RMI	1.48
Drainage Area	0.216 sq. mi.	Yield (cfs/mi^2)	0.034
Q_{7-10} Flow (cfs)	0.0073	Q_{7-10} Basis	
Elevation (ft)	1160	Slope (ft/ft)	0.0282
Watershed No.	20-F	Chapter 93 Class.	HQ-WWF
Existing Use	Non-Attaining	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Nutrients, Pathogens, Siltation		
Source(s) of Impairment	Golf Courses, Removal of Riparian Vegetation, Rural (Residential Areas), Site Clearance (Land Development or Redevelopment), Source Unknown		
TMDL Status	Final	Name	Chartiers Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Westview Municipal Authority located on Ohio River		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: None

Other Comments: Information in this section is per the 2010 Pollution Report

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) unless specified differently above. 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	Instant. Minimum	Monthly Average	Maximum	Instant. Maximum		
Flow (MGD)	0.0004	XXX	XXX	XXX	XXX	XXX	1/6 months	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/6 months	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) (May 1 – Oct 31)	XXX	XXX	XXX	10.0	XXX	20.0	1/6 months	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) (Nov 1 – Apr 30)	XXX	XXX	XXX	20.0	XXX	40.0	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	10.0	XXX	20.0	1/6 months	Grab
Fecal Coliform (No./100 ml) (May 1 – Sep 30)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/6 months	Grab
Fecal Coliform (No./100 ml) (Oct 1 – Apr 30)	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/6 months	Grab
Ammonia-Nitrogen (May 1 – Oct 31)	XXX	XXX	XXX	5.0	XXX	10.0	1/6 months	Grab
Ammonia-Nitrogen (Nov 1 – Apr 30)	XXX	XXX	XXX	15.0	XXX	30.0	1/6 months	Grab

Compliance Sampling Location: Outfall 001

Operations Compliance Check Summary Report

Facility: Berdine_SRSTP

NPDES Permit No.: PA0253260

Compliance Review Period: 9/20/2016 – 9/20/2021

Open Violations by Client Summary

None.

Inspection Summary

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	# OF VIOLATIONS
3218624	07/12/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	0
3218615	07/12/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	0

Violation Summary

No violations in eFACTs.

Enforcement Summary

No enforcement actions.

DMR Violation Summary

Not an eDMR user (SRSTP).

Effluent limit violation summary 9/20/2016 – 9/20/2021: No violations in eDMR.

Compliance Status:

No compliance issues currently for this client / permittee.

Completed by: David Roote

Completed date: 9/20/2021