

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Harris Residence located at 1061 Lovely Road, Alum Bank, PA 15521 in Bedford County, municipality of Lincoln Township. The existing permit became effective on May 1, 2018 and expired on April 30, 2023. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on March 7, 2023.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.0004 MGD (400 gpd) treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Small Flow Treatment Facility due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Bedford County and Lincoln Township and the notice was received by the parties on April 26, 2023. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Georges Creek. The sequence of receiving streams that the Georges Creek discharges into are Dunning Creek, Raystown Branch Juniata River, Juniata River, and the Susquehanna River which eventually drains into the Chesapeake Bay. Due to the low flow rate generated by the facility, the subject site is not subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Georges Creek is a Category 2 stream listed in the 2022 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **There are no changes to the monitoring frequency or effluent limits.**

Sludge use and disposal description and location(s): Sewage sludge/biosolids removed by Lang Septic Service (New, Paris, PA)

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name: Harris Residence

NPDES Permit # PA0266655

Physical Address: 1061 Lovely Road
Alum Bank, PA 15521

Mailing Address: 1061 Lovely Road
Alum Bank, PA 15521

Contact: Daniel Harris
danidaharris@gmail.com

Consultant: There was not a consultant utilized for the NPDES renewal.

1.2 Permit History

Permit submittal included the following information.

- NPDES Application

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 1061 Lovely Road, Alum Bank, PA 15521. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

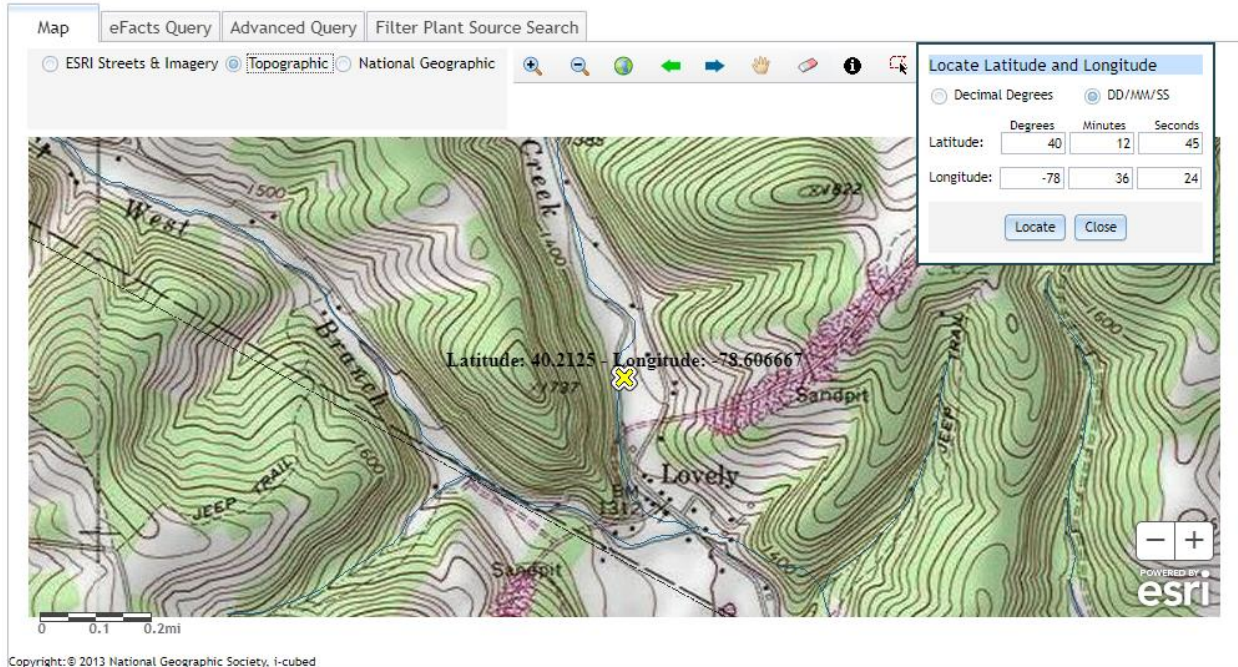
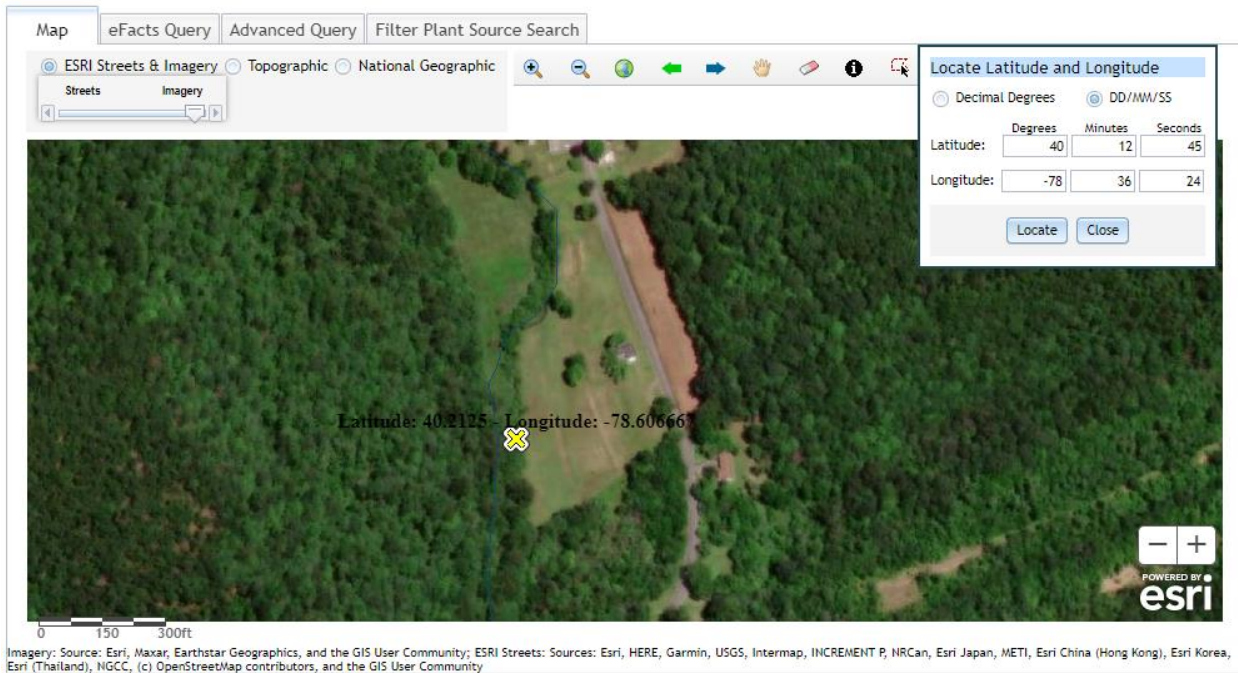


Figure 2: Aerial Photograph of the subject facility



2.2 Description of Wastewater Treatment Process

The subject facility is a 0.0004 MGD design flow facility. The subject facility treats wastewater using a 1000-gal two compartment septic tank, a Polylok PL-122 effluent filter, an Ecoflo Coco filter (EC7-600P-PACK), and a 300-gal chlorine contact chamber prior to discharge to Georges Creek. The chlorine disinfection will utilize a Norweco Bio-Dynamic tablet feeder. The facility is being evaluated for flow, BOD5, TSS, TRC, and fecal coliform. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: Sfs Harris Daniel & Ida				
WQM Permit No.		Issuance Date		
0517401		04/25/2018		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	ECOFLO Coco Filter	Hypochlorite	0.0004
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
		Not Overloaded		

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	Design Flow (MGD)	.0004
Latitude	40° 12' 45.00"	Longitude	-78° 36' 24.00"
Wastewater Description:	Sewage Effluent		

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Chlorine tablets for disinfection

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001, Latitude 40° 12' 45.00", Longitude 78° 38' 24.00", River Mile Index 3.73, Stream Code 14915

Receiving Waters: Georges Creek

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from May 1, 2018 through April 30, 2023.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
TRC	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
BOD5	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/year	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

04/27/2020:

- An administrative inspection for the Harris residence small flow treatment system. The system was permitted and installed in 2018 but the department has no record of receiving an annual report (AMR) for the 2018-2019 monitoring period. Mr. Harris stated that he was unaware of the requirements of the NPDES permit. He has also not been monitoring the chlorine level of the treated discharge water or replacing the chlorine tablets as necessary. DEP advised that he needs to purchase calcium hypochlorite tablets and place the tablets in the feeder tube of the chlorine contact tank. The tube should be checked periodically and tablets added as needed. The discharge water needs to be tested once per month for total residual chlorine (TRC) and to record the results on the table on page 1 of the annual maintenance report (AMR). The TRC level of the water can be checked using chlorine test strips, which can be purchased on-line or at a pool supply store. The NPDES permit also requires the homeowner to have a sample of the discharge water tested once per year for TSS, CBOD, and fecal coliform. Testing will need to be arranged by contacting a nearby testing lab and obtaining sample bottles. The entire wastewater treatment system is required to be inspected yearly by someone knowledgeable with the system. The results of that

inspection are used to answer the questions on pages two and three of the AMR. The Department requests that AMR for the 2018-2019 monitoring period be submitted June 30th, 2020. If the water sampling and system inspection can not be completed by the end of May 2020, the report should still be submitted and include an explanation for the missing information

03/17/2021:

- The NPDES permit for this facility requires the homeowner to (a) check and record the total residual chlorine (TRC) level of the discharge once per month (b) have the discharge tested for TSS, BOD5, and fecal coliform once per year, (c) have the treatment system inspected once per year, and (d) submit an Annual Maintenance Report by June 30 of each year. In April 2020 DEP spoke on the phone with Mr. Daniel Harris and reviewed the requirements of the NPDES permit. DEP requested that he submit an AMR for the 2018-2019 monitoring period. DEP did not receive the 2018-2019 AMR or the 2019- 2020 AMR, which was due on June 30, 2020. Failure to comply with the conditions of your permit constitutes violations of sections 201 and 202 of the Pennsylvania Clean Streams Law and subjects to appropriate enforcement action. It is important that respond to the report by submitting your past due AMRs as soon as possible.

3.2 Summary of DMR Data

Sampling Date 2/23/23

BOD 47.9 mg/l

TSS 24 mg/l

Sampling Date 03/01/23

Fecal Coliform <1000 MPN/100 mL

The off-site laboratory used for the analysis of the parameters was Fairway Laboratories located at 2019 Ninth Avenue, Altoona, PA 16603.

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

Phone conversations with facility yielded that the facility may have collected sampled in previous years but the service provider did not provide copies of the results to the homeowner.

No records of AMR were on file from 2018 to 2022.

For 2023, the submitted AMR form was partially completed by the service provider, John Lang on March 22, 2023.

From the sampling results from 2/23/23, the facility is in violation with NPDES permit limits for BOD, TSS, and fecal coliform. There were also no available TRC data on the AMR.

Monitoring is required yearly and TRC is required monthly.

The facility has been placed on notice that the permit will be renewed. Enforcement action will be taken should the facility fail to complete and submit a complete AMR and annual sampling.

3.3.2 Non-Compliance- Enforcement Actions

The table summarizes non-compliance enforcement actions for the current permit cycle.

**Summary of Enforcement Actions
Beginning 5/1/18 and Ending 04/21/2023**

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	INITIATED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
412955	NOV	Notice of Violation	02/10/2023	02/10/2023	11/01/2022	92A.75(A)	Administrative Close Out	03/08/2023

3.4 Summary of Sewage Sludge/Biosolids Disposal

A summary of the Sewage sludge/biosolids disposed of from the facility is as follows.

Sewage sludge/Biosolids removed by Lang Septic Service of New Paris, PA on March 23, 2023.

3.5 Open Violations

As of April 2023, the table summarizes open violations. The final permit may be withheld until the open violation is addressed.

Open Violations

VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION
910576	03/17/2021	92A.41(A)12B	NPDES - Failure to submit monitoring report(s) or properly complete monitoring reports

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Georges Creek. The sequence of receiving streams that the Georges Creek discharges into are Dunning Creek, Raystown Branch Juniata River, Juniata River, and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is the Saxton Municipal Water Authority (PWS ID #4050021) located approximately 70 miles downstream of the subject facility on the Juniata River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2022 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2022 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 waterbody. The surface waters is an attaining stream that supports aquatic life. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.0195 ft³/s/mi² and the Q710 is 0.113 ft³/s.

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.0004</u>
Latitude	<u>40° 12' 45.24"</u>	Longitude	<u>-78° 36' 24.70"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Georges Creek (WWF, MF)</u>	Stream Code	<u>14915</u>
NHD Com ID	<u>65843599</u>	RMI	<u>3.73</u>
Drainage Area	<u>5.8</u>	Yield (cfs/mi ²)	<u>0.0195</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.113</u>	Q ₇₋₁₀ Basis	<u>StreamStats</u>
Elevation (ft)	<u>1330</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>11-C</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u>Same as Chapter 93 class</u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s) supports aquatic life</u>		
Cause(s) of Impairment	<u>Not appl.</u>		
Source(s) of Impairment	<u>Not appl.</u>		
TMDL Status	<u>Not appl.</u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>Not appl.</u>		<u></u>
Temperature (°C)	<u>Not appl.</u>		<u></u>
Hardness (mg/L)	<u>Not appl.</u>		<u></u>
Other:	<u></u>		<u></u>
Nearest Downstream Public Water Supply Intake	<u>Saxton Municipal Water Authority</u>		
PWS Waters	<u>Juniata River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u>70</u>

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Small flow treatment facilities are confined to permit limitations promulgated by the Small Flow Treatment Facilities Manual (Document # 36-0300-002) and the SOP- New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Application (Revised May 17, 2019).

Parameter	Avg Mo	IMAX	Sample Type	Frequency: SRSTPs
Flow (GPD)	Report	XXX	Estimate	1/year
BOD5 (mg/l)	10	20	Grab	1/year
TSS (mg/l)	10	20	Grab	1/year
TRC (mg/l)	Report for SRSTPs		Grab	1/month
Fecal Coliform (No/100 ml)	200 Geometric Mean		Grab	1/year

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chlorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

<i>General Data 1</i>	<i>(Modeling Point #1)</i>	<i>Units</i>
Stream Code	14915	
River Mile Index	3.73	miles
Elevation	1330	feet
Latitude	40.2125	
Longitude	-78.606667	
Drainage Area	5.8	sq miles
Low Flow Yield	0.0195	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

The facility is not subject to water quality modeling.

5.3.2 Toxics Modeling

The facility is not subject to toxics modeling.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \sum WLAs + \sum LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and

- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

Due to the low flow rate generated by the facility, this facility is not subject to Sector C monitoring requirements.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.1.1 and 40 CFR 122.1.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

- a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
- b) a summary of changes from the existing NPDES permit to the proposed permit; and
- c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The table is categorized by Conventional Pollutants and Disinfection.

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection Harris Residence, PA0266655			
Parameter	Permit Limitation Required by ¹ :	Recommendation	
BOD	TBEL	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample (SOP)
		Effluent Limit:	Effluent limits shall not exceed 10 mg/l as an average monthly (SOP)
		Rationale:	The monitoring frequency and the effluent limits assigned by the SOP.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample (SOP)
		Effluent Limit:	Effluent limits shall not exceed 10 mg/l as an average monthly (SOP)
		Rationale:	The monitoring frequency and the effluent limits assigned by the SOP.
TRC	TBEL	Monitoring:	The monitoring frequency shall be on a 1x/mo basis as a grab sample (Table 6-3).
		Effluent Limit:	No effluent requirement. TRC is recommended between 0.3 - 0.5 mg/l.
		Rationale:	Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4).
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample (SOP)
		Effluent Limit:	Effluent limits shall not exceed 200 MPN as a geometric mean (SOP).
		Rationale:	The monitoring frequency and the effluent limits assigned by the SOP.
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, or (g) WET			
2 Monitoring frequency based on flow rate of 0.0004 MGD.			
3 SOP, New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications, Revised January 13, 2015			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017			

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- There are no changes to the monitoring frequency or effluent limits.

6.3.1 Summary of Proposed NPDES Effluent Limits

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.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001, Latitude 40° 12' 45.00", Longitude 78° 36' 24.00", River Mile Index 3.73, Stream Code 14915

Receiving Waters: Georges Creek (WWF, MF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
TRC	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
BOD5	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	1000	1/year	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

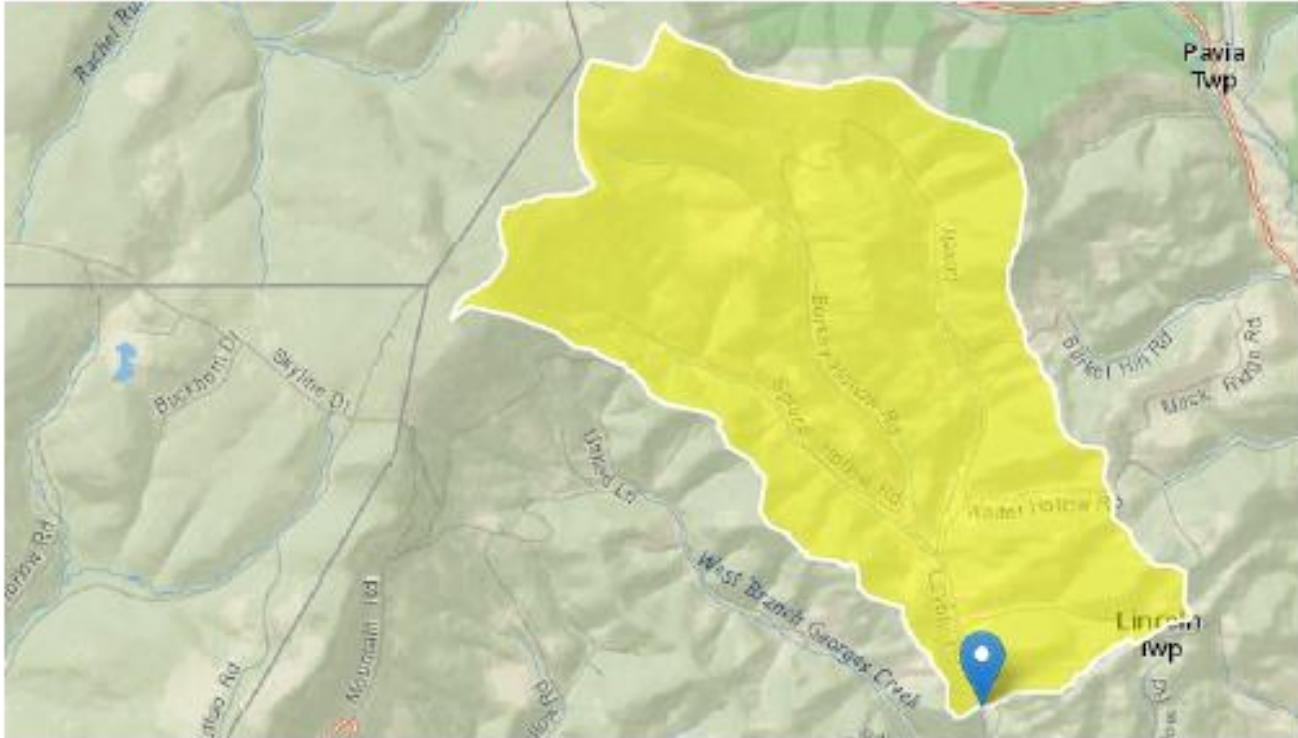
6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- SFTF Maintenance
- Chlorine Minimization

StreamStats Report

Region ID: PA
Workspace ID: PA20230424141350797000
Clicked Point (Latitude, Longitude): 40.21290, -78.60688
Time: 2023-04-24 10:14:10 -0400



Harris Residence PA0266655 Modeling Point #1 April 2023

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	5.8	square miles
PRECIP	Mean Annual Precipitation	40	inches
ROCKDEP	Depth to rock	3.8	feet

Parameter Code	Parameter Description	Value	Unit
STRDEN	Stream Density -- total length of streams divided by drainage area	2.08	miles per square mile

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [100.0 Percent (5.8 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.8	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	40	inches	35	50.4
STRDEN	Stream Density	2.08	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3.8	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Flow Report [100.0 Percent (5.8 square miles) Low Flow Region 2]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.323	ft ³ /s	38	38
30 Day 2 Year Low Flow	0.485	ft ³ /s	33	33
7 Day 10 Year Low Flow	0.113	ft ³ /s	51	51
30 Day 10 Year Low Flow	0.175	ft ³ /s	46	46
90 Day 10 Year Low Flow	0.326	ft ³ /s	36	36

Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

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Application Version: 4.14.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1