Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0285374**
Wastewater Type	**Sewage**	APS ID	**1122543**
Facility Type	**SRSTP**	Authorization ID	**1501072**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Matthew & Beth Mastorovich**	Facility Name	**154 Silvis Road SRSTP**
Applicant Address	154 Silvis Road	Facility Address	154 Silvis Road
	Export, PA 15632-1174		Export, PA 15632-1174
Applicant Contact	Matthew & Beth Mastorovich	Facility Contact	Colleen Berg
Applicant Phone	(724) 757-2834	Facility Phone	724-651-6311
Client ID	388052	Site ID	874957
SIC Code	8800	Municipality	Washington Township
SIC Description	Private Households	County	Westmoreland
Date Application Received	August 27, 2024	WQM Required	Yes
Date Application Accepted		WQM App. No.	6524412

Project Description: New NPDES permit application for SRSTP.

Summary of Review

The Pa Department of Environmental Protection (PADEP) received a new Part I NPDES and Part II WQM permit applications from Soil Solutionz (consultant) on behalf of Matthew and Beth Mastorovich (permittee) for permittee's SRSTP on August 27, 2024. The applications are for a proposed Single Residence Sewage Treatment Facility (SRSTP) located in Washington Township, Westmoreland County with an average design flow of 400 GPD from an existing 3-bedroom Single-Family residence. The proposed discharge is into UNT to Thorn Run through Outfall 001.

This fact sheet is developed in accordance with 40 CFR §124.56.

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
√		Reza H. Chowdhury, E.I.T. / Project Manager	October 21, 2024
X		Pravin C. Patel, P.E. / Environmental Engineer Manager	October 28, 2024

Discharge and Stream Data – 2 - Receiving Waters and PWS

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0004
Latitude	40º 26' 33.31"	Longitude	-79º 35' 11.07"
Quad Name	Slickville	Quad Code	1509
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Thorn Run (HQ-CWF)	Stream Code	42991
NHD Com ID	125291745	RMI	0.2600
Watershed No.	18-B	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final, Tentative	Name	Kiskiminetas-Conemaugh River Watersheds TMDL, Thorn Run Watershed
Nearest Downstream Public Water Supply Intake	MAWC Sweeney Plant		
PWS Waters	Beaver Run Reservoir	Flow at Intake (cfs)	
PWS RMI	6.89	Distance from Outfall (mi)	5.84

Changes Since Last Permit Issuance: None, new permit application.

Other Comments: None

Project Narrative:
The Pa Department of Environmental Protection received a new Part I NPDES and Part II WQM permit applications from Soil Solutionz, LLC (consultant) on behalf of Matthew A Mastorovich and Beth Mastorovich (permittee) for permittee's Single Residence Sewage Treatment Plant (SRSTP), located in 154 Silvis Rd, Export, PA 15632 (facility) to serve an existing 3 bedroom single residence. The residence was served by an existing on-lot sewage disposal system that has been identified as malfunctioning or not in regulatory compliance by the local municipality/SEO. The project proposes construction of a packaged treatment plant to serve the single residence. The system is designed to serve 1 EDU or 400 GPD. The details of the proposed treatment will be discussed in the Internal Review & Recommendation (IR&R) that'll accompany the WQM permit. In short, the packaged treatment plant will be a Norweco Hydro-Kinetic Bio-Film Reactor with UV disinfection.

The proposed treatment package is listed in the PADEP's approved On-lot Alternate Technology Listings which qualifies it for coverage under general PAG04 permit for SRSTP. However, the receiving stream, an UNT to Thorn Run, is designated as High-Quality Cold Water Fishes (HQ-CWF). A general permit can't be issued for special protection watersheds, like HQ or Exceptional Value (EV) waters. Therefore, this permit is considered as an Individual Permit and will be reviewed accordingly.

One of the conditions to approve a sewage discharge into an SP watershed is to conduct Anti-Degradation analysis. The proposed treatment must demonstrate that the treated effluent will have non-degrading effects on the receiving stream. Other non-discharge alternatives must be considered during the planning phase as well. Since Act 537 Planning was approved for this project under DEP Code 65961-24-017 (dated March 22, 2024), it is assumed that no other non-discharge alternatives were suitable for this project (Per SOP BCW-PMT-003). A full-blown Anti-Degradation Analysis

wasn't conducted for this SRSTP discharge, however, the **Technology-Based Effluent Limits (TBELs) from Anti-Degradation Best Available Combination of Technology (ABACT)** were considered. The following ABACT limits are recommended based on DEP's "Water Quality Antidegradation Implementation Guidance" (Doc. No. 391-0300-002, November 29, 2003):

Parameter	Treatment Process Performance Expectations (mg/L)		
	<2,000 gpd	2,000-50,000 gpd	>50,000 gpd
$CBOD_5$ (May 1 – Oct. 31)	**10**	10	10
$CBOD_5$ (Nov. 1 – Apr. 30)	**20**	20	10
Suspended Solids	**20**	10	10
NH_3-N (May 1 – Oct. 31)	**5.0**	3.0	1.5
NH_3-N (Nov. 1 – Apr. 30)	**15.0**	9.0	4.5
Effective disinfection	Disinfection should be accomplished using a method that leaves no detectable residual. Disinfection using ultra-violet light or other non-chlorine based systems is encouraged and must be considered.		
Other parameters, as needed	*Determined by the size and characteristics of the proposed discharge, may include – NO_2/NO_3-N, Total Phosphorus, Copper, Lead, Zinc*		

The following effluent limitations and monitoring requirements, at a minimum, will be established in all new and renewed SFTF permits based on the requirements of DEP's "Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Application" (SOP No. BCW-PMT-003, Version 1.8, Final, November 9, 2012, Revised November 9, 2023).

Parameter	**Avg**	**IMAX**	**Sample Type**	**Frequency: SFTFs**	**Frequency: SRSTPs**
Flow (GPD)	Report	XXX	Estimate (SRSTPs) Measured (SFTFs)	1/month	1/year
CBOD5 (mg/L)	10	20	Grab	1/month	1/year
TSS (mg/L)	10	20	Grab	1/month	1/year
TRC (mg/L) *	Report for SRSTPs; Use TRC Spreadsheet to determine WQBELs or 0.02 mg/L for SFTFs		Grab	1/month	1/year
Fecal Coliform (No./100 ml)	200 Geometric Mean (SFTFs) / Average (SRSTPs)		Grab	1/month	1/year

* This is a new SRSTP with UV disinfection. The facility will not be required to measure TRC nor will be required to report UV dosage/intensity/transmittance.

Development of final effluent limits:

Effluent limitations were derived from ABACT in the Antidegradation Implementation Guidance and from SFTF SOP BCW-PMT-003; for each parameter, the more stringent of either document was selected as the limitation.

Flow monitoring:
Flow monitoring will be placed in this permit in accordance with BCW-PMT-003. The reporting frequency set forth is once a year and sample type is "Estimate" (for SRSTP.)

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)
An average annual $CBOD_5$ limit of 10 mg/l and IMAX limit of 20 mg/l will be placed in this permit. These limits are consistent with the SOP and are more stringent than antidegradation guidance.

Total Suspended Solids (TSS)
An average annual TSS limit of 10 mg/l and IMAX limit of 20 mg/l will be placed in this permit. These limits are consistent with the SOP and are more stringent than the antidegradation ABACT.

Fecal Coliform:
A year-round annual average and IMAX limit of 200 No./100 ml will be placed in this permit. This limit is consistent with the SOP and antidegradation ABACT.

Ammonia Nitrogen:
The SOP for SFTFs does not require monitoring of Ammonia-Nitrogen. Antidegradation ABACT sets a limit of 5.0 mg/L in summer months, and 15.0 mg/L in winter months. A year-round annual average limit of 5.0 mg/l and IMAX of 10.0 mg/l will be placed in permit with a footnote that'll state that the permittee shall sample during summer and winter seasons in alternate years. When they sample for summer season, the summer seasonal limits will be applied. When they sample during winter season, no limit is applicable. The reason for this proposal is to maintain 1/year sampling requirement, and at the same time to see the treatment plant's ammonia-nitrogen removal efficiency during both seasons.

UV:
The SOP indicates that it is not necessary to require UV intensity or transmittance monitoring in the permit for SRSTPs/SFTFs. This is also consistent with Antidegradation ABACT requirements for effective disinfection.

The performance sheet provided with the application package indicates that the facility should be able to meet all numeric limits proposed in this permit, if it is constructed as designed.

Data Summary (NAT Site-9, Norweco Singulair NPDES), 500 GPD

Date	BOD_5 (mg/l)		TSS (mg/L)			pH (SU)		NH3-N (mg/L)		DO (mg/L)		Temperature (°C)				UV Transmittance (%)	E. Coli (MPN/100mL)			Daily Flow (GPD)
	Influent BOD_5	Effluent $CBOD_5$	Influent TSS	Aeration MLSS	Effluent	Influent	Effluent	Influent	Effluent	Aeration	Effluent	Ambient	Influent	Aeration	Effluent	Effluent	Influent	Before UV	Effluent	
2/9/2022	140	4	137		6.9	7.47	7.35	30.9	1.8		7.30	4	9.9		14.0	72.2	5,510,000	120,330	21	508
2/10/2022	160	4	160	1060	6.7	7.67	7.32	32.3	2.1	4.35	7.00	1	10.1	14.8	13.8	74.0	7,308,000	120,330	6	305
2/14/2022	218	2	174		2.8	7.53	7.35	16.1	0.4		8.50	-11	9.7		14.6	74.8	1,406,000	92,080	59	511
2/15/2022	180	2	182	1186	2.0	7.83	7.48	28.2	0.5	4.54	7.16	-12	10.7	13.8	13.3	75.3	3,136,000	6,830	< 1	511
2/16/2022	141	2	159		2.9	7.80	7.24	24.8	1.1		7.67	8	9.3		13.1	76.0	1,540,000	4,680	< 1	521
2/17/2022	114	2	127	1480	2.6	7.89	7.32	26.9	1.0	4.63	7.15	9	9.3	13.9	13.6	75.3	4,718,000	2,180	8	511
2/21/2022	120	2	113		3.8	7.53	7.30	15.2	0.4		7.88	8	9.5		15.2	77.1	2,548,000	7,540	< 1	501
2/22/2022	146	2	161	1575	2.0	7.86	7.29	26.5	0.4	4.04	6.89	9	10.1	16.3	16.0	77.6	2,028,000	19,040	< 1	501
2/23/2022	163	2	160		2.2	7.82	7.34	28.8	0.4		7.32	-2	9.9		16.2	75.5	2,396,000	26,130	< 1	501
2/24/2022	154	2	166	1370	2.6	7.86	7.39	26.4	0.6	6.03	6.89	-4	9.0	16.6	15.8	77.1	2,290,000	17,250	< 1	501
2/25/2022	119	2	126		2.4	7.90	7.42	27.9	0.5		6.30	-4	9.1		15.9	76.2	2,024,000	23,820	< 1	501
2/28/2022	150	2	169		3.1	7.61	7.76	30.1	0.2		8.32	-2	9.7		16.0	76.9	14,540,000	51,720	< 1	501
3/1/2022	148	2	153	1360	2.3	7.72	7.39	32.0	0.6	6.33	8.16	5	9.1	17.4	16.9	75.7	2,374,000	48,840	< 1	501
3/2/2022	136	3	149		2.5	7.71	7.35	40.9	0.4		7.95	1	9.3		17.2	76.2	8,704,000	23,590	< 1	501
3/3/2022	132	2	124	1180	4.5	8.09	7.51	45.9	0.4	5.11	8.17	-4	9.3	15.0	14.2	75.3	2,582,000	13,140	< 1	501
3/4/2022	144	2	140		2.0	7.79	7.40	40.5	0.6		7.90	-3	9.3		15.5	76.7	4,092,000	8,360	< 1	501
3/7/2022	224	2	227		2.0	7.43	7.28	27.1	0.7		8.18	3	10.1		14.5	75.0	2,374,000	3,010	< 1	501
3/8/2022	174	2	171	1260	2.0	7.81	7.27	32.0	0.6	4.28	7.07	0	10.7	14.8	14.4	73.5	22,398,000	6,440	< 1	501
3/9/2022	115	2	121		2.0	7.94	7.15	22.7	0.7		6.55	2	9.6		13.9	75.0	2,758,000	13,760	< 1	501
3/10/2022	93	2	121	1250	2.0	7.96	7.21	29.4	0.6	5.23	6.87	0	10.2	13.9	13.8	73.8	2,548,000	24,810	< 1	501
3/11/2022	91	2	90		4.2	7.86	7.40	27.4	1.2		8.51	0	9.9		13.5	75.5	2,356,000	26,130	< 1	501
3/14/2022	202	2	193		2.2	7.54	7.31	22.2	0.5		7.27	6	10.2		13.0	77.1	3,586,000	61,310	< 1	501
3/15/2022	242	2	211	870	2.7	7.95	7.19	30.9	0.6	4.13	6.71	6	10.7	13.7	13.3	71.6	3,214,000	98,040	1	501
3/16/2022	172	4	166		6.8	7.86	7.20	49.1	1.3		6.85	9	10.6		13.5	74.1	2,708,000	43,520	< 1	501

Proposed Effluent Limitations and Monitoring Requirements

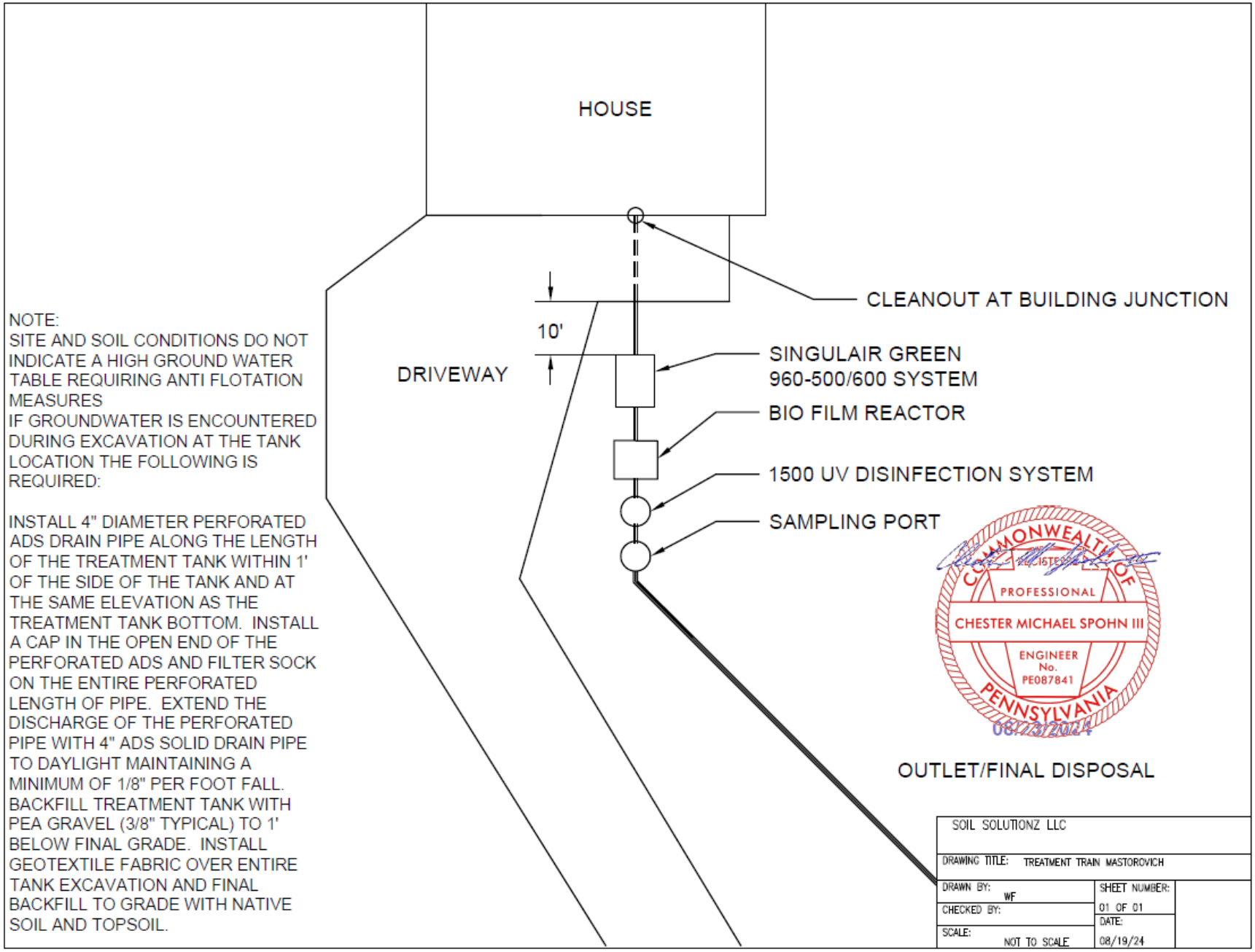
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

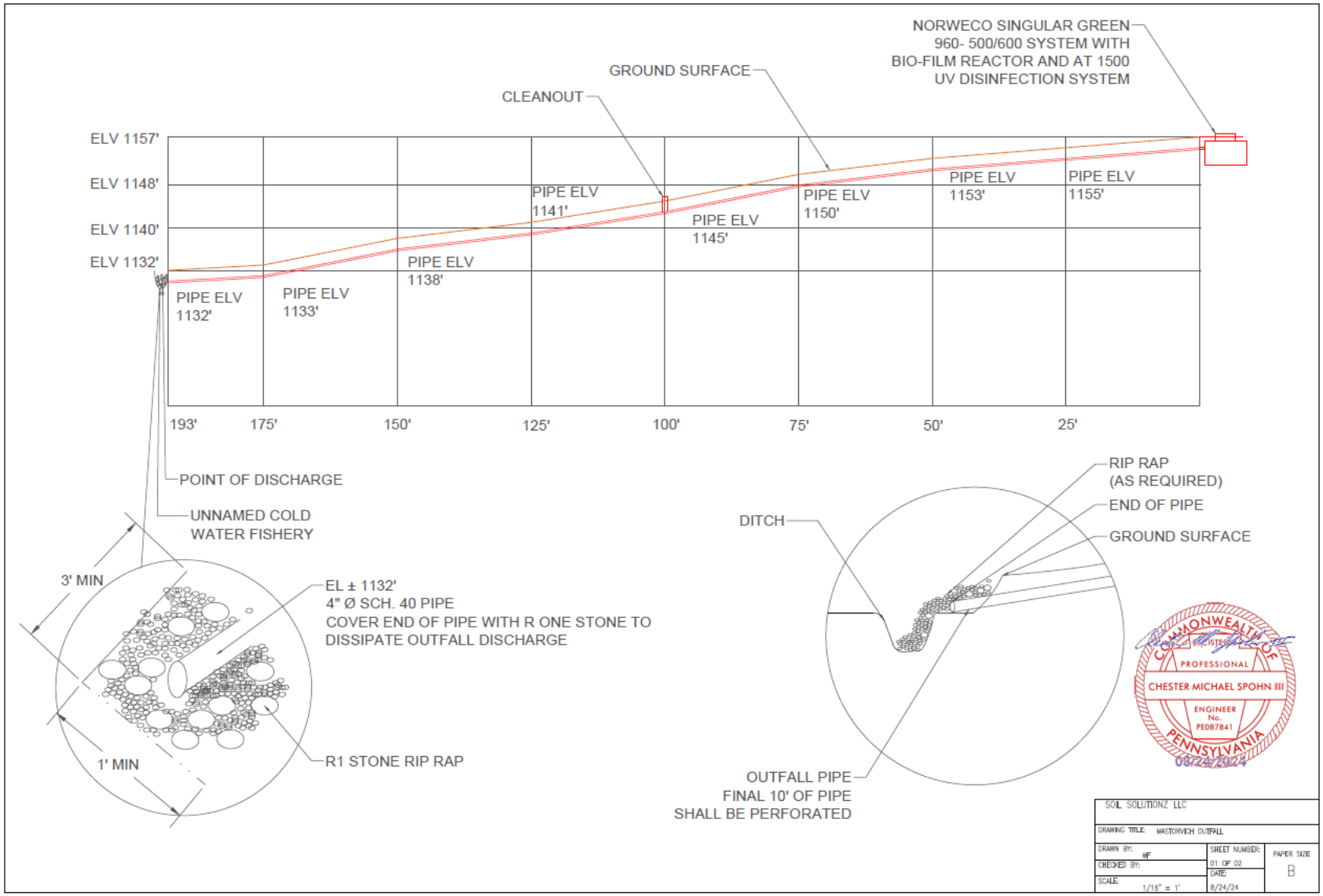
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

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	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl. Avg	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
CBOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	XXX	1/year	Grab
Ammonia	XXX	XXX	XXX	5.0	XXX	10.0	See permit	Grab

Compliance Sampling Location: At Outfall 001 or after last treatment unit.

Other Comments: None


HOUSE
CLEANOUT AT BUILDING JUNCTION
10'
DRIVEWAY
SINGULAIR GREEN
960-500/600 SYSTEM
BIO FILM REACTOR
1500 UV DISINFECTION SYSTEM
SAMPLING PORT
OUTLET/FINAL DISPOSAL
NOTE:
SITE AND SOIL CONDITIONS DO NOT INDICATE A HIGH GROUND WATER TABLE REQUIRING ANTI FLOTATION MEASURES
IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION AT THE TANK LOCATION THE FOLLOWING IS REQUIRED:
INSTALL 4" DIAMETER PERFORATED ADS DRAIN PIPE ALONG THE LENGTH OF THE TREATMENT TANK WITHIN 1' OF THE SIDE OF THE TANK AND AT THE SAME ELEVATION AS THE TREATMENT TANK BOTTOM. INSTALL A CAP IN THE OPEN END OF THE PERFORATED ADS AND FILTER SOCK ON THE ENTIRE PERFORATED LENGTH OF PIPE. EXTEND THE DISCHARGE OF THE PERFORATED PIPE WITH 4" ADS SOLID DRAIN PIPE TO DAYLIGHT MAINTAINING A MINIMUM OF 1/8" PER FOOT FALL. BACKFILL TREATMENT TANK WITH PEA GRAVEL (3/8" TYPICAL) TO 1' BELOW FINAL GRADE. INSTALL GEOTEXTILE FABRIC OVER ENTIRE TANK EXCAVATION AND FINAL BACKFILL TO GRADE WITH NATIVE SOIL AND TOPSOIL.
COMMONWEALTH OF
PROFESSIONAL
CHESTER MICHAEL SPOHN III
ENGINEER
No.
PE087841
PENNSYLVANIA
SOIL SOLUTIONZ LLC
DRAWING TITLE: TREATMENT TRAIN MASTOROVICH
DRAWN BY: WF
CHECKED BY:
SCALE: NOT TO SCALE
SHEET NUMBER: 01 OF 01
DATE: 08/19/24


NORWECO SINGULAR GREEN
960- 500/600 SYSTEM WITH
BIO-FILM REACTOR AND AT 1500
UV DISINFECTION SYSTEM
GROUND SURFACE
CLEANOUT
ELV 1157'
ELV 1148'
ELV 1140'
ELV 1132'
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193'
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50'
25'
POINT OF DISCHARGE
UNNAMED COLD
WATER FISHERY
3' MIN
EL ± 1132'
4" Ø SCH. 40 PIPE
COVER END OF PIPE WITH R ONE STONE TO
DISSIPATE OUTFALL DISCHARGE
R1 STONE RIP RAP
1' MIN
RIP RAP
(AS REQUIRED)
END OF PIPE
GROUND SURFACE
DITCH
OUTFALL PIPE
FINAL 10' OF PIPE
SHALL BE PERFORATED
COMMONWEALTH OF
PROFESSIONAL
CHESTER MICHAEL SPOHN III
ENGINEER
No.
PE087841
PENNSYLVANIA
SOIL SOLUTIONZ LLC
DRAWING TITLE: MASTORVICH OUTFALL
DRAWN BY: MF
CHECKED BY:
SCALE: 1/16" = 1'
SHEET NUMBER: 01 OF 02
DATE: 8/24/24
PAPER SIZE B