Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0102768**
Facility Type	**Non-Municipal**	APS ID	**1114669**
Major / Minor	**Minor**	Authorization ID	**1486751**

Applicant and Facility Information

Applicant Name	**Penncrest School District**	Facility Name	**Maplewood Jr./Sr. High School**
Applicant Address	P.O. Box 808, 18741 State Highway 198	Facility Address	30383 Guys Mills Road
	Saegertown, PA 16433-0808		Guys Mills, PA 16327-5913
Applicant Contact	Richard Luke	Facility Contact	Dan Gricks
Applicant Phone	(814) 337-1628 (rluke@penncrest.org)	Facility Phone	
Client ID	164165	Site ID	243196
Ch 94 Load Status	Not Overloaded	Municipality	Randolph Township
Connection Status		County	Crawford
Date Application Received	May 10, 2024	EPA Waived?	Yes
Date Application Accepted	June 18, 2024	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an existing discharge of treated sewage

Summary of Review

This facility treats domestic sewage from a Jr./Sr. high school. They periodically accept hauled in sludge from Faith Builders.

No changes to discharge quantity or quality were proposed as part of this permit renewal.

There are currently five open violations listed in EFACTS for this client, all under the Safe Drinking Water Program (4/23/2025).

Sludge use and disposal description and location(s): Sludge is hauled offsite by Sterling Sanitation.

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		Adam J. Pesek Adam J. Pesek, E.I.T. / Project Manager	April 23, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 25, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.018
Latitude	41º 39' 11"	Longitude	-79º 56' 7"
Quad Name	Townville	Quad Code	0506
Wastewater Description:	Treated sewage		
Receiving Waters	Unnamed Tributary to Woodcock Creek	Stream Code	52802
NHD Com ID	127353131	RMI	0.96
Drainage Area	2.06	Yield (cfs/mi^2)	0.09
Q_{7-10} Flow (cfs)	0.19	Q_{7-10} Basis	USGS #03022540
Elevation (ft)	1475	Slope (ft/ft)	0.01833
Watershed No.	16-A	Chapter 93 Class.	HQ-CWF
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)	7.5	8/30/2010 field sample on Woodcock Crk @ Hanks Road Bridge
Temperature (°F)	20	Default (CWF)
Hardness (mg/L)		
Other: NH_3-N	0.06	8/30/2010 field sample on Woodcock Crk @ Hanks Road Bridge

Nearest Downstream Public Water Supply Intake		Aqua Pennsylvania, Inc – Emlenton intake	
PWS Waters	Allegheny River	Flow at Intake (cfs)	1801
PWS RMI	90.0	Distance from Outfall (mi)	51

Changes Since Last Permit Issuance:

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Maplewood High School

WQM Permit No.	Issuance Date
2074450	11/21/1974
2074450 A-1	11/26/2013

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.018

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.018	---	Not Overloaded	Aerobic Digestion	Land Applicatuon

Changes Since Last Permit Issuance: None

Other Comments:

Compliance History	
Summary of DMRs:	There have been 8 effluent violations reported in the last five years. Eight were due to ammonia nitrogen exceedances, and one was a CBOD5 exceedance.
Summary of Inspections:	A compliance evaluation inspection was last conducted on

Other Comments:

Compliance History

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.004	0.003	0.005	0.004	0.005	0.005	0.003	0.003	0.004	0.005	0.004	0.004
Flow (MGD) Daily Maximum	0.010	0.006	0.014	0.008	0.01	0.008	0.007	0.009	0.010	0.009	0.010	0.009
pH (S.U.) Daily Minimum	7.7	7.7	7.4	7.3	7.5	7.4	7.7	7.1	7.5	7.5	7.5	7.6
pH (S.U.) Daily Maximum	8.1	8.2	8.1	8.0	7.9	8.1	8.2	8.3	7.9	7.9	7.9	8.1
DO (mg/L) Daily Minimum	5.5	5.71	5.3	5.69	5.61	5.64	5.66	5.60	5.11	5.12	5.80	5.86
TRC (mg/L) Average Monthly	0.26	0.38	0.45	0.39	0.34	0.35	0.31	0.37	0.26	0.31	0.33	0.47
TRC (mg/L) Instantaneous Maximum	0.7	0.67	0.92	0.81	0.76	0.72	0.88	0.90	0.75	1.02	0.83	0.88
CBOD5 (mg/L) Average Monthly	11.50	2.49	5.68	3.6	< 2	< 2.53	< 2	< 2	< 1.27	< 2	< 2	10.78
TSS (mg/L) Average Monthly	13	< 5	8	< 7	< 5	< 9	14	< 6	< 5	5.5	< 5	9.5
Fecal Coliform (No./100 ml) Geometric Mean	1202.3	3.5	18.6	< 1	3.98	1	3.01	1.5	< 1	3.02	< 7.5	63.1
Fecal Coliform (No./100 ml) Instantaneous Maximum	2398.9	5.89	37.2	< 1	8.91	1	5.01	2	< 1	3.98	14	123
Total Nitrogen (mg/L) Daily Maximum			38.7			26.4			24.5			20.93
Ammonia (mg/L) Average Monthly	65.95	23.8	20.9	20.2	< 0.18	< 2.81	< 0.365	< 0.4	< 0.4	1.01	< 3.04	11.94
Total Phosphorus (mg/L) Daily Maximum			4.97			2.27			20.4			3.5

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0018
Latitude 41º 39' 11.00" **Longitude** -79º 56' 7.00"
Wastewater Description: Sewage Effluent

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
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
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)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
E. Coli	Report (No./100 ml)	IMAX	-	92a.61

Comments: Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia Nitrogen (5/1 – 10/31)	5.5	Average Monthly	Previous WQBEL
Ammonia Nitrogen (5/1 – 10/31)	11	IMAX	Previous WQBEL
Dissolved Oxygen	5.0	Daily Minimum	Previous WQBEL
Total Residual Chlorine	1.2	IMAX	Previous TRC Spreadsheet

Comments: Current modeling did not determine the need for more-stringent WQBELs.

A seasonal multiplier of "3" was applied for wintertime ammonia nitrogen limits in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring for total nitrogen and total phosphorus will be retained in this permit renewal in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Anti-Backsliding

No backsliding of limits were made as part of this proposed draft permit renewal.

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" (386-0400-001), 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 Daily Min	XXX	9.0 Daily Max	XXX	Daily when Discharging	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	Daily when Discharging	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	16.5	XXX	33.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.5	XXX	11.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
08D	25802	Trib 25802 of Black Bear Run	**0.960**	1475.00	2.06	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.090	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.50	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Penncrest Sch D	PA0102768	0.0000	0.0180	0.0000	0.000	20.00	7.60

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.06	0.00	0.70

X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 25, 2025

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
08D	25802	Trib 25802 of Black Bear Run	**0.650**	1445.00	2.45	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.090	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.50	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
08D	25802	Trib 25802 of Black Bear Run	0.010	1400.00	3.01	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.090	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.50	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodyna

SWP Basin	Stream Code
08D	25802

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)
Q7-10 Flow						
0.960	0.19	0.00	0.19	.0278	0.01833	.397
0.650	0.22	0.00	0.22	.0278	0.01332	.405
Q1-10 Flow						
0.960	0.12	0.00	0.12	.0278	0.01833	NA
0.650	0.14	0.00	0.14	.0278	0.01332	NA
Q30-10 Flow						
0.960	0.25	0.00	0.25	.0278	0.01833	NA
0.650	0.30	0.00	0.30	.0278	0.01332	NA

WQM 7.0 Modeling Spe

Parameters	Both	Use
WLA Method	EMPR	Use
Q1-10/Q7-10 Ratio	0.64	Use
Q30-10/Q7-10 Ratio	1.36	Tem
D.O. Saturation	90.00%	Use
D.O. Goal	6	

WQM 7.0 Waste

SWP Basin	Stream Code
08D	25802

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)
0.960	Penncrest Sch D	9	47.09
0.650		NA	NA

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	M C
0.960	Penncrest Sch D	1.38	13.36	
0.650		NA	NA	

Dissolved Oxygen Allocations

		CBOD5		
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Ba (
0.96	Penncrest Sch D	25	25	
0.65		NA	NA	

WQM 7.0 D.O.S

SWP Basin	Stream Code	
08D	25802	Trib 2

RMI	Total Discharge Flow (mgd)	An
0.960	0.018	
Reach Width (ft)	Reach Depth (ft)	
6.396	0.397	
Reach CBOD5 (mg/L)	Reach Kc (1/days)	
5.00	0.919	
Reach DO (mg/L)	Reach Kr (1/days)	
7.689	22.819	
Reach Travel Time (days)		
0.225		

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)
0.023	4.90	1.7
0.045	4.80	1.7
0.068	4.70	1.7
0.090	4.61	1.6
0.113	4.51	1.6
0.135	4.42	1.6
0.158	4.33	1.6
0.180	4.24	1.5
0.203	4.15	1.5
0.225	4.07	1.5

WQM 7.0 Ef

SWP Basin	Stream Code
08D	25802

RMI	Name	Permit Number	Disc Flow (mgd)
0.960	Penncrest Sch D	PA0102768	0.000

Maplewood - TRC_CALC (1)

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.19	= Q stream (cfs)	0.5	= CV Daily
0.018	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	2.196	1.3.2.iii	WLA cfc =	2.133
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.818	5.1d	LTA_cfc =	1.240

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.635	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))... ...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))... ...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

Maplewoood Jr./Sr. High School
Randolph Township, Crawford County
PA012768 Discharge pH

Outfall 001

Date	pH min	pH max	10^ -pH min	10^ -pH max	& pH max)	-Log (Ave pH)
Jul-22	7.4	7.7	3.98E-08	2E-08	2.99E-08	**7.5**
Aug-22	7.5	8.1	3.16E-08	7.94E-09	1.98E-08	**7.7**
Sep-22	6.8	8.0	1.58E-07	1E-08	8.42E-08	**7.1**
Jul-23	7.6	8.2	2.51E-08	6.31E-09	1.57E-08	**7.8**
Aug-23	7.6	7.9	2.51E-08	1.26E-08	1.89E-08	**7.7**
Sep-23	6.6	7.7	2.51E-07	2E-08	1.36E-07	**6.9**
Jul-24	7.1	8.3	7.94E-08	5.01E-09	4.22E-08	**7.4**
Aug-24	7.7	8.2	2E-08	6.31E-09	1.31E-08	**7.9**
Sep-24	7.4	8.1	3.98E-08	7.94E-09	2.39E-08	**7.6**
					Median:	**7.6**