pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

South Central Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0246956**
Facility Type	**Municipal**	APS ID	**461129**
Major / Minor	**Minor**	Authorization ID	**1413744**

Applicant and Facility Information

Applicant Name	**Alsace Township Berks County**	Facility Name	**Alsace Manor STP**
Applicant Address	65 Woodside Avenue	Facility Address	65 Woodside Avenue
	Temple, PA 19560-9530		Temple, PA 19560-9530
Applicant Contact	Jan Moore, Business Manager (signed application)	Facility Contact	Jan Moore (janm@alsacetownship.org)
Applicant Phone	(610) 929-5324	Facility Phone	(610) 929-5324
Client ID	62482	Site ID	604716 / PF ID 680505
Ch 94 Load Status		Municipality	Alsace Township
Connection Status		County	Berks
Date Application Received	October 13, 2022	EPA Waived?	Yes
Date Application Accepted	October 21, 2022	If No, Reason	
Purpose of Application	Renewal of NPDES permit for Sewage Treatment Plant (STP)		

Summary of Review

The facility's existing permit was issued April 12, 2018 with an effective date of May 1, 2018 and an expiration date of April 30, 2023. The existing permit's limits and conditions have been administratively extended. A (paper) permit renewal application was submitted October 13, 2022.

The application represents:
- that 100% of the flow at this STP is from Alsace Township (Twp);
- there are no hauled-in wastes accepted and none anticipated for the next five years; and
- there are no industrial or commercial contributors.

Design flow:

DEP's Standard Operating Procedure (SOP) Establishing Effluent Limitations for Individual Sewage Permits recommends basing effluent limits in sewage permits on the Annual Average Design Flow. The renewal application included an Annual Average Design Flow of 0.071 MGD, which is the same as the flow used in the existing NPDES permit for developing effluent limitations. The facility's WQM permit also shows the Annual Average Flow as 0.071 MGD.

The facility's 2022 Chapter 94 Annual Municipal Wasteload Report did not project flows over their design flow of 0.071 MGD nor projected organic overloads for the next five years.

Therefore, the renewal permit effluent limits continue to be based on a design flow of 0.071 MGD.

A review of the facility's eDMR data from January 1, 2021 through November 30, 2023 indicates that there were no months in the reviewed period where the monthly average exceeded the design flow of 0.071 MGD. The Maximum Monthly Average flow reported in these eDMRs was 0.032 MGD. (See attached.)

Approve	Deny	Signatures	Date
x		*Bonnie Boylan* Bonnie Boylan / Environmental Engineering Specialist	January 3, 2024
x		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	January 29, 2024
x		*Maria D. Bebenek* Maria D. Bebenek, P.E. / Program Manager	January 29, 2024

Sludge use and disposal description and location(s):

According to their application, sewage sludge is hauled to Lehigh County Authority Wastewater Pretreatment Plant.

Combined Sewers Outfalls: Not Applicable

Unresolved Violations:

There are no unresolved violations for this facility according to DEP's eFacts Clean Water Program database.

Delaware River Basin Commission:

The facility discharges to a stream within the Delaware River watershed and is thus subject to the Delaware River Basin Commission (DRBC)'s requirements. A copy of the draft permit and Fact Sheet will therefore be sent to the DRBC for their review in accordance with State regulations and an interagency agreement. Any comments from DRBC will be considered. The most recent DRBC docket, D-2006-005 CP-4, was approved for this facility on June 9, 2021 with an expiration date of April 30, 2028. The docket recognized the treatment plant's design flow as 0.071 MGD.

The docket stated:
"At the WWTP discharge location, the UNT to Little Manatawny Creek has an estimated seven-day low flow with a recurrence interval of ten years (Q7-10) of less than 0.1 cubic feet per second (cfs) and therefore is classified by the Commission as an intermittent stream."

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). Comments received 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.

Facility History:

Alsace Township was identified as a "needs area" due to malfunctioning on-lot septic systems and was pushed by the PADEP to correct the situation. Preliminary effluent limits were provided to them. Before DEP sewage planning approval was granted, a DEP biologist conducted a stream survey, called a Point of First Use (POFU), with the results attached to this fact sheet. The POFU concluded that there was a diverse community of benthic macroinvertebrates in the stream at the point of discharge; therefore aquatic life needed to be protected in the receiving stream at the point of discharge, not further downstream. Their NPDES and WQM permits were issued May of 2006 for their new facility, with an effective date of June 1, 2006. Their design flow has not increased since that time: 0.071 MGD.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.071 (=0.11 cfs)
Latitude	40º 23' 58"	Longitude	-75º 50' 44"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	UNT of Little Manatawny Creek	Stream Code	UNT of 01686 (no code for UNT)
NHD Com ID	25973164 (Little Manatawny Crk)	RMI	0.23 on UNT
Drainage Area	0.072 sq.mi. (per USGS PA Stream Stats)	Yield (cfs/mi^2)	0.2
Q_{7-10} Flow (cfs)	0.013 cfs (per PA Stream Stats)	Q_{7-10} Basis	USGS PA Stream Stats
Elevation (ft)	780	Slope (ft/ft)	
Watershed No.	3-D	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Not Attaining Recreational Use (assessment ID #19183)		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Unknown		
TMDL Status	Not developed	Name	-

Secondary Water: UNT empties into Little Manatawny at RMI 6.8 (estimated), also CWF and non-attaining recreational use due to pathogens; which flows into Manatawny Creek at 16.6 RMI (estimated), also CWF and non-attaining recreational use due to pathogens; which empties into the Schuylkill River at 54.6 RMI

Background/Ambient Data – not collected		Data Source – N/A	
pH (SU)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake		North Coventry Twp. Water Authority/Pottstown Water Authority Interconnect; Chester County	
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	Approx. 54	Distance from Outfall (mi)	>20 miles

Changes Since Last Permit Issuance:

The 2018 permit's FS cited PA StreamStats for the Q7-10 and D.A.: 0.0245 cfs. and 0.0957 sq.mi., respectively. PA StreamStats at current date showed Q7-10 and D.A. as 0.013 cfs. and 0.072 sq. mi., respectively. See attached. The discharge point is close to headwaters. There are no nearby stream gages. USGS PA Stream Stats online tool showed no prediction error and is generally accurate for headwaters. Stream Stats uses historical data, topography, and regression equations to estimate drainage areas and flows.

Low Flow Yield (LFY) is calculated as Q7-10 / Drainage Area.

Other Comments:
- Note that this is an effluent-dominated stream, with a **Qs:Qd ratio of 0.013 cfs: 0.11 cfs = 1:8**
- There are no upstream dischargers per eMapPA. There are no nearby downstream dischargers.
- Neither the receiving water nor the downstream streams are Class A / Wild Trout waters, but they are considered 'Trout Natural Reproduction' waters (per eMapPA).

Treatment Facility Summary				
Treatment Facility Name: Alsace Manor STP				
WQM Permit No.	**Issuance Date**			
0605404	05/22/2006			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Extended Aeration	Ultraviolet	0.071
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.071	142			

Description of the STP:

Two-train activated sludge (extended aeration) treatment plant by Purestream, Inc. Influent pump station, equalization tank where wastewater is aerated with coarse bubble diffusers, two-trains, ultraviolet disinfection, gravity flow to effluent pump station, discharged to stream

Existing Permit Limits, Outfall 001:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Ultraviolet Light Intensity	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	14.8	XXX	XXX	25.0	XXX	50	2/month	24-hour Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-hour Composite
TSS	17.8	XXX	XXX	30.0	XXX	60	2/month	24-hour Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-hour Composite
Fecal Coliform Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia Nov 1 - Apr 30	3.4	XXX	XXX	5.7	XXX	11.4	2/month	24-hour Composite
Ammonia May 1 - Oct 31	1.1	XXX	XXX	1.9	XXX	3.8	2/month	24-hour Composite
Total Dissolved Solids	Report Quarterly Avg	XXX	XXX	1000.0 Quarterly Avg	XXX	XXX	1/Quarter	24-hour Composite
Total Nitrogen	Report Quarterly Avg	XXX	XXX	Report Quarterly Avg	XXX	XXX	1/Quarter	24-hour Composite
Total Phosphorus	Report Quarterly Avg	XXX	XXX	Report Quarterly Avg	XXX	XXX	1/Quarter	24-hour Composite

Compliance Sampling Location: at discharge from the facility

Compliance History

DMR Data for Outfall 001 (from November 1, 2022 to October 31, 2023)

Parameter	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22
Flow (MGD) Average Monthly	0.0243	0.0238	0.0231	0.0247	0.0223	0.0223	0.0238	0.0265	0.0232	0.0231	0.0237	0.023
Flow (MGD) Daily Maximum	0.0321	0.0349	0.0388	0.0647	0.0312	0.0324	0.0386	0.1294	0.0334	0.0318	0.041	0.034
pH (S.U.) Instantaneous Minimum	6.35	6.0	7.4	6.54	6.16	6.08	6.27	6.05	6.31	6.07	6.25	6.5
pH (S.U.) Instantaneous Maximum	7.33	8.22	8.71	7.74	7.94	7.59	7.67	7.82	7.79	8.03	7.51	7.46
DO (mg/L) Instantaneous Minimum	5.83	6.72	5.49	5.29	5.21	5.28	5.42	5.56	6.05	5.83	5.01	5.51
CBOD5 (lbs/day) Average Monthly	1.6	< 0.6	0.7	< 4.8	1.4	1.2	2.6	2.0	< 0.6	< 0.6	< 0.4	< 0.5
CBOD5 (mg/L) Average Monthly	7.3	< 3.0	3.5	< 20.4	6.7	5.2	12.8	9.3	< 2.9	< 2.6	< 2.0	< 3.2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	98	68	53	77	91	144	58	64	99	98	65	41
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	102	68	65	94	91	149	71	74	109	116	76	44
BOD5 (mg/L) Raw Sewage Influent Average Monthly	504	323	281	382	487	626	273	291	466	488	316	241
TSS (lbs/day) Average Monthly	1.2	0.30	0.5	0.9	0.2	1.2	2.5	1.7	< 1.1	1.0	< 0.3	1.8
TSS (lbs/day) Raw Sewage Influent Average Monthly	87	79	28	81	107	238	52	42	38	36	37	43

TSS (lbs/day) Raw Sewage Influent Daily Maximum	116	119	29	121	129	247	53	51	50	70	61	45
TSS (mg/L) Average Monthly	5.5	1.5	3.0	4.0	1.0	5.5	12.7	7.5	< 5.5	4.5	< 1.5	11.0
TSS (mg/L) Raw Sewage Influent Average Monthly	467	344	156	417	603	1034	245	191	174	207	170	249
Total Dissolved Solids (lbs/day) Average Quarterly		164			215.33			190.67			177.33	
Total Dissolved Solids (mg/L) Average Quarterly		803.33			1036.67			877.33			876.33	
Fecal Coliform (No./100 ml) Geometric Mean	43	< 2	11	< 4	21	256	310	< 9	42	12	< 9	61
Fecal Coliform (No./100 ml) Instantaneous Maximum	374	< 2	40	7	23	5600	1550	44	64	31	44	91
UV Intensity (mW/cm²) Instantaneous Minimum	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	100	13.9	13.9
Total Nitrogen (lbs/day) Average Quarterly		6.67			< 14.33			< 12.00			< 10.33	
Total Nitrogen (mg/L) Average Quarterly		< 32.17			< 70.17			< 56.03			< 51.18	
Ammonia (lbs/day) Average Monthly	0.2	0.1	0.07	0.02	< 0.004	0.06	0.02	0.09	< 0.004	< 0.005	0.01	< 0.008
Ammonia (mg/L) Average Monthly	1.1	0.7	0.2	0.1	< 0.02	0.3	0.1	0.4	< 0.02	< 0.03	0.1	< 0.05
Total Phosphorus (lbs/day) Average Quarterly		1.00			2.00			1.00			1	
Total Phosphorus (mg/L) Average Quarterly		5.93			7.88			5.75			6.20	

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2022 To: October 31, 2023

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Dissolved Solids	06/30/23	Avg Qrtrly	1036.67	mg/L	1000.0	mg/L
Fecal Coliform	05/31/23	Geo Mean	256	No./100 ml	200	No./100 ml
Fecal Coliform	05/31/23	IMAX	5600	No./100 ml	1000	No./100 ml

Summary of Inspections:

5/25/2022 – No Violations noted. Sampler not operational at time of inspection. Magnetic meter in full pipe measures effluent flow, with totalizer. Effluent samples are collected post-UV channel. Influent samples are collected in wet well. DEP Inspector collected effluent samples: lab analysis showed no exceedances of permit limits. One aeration tank and one clarifier were offline. Variable frequency drives on blowers.

4/6/2020 – No Violations noted. Administrative File Review. (Routine on-site inspections suspended during Covid-19 pandemic)

3/1/2018 – No Violations noted. Facility is well maintained. Treatment train #1 is active. Train #2 is filled with groundwater/rainwater, covered, not aerated. Some floatables on clarifier tank surface. Effluent appears mostly clear. There is an algae accumulation on discharge channel riprap with increased algae growth for 15 meters downstream.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.071
Latitude 40º 23' 58" **Longitude** -75º 50' 44"
Wastewater Description: Sewage Effluent

Technology-Based Effluent Limitations (TBELs)

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation	DRBC Requirement
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)	
	40*	Average Weekly*	133.102(a)(4)(ii)	92a.47(a)(2)	
$CBOD_5$	85% removal**	Average Monthly		92a.47(a)(3)	
BOD_5	85% removal**	-			18 CFR Part 410
Total Suspended Solids (TSS)	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)	18 CFR Part 410
	45*	Average Weekly*	133.102(b)(2)	92a.47(a)(2)	18 CFR Part 410
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)	18 CFR Part 410
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)	18 CFR Part 410
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)	
Ammonia (NH_3-N)	20	Average Monthly			18 CFR Part 410
Total Dissolved Solids (TDS)	1000***	Average Monthly			18 CFR Part 410

*applied to sewage facilities for which monitoring frequency is at least once per week

**Narrative limits are imposed in NPDES permits in Part A following the limits tables. The narrative limits include: "The monthly average percent removal of BOD_5 or $CBOD_5$ and TSS must be at least 85% for WWTP facilities on a concentration basis…." Because all Chapter 94 Municipal Wasteload Annual reporting for sewage is in terms of BOD_5, the influent monitoring has continued to be required as BOD_5, as requested by DEP's regional office Sewage Planning staff. Because DEP's WQM 7.0 model uses $CBOD_5$, most NPDES permits for sewage treatment plants (STPs) include effluent limits in terms of $CBOD_5$ rather than as BOD_5.

***Or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives and recognizes the need for reserve capacity to serve future dischargers (i.e. limits based on a TDS Determination submitted to DRBC proving that the discharge will not cause the TDS in the receiving water to exceed the lesser of 500 mg/l or 133% of background). Their DRBC docket [D-2006-005 CP-4] includes a TDS limit of 1000 mg/l.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen (DO)

A minimum effluent limit of 5.0 mg/L for DO is derived from state water quality criteria found in 25 Pa. Code §93.7(a). The existing permit included a minimum effluent limit for DO of 5.0 mg/l and no change is recommended.

Point of First Use

Although the stream low-flow to discharge flow ratio (Qs:Qd) is less than 3:1, the Point of First Use survey concluded that the receiving stream was not "intermittent or ephemeral" such that the recommended effluent limits based on treatment standards (TBELs) provided in DEP's Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers [Technical Guidance document 386-2000-013] were not imposed in their previous NDPES permits. However, DEP's Standard Operating Procedure (SOP) for Establishing Effluent Limitations for Individual Sewage Permits recommends applying the more stringent treatment requirements in document 386-2000-013 when the Qs:Qd ratio is less than 3:1 for new or expanding discharges and for existing dischargers where the receiving water is impaired and the permittee is at least a partial cause of the impairment. In this case, the receiving water is impaired for pathogens.

The document 386-2000-013 recommends limits sufficient to meet bacteria criteria in Pa Code Chapter 93. The existing permit Fecal Coliform limits are for monthly averages less than 200 CFU/100 mL as a geometric mean from May 1 through September 30 and monthly averages less than 2000 CFU/100 mL as a geometric mean from October 1 through April 30. The existing permit limits for Fecal Coliform are being continued in the renewal permit as well as a monitoring requirement for E.Coli, consistent with DEP's SOP Establishing Effluent Limitations for Individual Sewage Permits. (E. Coli was added to Pa Code Chapter 93 in 2020.)

The permittee's DMRs from January 1, 2021 through November 30, 2023, show compliance with the permit limits (and regulatory standards at Pa Code § 92a.47 for Fecal Coliform) except for the month of May 2023. The median value of the Fecal Coliform monthly averages in the DMRs from January 1, 2021 through November 30, 2023 was 9/100 mL. The available data does not indicate that Fecal Coliform is a concern in the discharge.

Water Quality-Based Effluent Limitations (WQBELs)

$CBOD_5$, Ammonia (NH_3-N), and Dissolved Oxygen (DO)

DEP uses a model, WQM 7.0, to determine appropriate permit requirements for $CBOD_5$, NH_3-N and DO. The model results will show calculated WQBELs if they are more stringent or will default to the TBELs if the TBELs are protective enough of the receiving waterway. For more explanation of the WQM 7.0 model, see Technical Reference Guide WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, document 386-2000-016. The Ammonia calculations used in the model are based on the DEP's Implementation Guidance of Section 93.7 Ammonia Criteria, 391-2000-013.

The model input values and output values are attached. The River Mile Indices (RMI's) and elevations that were used came from DEP's eMapPA while the Drainage Areas and stream design low-flows (Q7-10) came from USGS PA Stream Stats online tool. Low Flow Yield (LFY) is calculated as stream low-flow, Q7-10, divided by Drainage Area of the stream at the outfall location. Some model input values were default values because background data was not available at this location and no site-specific data was forwarded with the application.

The model results for $CBOD_5$ and DO are the same as the existing permit limits: the model defaulted to the TBELs.

The Ammonia criteria, an equation, changed in the 2020 amendments to the Pa Water Quality Standards, Pa Code Chapter 93. The model incorporates the new Ammonia criteria. The model calculated slightly more stringent warm weather Ammonia limits: 1.7 mg/l as a monthly average and 3.4 mg/l as a maximum for the months of May through October. As was done in the previous permit (and many other NPDES permits), the cool weather Ammonia limits were allowed to be less stringent, recognizing that Ammonia is less toxic in colder water. As was done in the previous permit, a multiplier of 3 was applied to the warm weather Ammonia limits resulting in cool weather Ammonia limits of 5.1 mg/l as a monthly average and 10.2 mg/l as a maximum for the months of November through April.

Note:
Because this is an existing discharger who is not expanding, the model was not re-run using a DO goal of 8 mg/l for the early life stages of trout and other salmonids, consistent with DEP's SOP Establishing Effluent Limitations for Individual Sewage Permits. At the time of the original NPDES permit issuance (2006), Pa Code § 93.7 did not include special protection for early life stages of trout and other salmonids; the regulations were amended in 2013 but include some exceptions.

The facility's DMRs from January 1, 2021 through November 30, 2023 indicate that they can meet the new more stringent Ammonia limits. In the 35 months reviewed, there were no months when the effluent exceeded 1.7 mg/l as a monthly average. The DMRs indicate a monthly average Ammonia concentration of approximately <0.18 mg/l and a maximum monthly average concentration of 1.1 mg/l.

Toxics

There are no industrial contributors nor were there any sample results in the application for toxic parameters. (DEP's NPDES application for minor sewage facilities does not require sampling for toxic parameters when there are no industrial or commercial contributors or suspected toxics present in the discharge such as from a remediation site.)

Additional Considerations

Anti-Backsliding:

No permit limitations have been made less stringent.

Antidegradation Requirements:

All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Flow Monitoring:

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Influent BOD & TSS Monitoring:

The existing influent monitoring reporting requirement for TSS and BOD5 will be maintained in the draft permit. This requirement has been consistently assigned to all municipal wastewater treatment facilities and is necessary to verify the 85% removal permit requirement as well as to ensure process control.

Total Nutrient Monitoring:

Nutrient levels in rivers and streams are a concern. A monitoring requirement for Total Nitrogen and Total Phosphorus has been included, as was done in the existing permit and consistent with DEP's SOP Establishing Effluent Limitations for Individual Sewage Permits. The statutory basis for this requirement is found at Chapter 92a.61. Because this requirement is to gather data and not to demonstrate compliance with a limit and because the receiving water and downstream receiving water have not been found to be impaired for nutrients, a frequency of once per quarter has been included.

The facility's DMR data from January 1, 2021 through November 30, 2023 showed a quarterly average Total Nitrogen mass load of 12.5 lbs/day and a quarterly average Total Nitrogen concentration of 56 mg/l. The same DMRs showed a quarterly average Total Phosphorus mass load of 1.7 lbs/day and a quarterly average Total Phosphorus concentration of 5.5 mg/l.

Mass Loading Limitations:

All effluent mass loading limits have been based on the formula: design flow x concentration limit x conversion factor of 8.34.

Monitoring Frequency and Sample Type:

Monitoring frequencies have been carried forward from the existing permit consistent with DEP's SOP New and Reissuance Sewage Individual NPDES Permit Applications, except for TDS and E.Coli. For TDS, the monitoring frequency of once per quarter is consistent with the DRBC docket. For E.Coli, the monitoring frequency of once per quarter is consistent with DEP's SOP Establishing Effluent Limitations for Individual Sewage Permits.

The sample types have been carried forward from the existing permit.

TDS Baseline:

Besides and apart from the DRBC effluent limitation for TDS, the State has regulations relating to TDS. In order to implement the regulations at Chapter 95.10, a 2010 TDS "Baseline" needs to be documented. For this purpose, Chapter 95.10(a)(1) describes existing mass loads as "maximum daily discharge loads of TDS…that were authorized by the Department prior to August 21, 2010". The NPDES permit applications for sewage facilities with small design flows did not require TDS sample results and the 2006 and 2011 NPDES permits did not require TDS monitoring; not much information is available as a result to estimate the TDS load as of August 2010. The 2015 NPDES application provided one effluent sample result for TDS, 989 mg/l. Using this result, the TDS baseline load would be estimated as follows: 989 mg/l x 0.071 MGD x 8.34 conversion factor = 586 lbs/day.

The 2018 NPDES permit required TDS monitoring. The DMRs from January 1, 2021 through November 30, 2023 show an average TDS concentration of 876 mg/l.

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 as needed 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	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
CBOD5	14.8	XXX	XXX	25.0	XXX	50	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS	17.8	XXX	XXX	30.0	XXX	60	2/month	24-Hr Composite
Total Dissolved Solids	Report Avg Qrtrly	XXX	XXX	1000.0 Avg Qrtrly	XXX	XXX	1/quarter	24-Hr Composite
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/quarter	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Ammonia Nov 1 - Apr 30	3.0	XXX	XXX	5.1	XXX	10.2	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	1.0	XXX	XXX	1.7	XXX	3.4	2/month	24-Hr Composite

Outfall 001 , Continued (from 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	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Nitrogen	Report Avg Qrtrly	XXX	XXX	Report Avg Qrtrly	XXX	XXX	1/quarter	24-Hr Composite
Total Phosphorus	Report Avg Qrtrly	XXX	XXX	Report Avg Qrtrly	XXX	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: at discharge from the facility

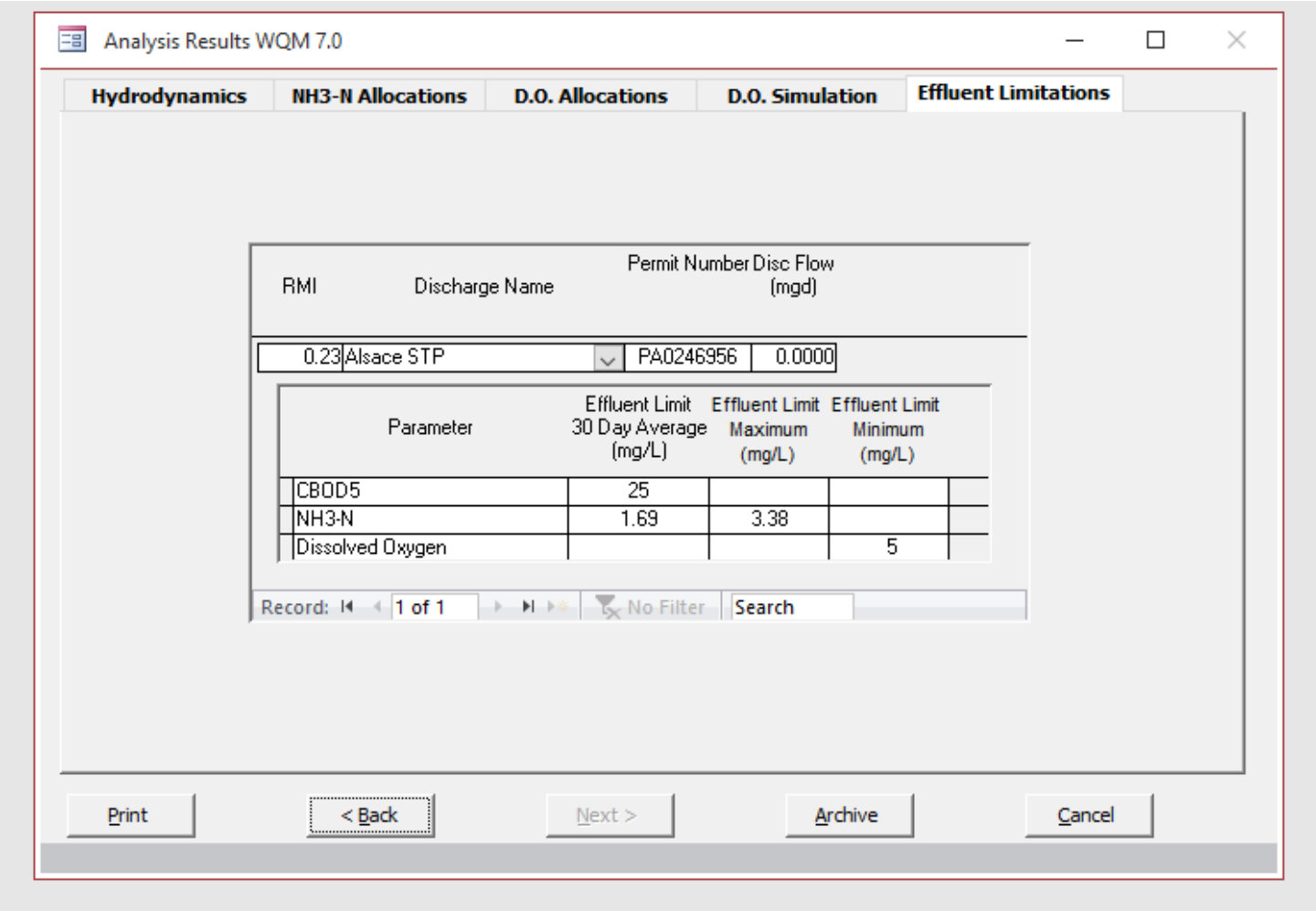
Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☒	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☒	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☒	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP New and Reissuance Sewage Individual NPDES Permit Applications, BCW-PMT-002, Version 2.0
☒	SOP: Establishing Effluent Limitations for Individual Sewage Permits, BCW-PMT-033, Version 1.9.
☐	SOP: Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, BCW-PMT-037, Version 1.5.
☒	Other: DRBC docket D-2006-005 CP-4.

PERMIT	MONITORIN(	MONITORIN(	REPORT_F	OUTF/	PARAM	UNITS	LOAD_1_VALU		LOAD_1_	LOAD_1_SB	LOAD_2_\	LOAD_2_	LOAD_2_SBC
PA0246956	1/1/2021	1/31/2021	Monthly	1	Flow	MGD	0.0226		Monitor	Average Mc	0.0308	Monitor	Daily Maximum
PA0246956	2/1/2021	2/28/2021	Monthly	1	Flow	MGD	0.0216	*	Monitor	Average Mc	0.0306	Monitor	Daily Maximum
PA0246956	3/1/2021	3/31/2021	Monthly	1	Flow	MGD	0.0223		Monitor	Average Mc	0.0272	Monitor	Daily Maximum
PA0246956	4/1/2021	4/30/2021	Monthly	1	Flow	MGD	0.0234		Monitor	Average Mc	0.0421	Monitor	Daily Maximum
PA0246956	5/1/2021	5/31/2021	Monthly	1	Flow	MGD	0.0239		Monitor	Average Mc	0.0312	Monitor	Daily Maximum
PA0246956	6/1/2021	6/30/2021	Monthly	1	Flow	MGD	0.0226		Monitor	Average Mc	0.0364	Monitor	Daily Maximum
PA0246956	7/1/2021	7/31/2021	Monthly	1	Flow	MGD	0.0224		Monitor	Average Mc	0.0299	Monitor	Daily Maximum
PA0246956	8/1/2021	8/31/2021	Monthly	1	Flow	MGD	0.02183		Monitor	Average Mc	0.0349	Monitor	Daily Maximum
PA0246956	9/1/2021	9/30/2021	Monthly	1	Flow	MGD	0.0239		Monitor	Average Mc	0.0515	Monitor	Daily Maximum
PA0246956	10/1/2021	10/31/2021	Monthly	1	Flow	MGD	0.0229		Monitor	Average Mc	0.0404	Monitor	Daily Maximum
PA0246956	11/1/2021	11/30/2021	Monthly	1	Flow	MGD	0.0239		Monitor	Average Mc	0.0355	Monitor	Daily Maximum
PA0246956	12/1/2021	12/31/2021	Monthly	1	Flow	MGD	0.02366		Monitor	Average Mc	0.035	Monitor	Daily Maximum
PA0246956	1/1/2022	1/31/2022	Monthly	1	Flow	MGD	0.0282		Monitor	Average Mc	0.038	Monitor	Daily Maximum
PA0246956	2/1/2022	2/28/2022	Monthly	1	Flow	MGD	0.0287		Monitor	Average Mc	0.0422	Monitor	Daily Maximum
PA0246956	3/1/2022	3/31/2022	Monthly	1	Flow	MGD	0.0314		Monitor	Average Mc	0.0516	Monitor	Daily Maximum
PA0246956	4/1/2022	4/30/2022	Monthly	1	Flow	MGD	0.0323		Monitor	Average Mc	0.0419	Monitor	Daily Maximum
PA0246956	5/1/2022	5/31/2022	Monthly	1	Flow	MGD	0.0277		Monitor	Average Mc	0.0406	Monitor	Daily Maximum
PA0246956	6/1/2022	6/30/2022	Monthly	1	Flow	MGD	0.0267		Monitor	Average Mc	0.0318	Monitor	Daily Maximum
PA0246956	7/1/2022	7/31/2022	Monthly	1	Flow	MGD	0.0229		Monitor	Average Mc	0.0385	Monitor	Daily Maximum
PA0246956	8/1/2022	8/31/2022	Monthly	1	Flow	MGD	0.0238		Monitor	Average Mc	0.0326	Monitor	Daily Maximum
PA0246956	9/1/2022	9/30/2022	Monthly	1	Flow	MGD	0.0235		Monitor	Average Mc	0.384	Monitor	Daily Maximum
PA0246956	10/1/2022	10/31/2022	Monthly	1	Flow	MGD	0.02335		Monitor	Average Mc	0.0334	Monitor	Daily Maximum
PA0246956	11/1/2022	11/30/2022	Monthly	1	Flow	MGD	0.023		Monitor	Average Mc	0.034	Monitor	Daily Maximum
PA0246956	12/1/2022	12/31/2022	Monthly	1	Flow	MGD	0.0237		Monitor	Average Mc	0.041	Monitor	Daily Maximum
PA0246956	1/1/2023	1/31/2023	Monthly	1	Flow	MGD	0.0231		Monitor	Average Mc	0.0318	Monitor	Daily Maximum
PA0246956	2/1/2023	2/28/2023	Monthly	1	Flow	MGD	0.0232		Monitor	Average Mc	0.0334	Monitor	Daily Maximum
PA0246956	3/1/2023	3/31/2023	Monthly	1	Flow	MGD	0.0265		Monitor	Average Mc	0.1294	Monitor	Daily Maximum
PA0246956	4/1/2023	4/30/2023	Monthly	1	Flow	MGD	0.0238		Monitor	Average Mc	0.0386	Monitor	Daily Maximum
PA0246956	5/1/2023	5/31/2023	Monthly	1	Flow	MGD	0.0223		Monitor	Average Mc	0.0324	Monitor	Daily Maximum
PA0246956	6/1/2023	6/30/2023	Monthly	1	Flow	MGD	0.0223		Monitor	Average Mc	0.0312	Monitor	Daily Maximum
PA0246956	7/1/2023	7/31/2023	Monthly	1	Flow	MGD	0.0247		Monitor	Average Mc	0.0647	Monitor	Daily Maximum
PA0246956	8/1/2023	8/31/2023	Monthly	1	Flow	MGD	0.0231		Monitor	Average Mc	0.0388	Monitor	Daily Maximum
PA0246956	9/1/2023	9/30/2023	Monthly	1	Flow	MGD	0.0238		Monitor	Average Mc	0.0349	Monitor	Daily Maximum
PA0246956	10/1/2023	10/31/2023	Monthly	1	Flow	MGD	0.0243		Monitor	Average Mc	0.0321	Monitor	Daily Maximum
PA0246956	11/1/2023	11/30/2023	Monthly	1	Flow	MGD	0.025		Monitor	Average Mc	0.0344	Monitor	Daily Maximum
							0.0244		Avg		0.0496	Avg	
							0.028		90th percentile		0.0516	90th percentile	
							0.0323		MMA		0.384	Max	

* DMR reporting error. Daily Effluent Suppplemental form showed 0.0216 MGD as monthly average, but DMR was coded as 0.606 MGD which was greater than the Daily Maximum flow reported for the month.

StreamStats Output Report-at 001 on UNT Little Manatawny			
State/Region ID	PA		
Workspace ID	PA20240101040425574000		
Latitude	40.39931		
Longitude	-75.84547		
Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measure	5.2298	degrees
DRNAREA	Area that drains to a point	0.0719	square miles
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with u	21.7625	percent
Low-Flow Statistics Para	100.0 Percent Low Flow Region 1		
Statistic	Value	Unit	
7 Day 2 Year Low Flow	0.0294	ft^3/s	
30 Day 2 Year Low Flow	0.0373	ft^3/s	
7 Day 10 Year Low Flow	0.0132	ft^3/s	
30 Day 10 Year Low Flow	0.0177	ft^3/s	
90 Day 10 Year Low Flow	0.0266	ft^3/s	
USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are c			
USGS Software Disclaimer: This software has been approved for release by the U.S. Geologica			
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive pu			
Application Version: 4.19.2			
StreamStats Services Version: 1.2.22			
NSS Services Version: 2.3.2			

StreamStats Output Report-RMI 0 UNT Little Man.Crk							
State/Region ID	PA						
Workspace ID	PA20240101041332959000						
Latitude	40.40046						
Longitude	-75.84146						
Time							
Basin Characteristics							
Parameter Code	Parameter Description	Value	Unit				
BSLOPD	Mean basin slope measure	6.2311	degrees				
DRNAREA	Area that drains to a point	0.12	square miles				
ROCKDEP	Depth to rock	5	feet				
URBAN	Percentage of basin with u	12.5309	percent				
Low-Flow Statistics Param	100.0 Percent Low Flow Region 1						
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit		
DRNAREA	Drainage Area	0.12	square mi	4.78	1150		
BSLOPD	Mean Basin Slope degrees	6.2311	degrees	1.7	6.4		
ROCKDEP	Depth to Rock	5	feet	4.13	5.21		
URBAN	Percent Urban	12.5309	percent	0	89		
Low-Flow Statistics Flow R	100.0 Percent Low Flow Region 1						
Statistic	Value	Unit					
7 Day 2 Year Low Flow	0.0526	ft^3/s					
30 Day 2 Year Low Flow	0.0638	ft^3/s					
7 Day 10 Year Low Flow	0.0246	ft^3/s					
30 Day 10 Year Low Flow	0.0316	ft^3/s					
90 Day 10 Year Low Flow	0.0436	ft^3/s					
USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy							
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Alt							
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and do							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NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
0.23
Alsace STP
PA0246956
0.0000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
25
NH3-N
1.69
3.38
Dissolved Oxygen
5
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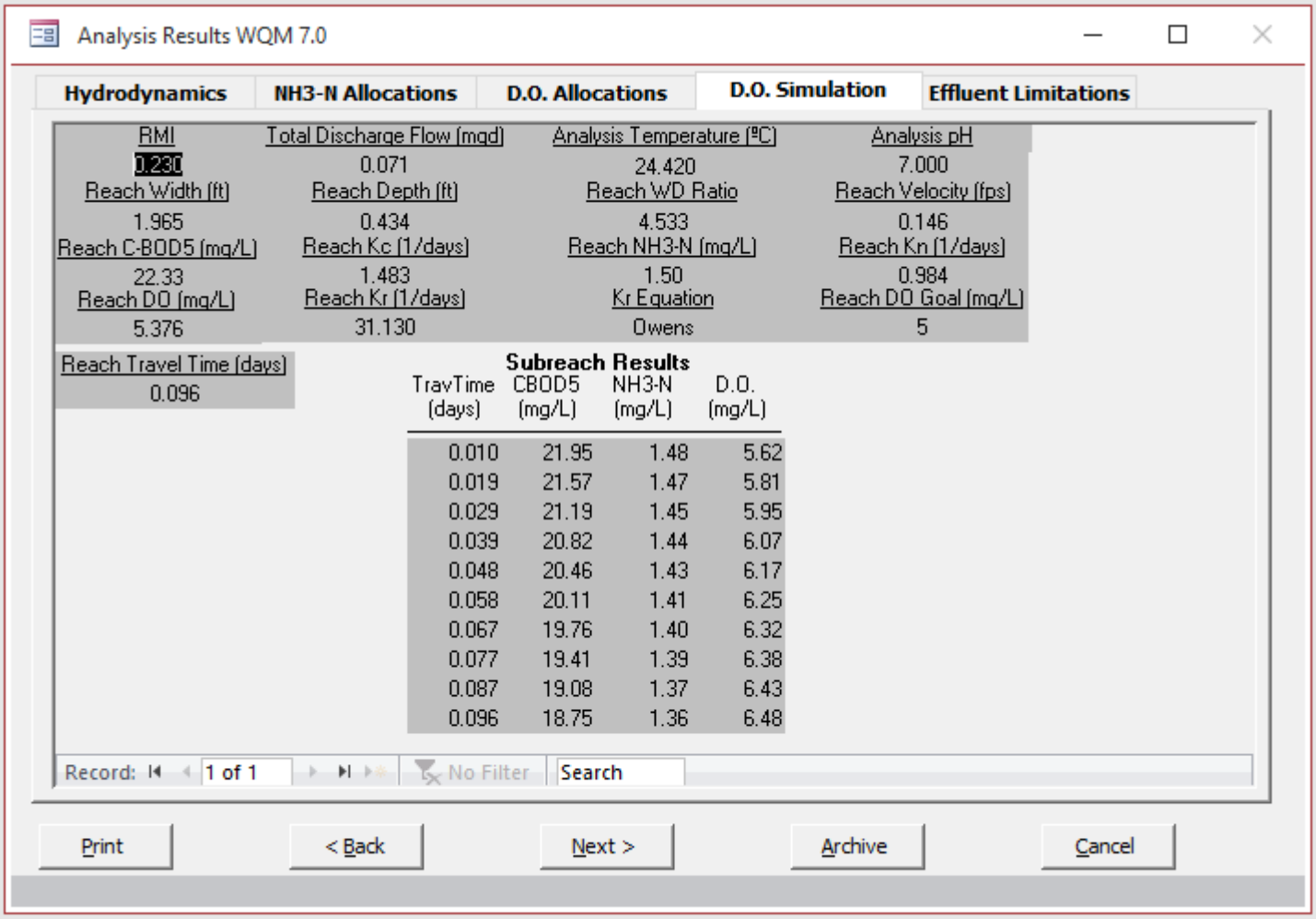
Next >
Archive
Cancel


Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
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Total Discharge Flow (mgd)
0.071
Analysis Temperature (°C)
24.420
Analysis pH
7.000
Reach Width (ft)
1.965
Reach Depth (ft)
0.434
Reach WD Ratio
4.533
Reach Velocity (fps)
0.146
Reach C-BOD5 (mg/L)
22.33
Reach Kc (1/days)
1.483
Reach NH3-N (mg/L)
1.50
Reach Kn (1/days)
0.984
Reach DO (mg/L)
5.376
Reach Kr (1/days)
31.130
Kr Equation
Owens
Reach DO Goal (mg/L)
5
Reach Travel Time (days)
0.096
Subreach Results
TravTime (days) CBOD5 (mg/L) NH3-N (mg/L) D.O. (mg/L)
0.010 21.95 1.48 5.62
0.019 21.57 1.47 5.81
0.029 21.19 1.45 5.95
0.039 20.82 1.44 6.07
0.048 20.46 1.43 6.17
0.058 20.11 1.41 6.25
0.067 19.76 1.40 6.32
0.077 19.41 1.39 6.38
0.087 19.08 1.37 6.43
0.096 18.75 1.36 6.48
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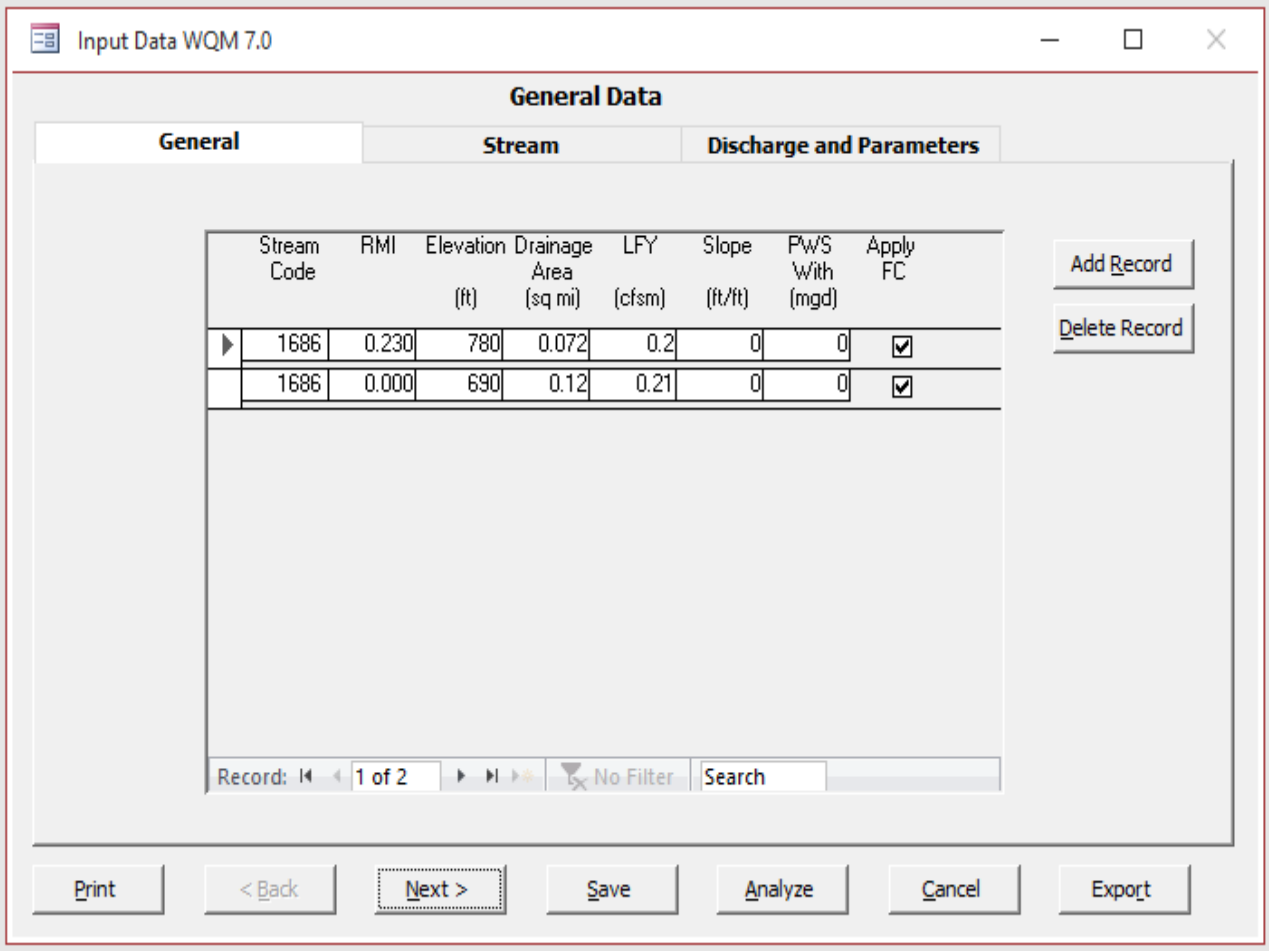
Next >
Archive
Cancel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General Data
General
Stream
Discharge and Parameters
Stream Code
RMI
Elevation (ft)
Drainage Area (sq mi)
LFY (cfsm)
Slope (ft/ft)
PWS With (mgd)
Apply FC
1686 0.230 780 0.072 0.2 0 0
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Delete Record
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Analyze
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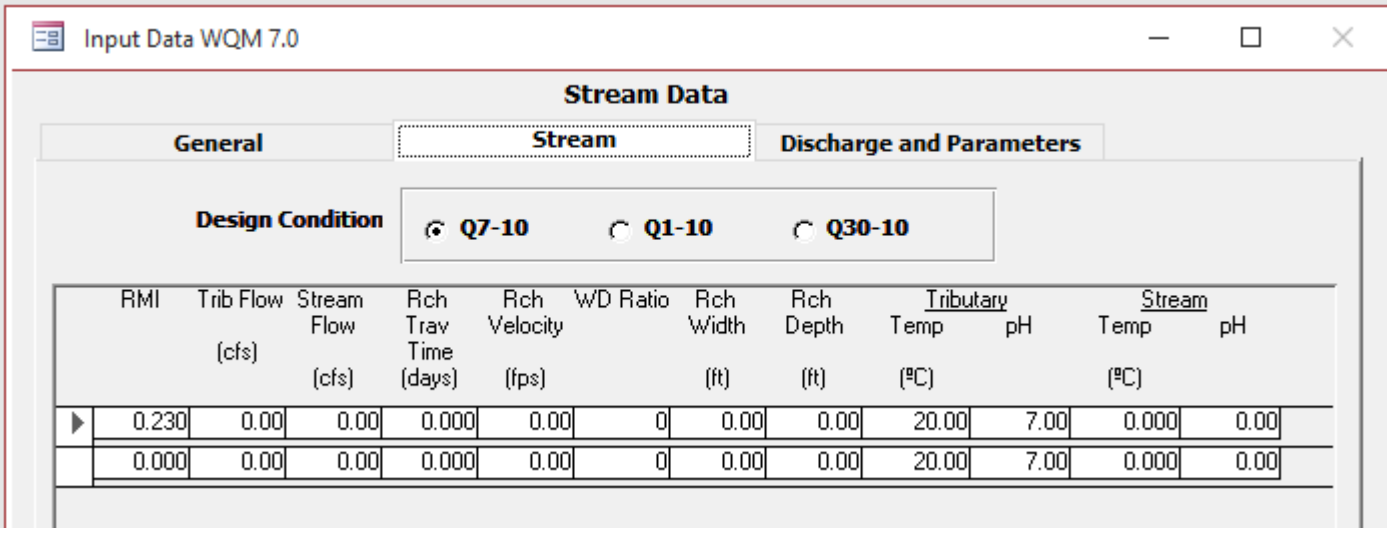
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Stream
Discharge and Parameters
Design Condition
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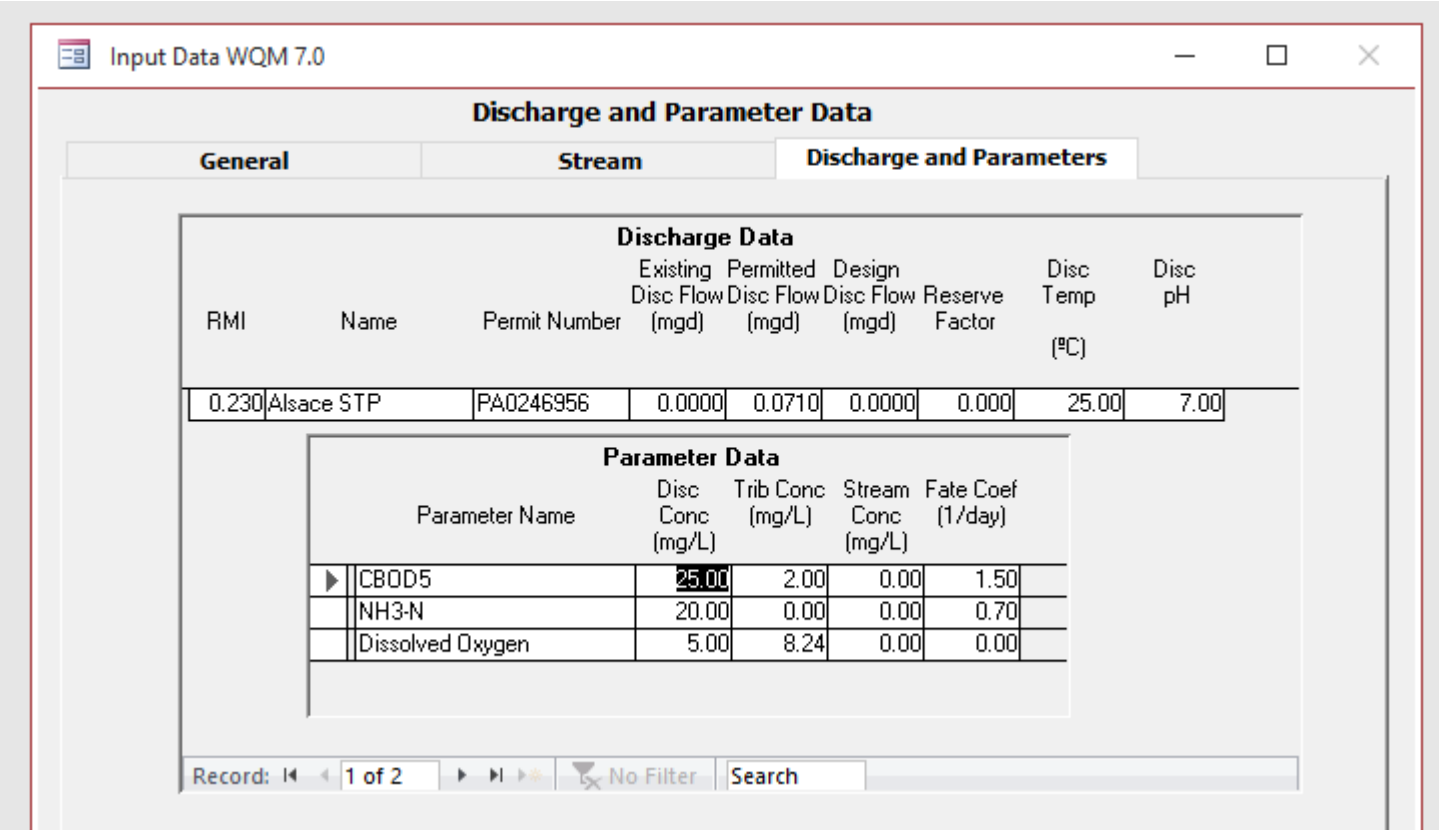
Q1-10
Q30-10
RMI
Trib Flow (cfs)
Stream Flow (cfs)
Rch Trav Time (days)
Rch Velocity (fps)
WD Ratio
Rch Width (ft)
Rch Depth (ft)
Tributary Temp (ºC)
Tributary pH
Stream Temp (ºC)
Stream pH
0.230 0.00 0.00 0.000 0.00 0 0.00 0.00 20.00 7.00 0.000 0.00
0.000 0.00 0.00 0.000 0.00 0 0.00 0.00 20.00 7.00 0.000 0.00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Discharge and Parameter Data
General
Stream
Discharge and Parameters
Discharge Data
RMI
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (ºC)
Disc pH
0.230
Alsace STP
PA0246956
0.0000
0.0710
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/day)
CBOD5
25.00
2.00
0.00
1.50
NH3-N
20.00
0.00
0.00
0.70
Dissolved Oxygen
5.00
8.24
0.00
0.00
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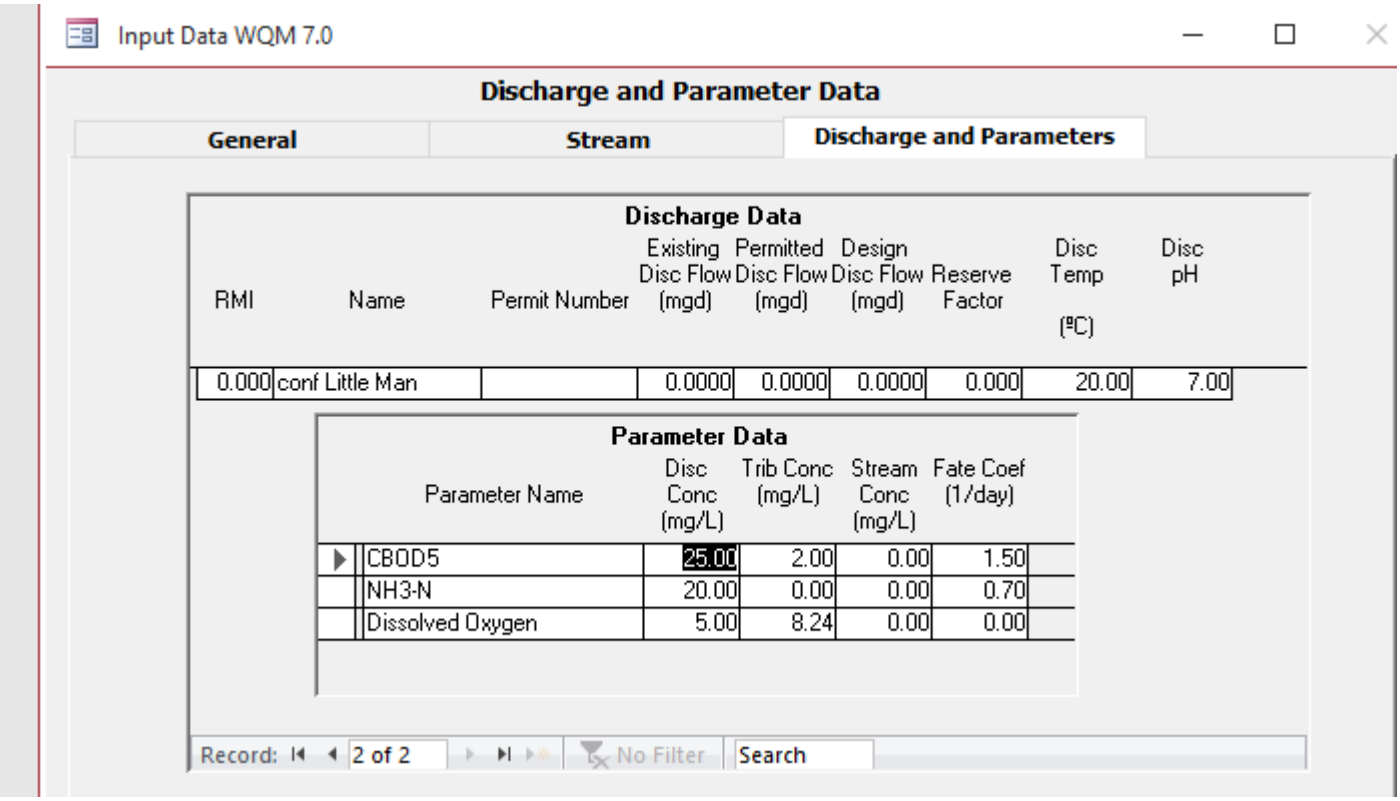
Search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Discharge and Parameter Data
General
Stream
Discharge and Parameters
Discharge Data
RMI
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (ºC)
Disc pH
0.000
conf Little Man
0.0000
0.0000
0.0000
0.000
20.00
7.00
Parameter Data
Parameter Name
Disc Conc (mg/L)
Trib Conc (mg/L)
Stream Conc (mg/L)
Fate Coef (1/day)
CBOD5
25.00
2.00
0.00
1.50
NH3-N
20.00
0.00
0.00
0.70
Dissolved Oxygen
5.00
8.24
0.00
0.00
Record: 2 of 2
No Filter
Search

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
April 15, 2002

Stream Code: 53022
Stream File: 1.15.4

SUBJECT: Point of First Use Determination
Alsace Twp STP
UNT Little Manatawny Creek
Alsace Twp, Berks County

TO: Tim Finnegan
Water Quality Supervisor
Water Management Program

FROM: Kiersten H. Marquart
Water Pollution Biologist 2 KHM
Water Management Program

THROUGH: Robert J. Schott RJS
Water Pollution Biologist 3
Water Management Program

As requested I performed the Point of First Use Survey near Alsace Manor, Alsace Twp, Berks County. The survey was conducted April 15, 2002. A field data sheet and site location map are attached.

I determined the point of first use to be coincident with the point of discharge as evidenced by the presence of a highly diverse and sensitive community of benthic macroinvertebrates.

Although access to the site is limited by moderately dense woodland undergrowth, the stretch of stream directly upstream and downstream from the proposed discharge point is located less than 50 yds from numerous residences. Steps should be taken to further restrict access to the discharge.

Stream Code: 53022
Stream File: 1.15.4

POINT OF FIRST USE DETERMINATION

Stream: UNT Little Manatawny Creek Date: 4/15/02 Time: 1030

Discharger: Alsace Twp STP Existing ☐ Proposed ☒

Municipality: Alsace Twp County: Berks Collector: K. H. Marquart, M. Hammond

Site Location: behind the Deitrich Residence S of Oley Rd

PHYSICAL DATA

Estimated Stream Width: 2ft Estimated Stream Depth: Riffle 2" Pool 6"

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sample Reach	Substrate Type	Characteristic	% Composition in Sample Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	
Boulder	>256 mm (10")		Muck-Mud	Black, very fine organic (FPOM)	
Cobble	64-256 mm (2.5-10")	10	Marl	Grey, shell fragment	
Gravel	2-64 mm (0.1-2.5")	10			
Sand	0.06-2 mm (gritty)	70			
Silt	0.004-0.06 mm	10			
Clay	<0.004 mm (slick)				

Temperature: 15.7 DO: 8.76 pH: 7.1 Cond: 230
Water Samples: Yes ☐ No ☒ Collector Number:

BIOLOGICAL DATA

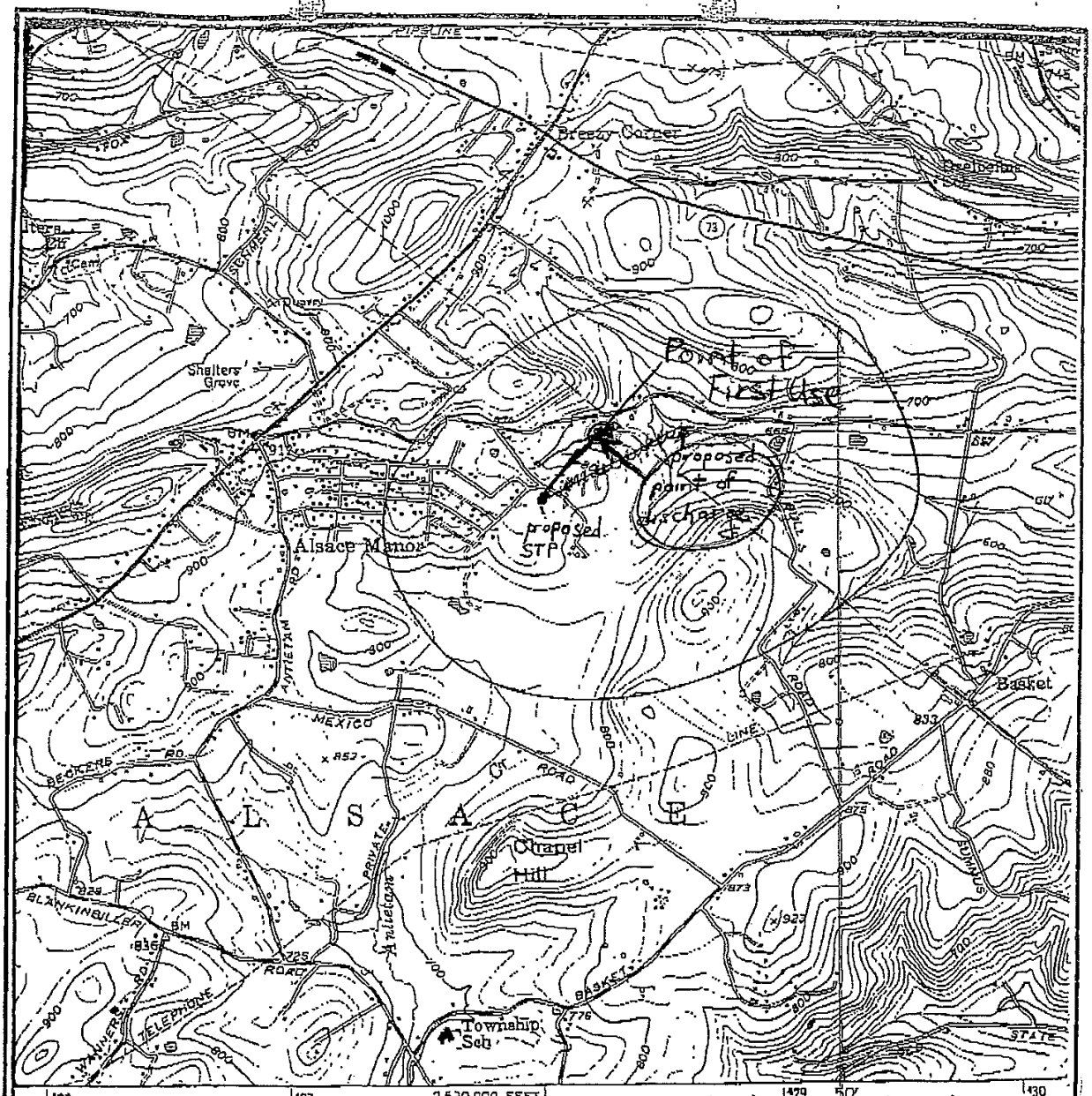
Collection Gear: Kick Screen ☒ D-Frame Net ☐ Other ☐

Taxa Collected

1. Perlidae - C
2. Peltoperlidae - C
3. Ameletidae - R
4. Tipulidae - P
5. Cambaridae - R
6. Limnephilidae - R
7. *Diplectrona* sp.- P
8. Nemouridae - C
9. Ephemerellidae - R
10. Salamander - R
11.
12.

CONCLUSIONS

22:53 FAX ALSACE TWP. STP ☑001



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ol by USGS and USC&GS

graphy from aerial photographs by multiplex methods
l photographs taken 1947. Field check 1956

onic projection. 1927 North American datum
00-foot grid based on Pennsylvania coordinate system, south zone
) meter Universal Transverse Mercator Grid ticks,
18, shown in blue

necked elevations are shown in brown

ions shown in purple compiled in cooperation
sylvania agencies from aerial photographs take
information not field checked

1000 0 1000

10' 178 MILS 0°32' 9 MILS

TO: Mary beth Lutteneger

From: Richard Huntzinger

Proposed Sewage Treatment plant + point of Stream discharge - Alsace Township

LUDGATE ENGINEERING CORPORATION