

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE


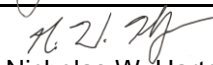
Application No. PA0229460
APS ID 1075342
Authorization ID 1416970

Applicant and Facility Information

Applicant Name <u>Abbott Township Potter County</u>	Facility Name <u>Abbott Township Potter County</u>
Applicant Address <u>1431 Germania Road</u> <u>Galeton, PA 16922-9445</u>	Facility Address <u>Rausch Rd(Sr 2001)</u> <u>Galeton, PA 16922-9445</u>
Applicant Contact <u>Jacob Hastings</u>	Facility Contact <u>Jacob Hastings</u>
Applicant Phone <u>(814) 435-2671</u>	Facility Phone <u>(814) 435-2671</u>
Client ID <u>113049</u>	Site ID <u>521623</u>
Ch 94 Load Status <u>Not Overloaded</u>	Municipality <u>Abbott Township</u>
Connection Status <u>No Limitations</u>	County <u>Potter</u>
Date Application Received <u>November 8, 2022</u>	EPA Waived? <u>Yes</u>
Date Application Accepted <u>November 14, 2022</u>	If No, Reason _____
Purpose of Application <u>Application for the renewal of the existing individual NPDES permit.</u>	

Summary of Review

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		 Jonathan P. Peterman / Project Manager	October 15, 2024
X		 Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	October 16, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.015
Latitude	41° 38' 42.73"	Longitude	-77° 39' 7.67"
Quad Name	Galeton	Quad Code	0524
Wastewater Description: Sewage Effluent			
Receiving Waters	Germania Branch (EV)	Stream Code	23936
NHD Com ID	61111471	RMI	4.3
Drainage Area	2.41 mi ²	Yield (cfs/mi ²)	0.039
Q ₇₋₁₀ Flow (cfs)	0.094	Q ₇₋₁₀ Basis	USGS Gage 01544500, Kettle Creek @ Cross Fork, Pa.
Elevation (ft)	1890	Slope (ft/ft)	0.05165
Watershed No.	9-B	Chapter 93 Class.	EV
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	Final	Name	Kettle Creek Watershed
Nearest Downstream Public Water Supply Intake		PA American Water Company	
PWS Waters	West Branch of Susquehanna River	Flow at Intake (cfs)	682
PWS RMI	10.5	Distance from Outfall (mi)	140

Treatment Facility Summary				
Treatment Facility Name: Abbott Township Sewer System				
WQM Permit No.	Issuance Date	Comments		
5302401	9/30/02	Original construction of treatment plant.		
5302401 A-1	3/31/03	Amendment to remove special conditions including the requirement to pump septic tank solids every three years.		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Septic Tank Sand Filter W/Sol Removal	Ultraviolet	0.015
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.015	31.9	Not Overloaded		

Changes Since Last Permit Issuance: None

Treatment at the facility consists of the following:

- Forty-two (42) septic tanks serving individual users.
- Two (2) Recirculating sand filters.
- One (1) Ultraviolet disinfection system.
- One (1) Wetland discharge.
- One (1) Outfall 001.

Hauled-in Wastes

The facility has not received any hauled-in waste in the past three years and has no intention of receiving any during the next permit term.

Chesapeake Bay Requirements

Since this facility's hydraulic design capacity is 0.015 MGD, the permittee will be required to monitor and report TN and TP throughout the permit term at a frequency no less than annually in accordance with the Phase III WIP Chesapeake Bay Strategy for Phase V facilities (0.002 MGD to 0.2 MGD) unless at least two of years of monitoring has already been completed. This sampling was conducted over the previous permit term and the yearly monitoring requirements for nutrients were removed. No further monitoring is required at this time. The monitoring results are attached in the Appendices.

Anti-Backsliding

In accordance with 40 CFR 122.44(l)(1) and (2), this permit does not contain effluent limitations, standards, or conditions that are less stringent than the previous permit.

Existing Effluent Limitations and Monitoring Requirements

Existing Limits – Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	3.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	3.1	5.0	XXX	25	40	50	2/month	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	1.9	2.9	XXX	15	23	30	2/month	Grab
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	2/month	Grab
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	2/month	Grab
Total Suspended Solids	2.5	3.8	XXX	20	30	40	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
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	Report	Report	XXX	Report	Report	XXX	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	1.4	2.1	XXX	11.0	16.5	23	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ultraviolet light dosage (mWsec/cm ²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Measured

*The existing effluent limits for Outfall 001 were based on a design flow of 0.015 MGD.

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	.015
Latitude	41° 38' 43.10"	Longitude	-77° 39' 7.50"
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)

Water Quality-Based Limitations

To establish whether or not water-quality based effluent limitations (WQBELs) are required, the Department models in-stream conditions. In order to determine limitations for CBOD₅, ammonia-N and dissolved oxygen, the Department utilizes the WQM 7.0 v1.0b model and in order to determine limitations for toxics, the Department utilizes the Toxics Management Spreadsheet (TMS).

WQM 7.0 for Windows, Version 1.0b, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen

Since there have been no changes to the watershed or the facility, the previous modeling results shall be utilized. The model was previously run using the Q7-10 stream flow, background water quality, average annual design flow, and other discharge characteristics. The existing technology based effluent limit (advanced treatment standards) for CBOD₅ (25 mg/l) and NH₃-N (25.0 mg/l) were used as inputs for the modeling. The DO minimum daily average criterion from §93.7 (3.0 mg/L) was used for the in-stream objective for the model. The summary of the output is as follows:

Parameter	Effluent Limit		
	30 Day Average	Maximum	Minimum
CBOD₅	25	--	--
Ammonia-N	11.69	23.38	--
Dissolved Oxygen	--	--	3

The previous model did not recommend more stringent water-quality based effluent limitations with regards to CBOD₅, ammonia-nitrogen, and dissolved oxygen compared to the existing effluent limits. Refer to the Appendix for the previous WQM 7.0 inputs and results. The existing effluent limits will remain.

Toxics Management Spreadsheet (TMS)

The Toxics Management Spreadsheet (TMS) was not utilized in this review as this is a minor sewage facility with no industrial users.

Best Professional Judgment (BPJ) Limitations

None.

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 the abovementioned 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) and/or BPJ.

Proposed Limits - 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	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	3.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	3.1	5.0	XXX	25	40	50	2/month	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	1.9	2.9	XXX	15	23	30	2/month	Grab
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	2/month	Grab
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	2/month	Grab
Total Suspended Solids	2.5	3.8	XXX	20	30	40	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
Ammonia-Nitrogen Nov 1 - Apr 30	Report	Report	XXX	Report	Report	XXX	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	1.4	2.1	XXX	11.0	16.5	23	2/month	Grab
Ultraviolet light dosage (mWsec/cm ²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Measured
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

*The proposed effluent limits for Outfall 001 were based on a design flow of 0.015 MGD.

Effluent Limit Determination for Outfall 001

General Information

All of the limits proposed above are consistent with other permits issued for major wastewater treatment plants in the region. The associated mass-based limits (lbs/day) for all parameters were based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34). All effluent limits were then rounded down in accordance with the rounding rules established in the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001), Chapter 5 - Specifying Effluent Limitations in NPDES Permits.

Flow

Reporting of the average monthly flow and daily maximum is consistent with monitoring requirements for other treatment plants of this size.

Carbonaceous Biochemical Oxygen Demand (CBOD₅)

The results of the WQM 7.0 model show that the previously applied secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for CBOD₅ are protective of water quality.

Total Suspended Solids (TSS)

The facility has existing TSS limits of 20 mg/L, 30 mg/L and 40 mg/L as monthly average, weekly max, and IMax, respectively due to the discharge to a EV watershed. These limits will remain.

pH

CFR Title 40 §133.102(c) and 25 PA Code §95.2(1) provide the basis of effluent limitations for pH. The existing limits will remain.

Fecal Coliforms

The existing fecal coliform limits with I-max limits were updated from the previous Chapter 92 code to correspond with what is specified in the updated 25 PA Code § 92a.47 (a)(4)&(5).

Ultraviolet light dosage (mjoules/cm²)

The existing permit has the permittee reporting UV Dosage in mjoules/cm². This was verified and corrected in the previous review cycle and will remain.

Dissolved Oxygen (DO)

Given results of the WQM 7.0 model, a discharge of effluent from this facility with a DO concentration of 3 mg/l would not result in an exceedance of water quality requirements for this stream. The existing effluent limit (3.0 mg/L) will be remain for this facility.

Influent BOD₅ and TSS

The Department requires the reporting of raw sewage influent monitoring for BOD₅ and TSS in all POTW permits. This provides the Department with the ability to monitor the percent removal of each parameter as stipulated in section 2 of the Part A conditions and maintain records of the BOD₅ loading as required by 25 Pa. Code Chapter 94. The monitoring frequencies and sample types are identical to the effluent sampling.

E. Coli

25 PA Code § 92a.61 provide the basis of monitoring requirements for E. Coli. Yearly monitoring will be required going forward.

Compliance History

Summary of Inspections -The last inspection of the facilities was conducted by the Department on 5/22/24 which reveals the facility was operating normally. No violations were noted.

WMS Query Summary - A WMS Query was run at *Reports - Violations & Enforcements – Open Violations for Client Report* to determine whether there are any unresolved violations associated with the client that will affect issuance of the permit (per CSL Section 609). This query revealed a failure to pay the annual fee. The operations section is currently working with the permittee in order to achieve compliance with this open violation. This will be resolved prior to permit issuance.

DMRs Summary - Upon review of the last year of DMR's, the facility appears to be operating within the given concentration limits.

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment A)
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment)
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment)
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input checked="" type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input checked="" type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input checked="" type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP:
<input type="checkbox"/>	Other:

Compliance History

DMR Data for Outfall 001 (from July 1, 2023 to June 30, 2024)

Parameter	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23
Flow (MGD) Average Monthly	0.006	0.0066	0.009	0.008	0.007	0.012	0.0069	0.0045	0.0033	0.0053	0.006	0.0055
Flow (MGD) Daily Maximum	0.008	0.011	0.023	0.015	0.020	0.028	0.011	0.008	0.006	0.010	0.010	0.15
pH (S.U.) Instantaneous Minimum	6.6	6.9	6.7	6.7	6.8	6.6	6.6	6.5	6.5	6.4	6.4	6.2
pH (S.U.) Instantaneous Maximum	7.0	7.0	7.3	6.8	7.1	7.0	6.9	6.9	6.6	6.9	6.6	6.5
DO (mg/L) Instantaneous Minimum	5.1	5.4	7.0	8.1	9.9	6.5	9.5	7.3	5.6	5.4	5.0	4.0
CBOD5 (lbs/day) Average Monthly	0.11	0.07	0.13	0.13	0.11	< 0.10	< 0.11	0.07	0.0642	0.056	0.081	0.07
CBOD5 (lbs/day) Weekly Average	0.13	0.07	0.18	0.16	0.15	< 0.12	< 0.13	0.11	0.083	0.067	0.13	0.10
CBOD5 (mg/L) Average Monthly	2.5	1.95	< 2.0	2.2	2.4	< 1.8	< 1.6	1.7	< 1.9	1.7	1.3	1.8
CBOD5 (mg/L) Weekly Average	3.0	2.2	< 2.0	2.4	2.9	< 2.1	< 1.6	1.7	2.0	2.0	1.6	2.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	1.1	1.9	0.89	1.6	1.2	1.52	0.97	1.4	0.87	0.95	0.88	0.82
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	1.6	3.1	1.0	1.9	2.0	2.2	1.0	2.2	1.4	1.2	1.0	0.96
BOD5 (mg/L) Raw Sewage Influent Average Monthly	27.0	53.6	17.3	28	26	25.8	13.4	29	24	28	17.5	23
BOD5 (mg/L) Raw Sewage Influent Daily Maximum	39.0	94.0	25.1	29	40	37.1	15.7	33.5	34	35	22.5	26.7
TSS (lbs/day) Average Monthly	0.19	0.15	0.25	0.24	< 0.18	< 0.23	< 0.29	0.18	0.13	0.13	0.23	0.16

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TSS (lbs/day) Raw Sewage Influent Average Monthly	0.36	2.82	0.50	0.52	0.31	0.35	0.41	0.94	0.70	1.2	0.43	0.40
TSS (lbs/day) Raw Sewage Influent Daily Maximum	0.38	5.3	0.67	0.70	0.38	0.47	0.48	1.4	1.0	1.8	0.83	0.60
TSS (lbs/day) Weekly Average	0.20	0.17	0.33	0.27	< 0.20	< 0.23	< 0.33	0.26	0.17	0.13	0.33	0.20
TSS (mg/L) Average Monthly	< 4.5	4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	4.5
TSS (mg/L) Raw Sewage Influent Average Monthly	8.5	83.5	10	10	7	6.0	5.5	20	20	35	7.0	10
TSS (mg/L) Raw Sewage Influent Daily Maximum	9.0	159	16	14	9	8.0	7.0	21	24	55	10.0	12
TSS (mg/L) Weekly Average	5.0	4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0
Total Nitrogen (mg/L) Daily Maximum							33.4					
Ammonia (lbs/day) Average Monthly	0.004	0.004	0.006	0.006	< 0.005	< 0.006	< 0.0075	0.023	0.0025	0.003	0.005	0.0037
Ammonia (lbs/day) Weekly Average	0.004	0.004	0.008	0.007	< 0.005	< 0.006	< 0.008	0.04	0.0042	0.003	0.008	0.005
Ammonia (mg/L) Average Monthly	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.38	< 0.10	0.10	< 0.10	0.10
Ammonia (mg/L) Weekly Average	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.65	< 0.10	0.10	< 0.10	0.10
Total Phosphorus (mg/L) Daily Maximum							6.2					
UV Dosage (mWsec/cm ²) Instantaneous Minimum	2.0	1.9	2.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

UV Dosage (mWsec/cm ²) Average Monthly	3.7	2.9	2.7	2.4	2.6	2.4	2.5	2.5	2.7	3.1	2.6	2.8
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APPENDIX A

PREVIOUS WQM 7.0 MODEL INPUT/OUTPUT

ATTACHMENT A

WQM 7.0 MODEL INPUTS & RESULTS

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
09B	23936	GERMANIA BRANCH	4.300	1890.00	2.41	0.00000	0.00	<input checked="" type="checkbox"/>

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)	pH	Stream Temp (°C)	pH
Q7-10	0.039	0.09	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	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
Abbott Township	PA0229460	0.0049	0.0150	0.0150	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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name	RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
09B	23936	GERMANIA BRANCH													
Q7-10 Flow															
			4.300	0.09	0.00	0.09	.0232	0.05165	.392	4.71	12.02	0.06	0.320	21.00	7.00
Q1-10 Flow															
			4.300	0.06	0.00	0.06	.0232	0.05165	NA	NA	NA	0.05	0.387	21.40	7.00
Q30-10 Flow															
			4.300	0.13	0.00	0.13	.0232	0.05165	NA	NA	NA	0.07	0.278	20.78	7.00

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>							
09B	23936	GERMANIA BRANCH							
NH3-N Acute Allocations									
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
4.300	Abbott Township	8.74	31.15	8.74	31.15	0	0		
NH3-N Chronic Allocations									
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
4.300	Abbott Township	1.81	11.69	1.81	11.69	0	0		
Dissolved Oxygen Allocations									
RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
4.30	Abbott Township	25	25	11.69	11.69	3	3	0	0

WQM 7.0 D.O. Simulation

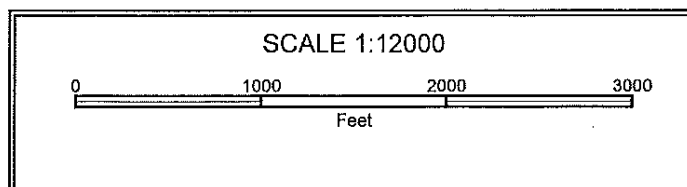
<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>			
09B	23936	GERMANIA BRANCH			
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
4.300	0.015	20.999		7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
4.710	0.392	12.019		0.063	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>	
6.59	1.051	2.33		0.756	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
7.196	19.715	Owens		6	
<u>Reach Travel Time (days)</u>	Subreach Results				
0.320	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>	
	0.032	6.36	2.28	7.59	
	0.064	6.14	2.22	7.82	
	0.096	5.93	2.17	7.95	
	0.128	5.72	2.12	8.03	
	0.160	5.52	2.07	8.09	
	0.192	5.33	2.02	8.09	
	0.224	5.14	1.97	8.09	
	0.256	4.96	1.92	8.09	
	0.288	4.79	1.88	8.09	
	0.320	4.62	1.83	8.09	

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
09B		23936	GERMANIA BRANCH				
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
4.300	Abbott Township	PA0229460	0.005	CBOD5	25		
				NH3-N	11.69	23.38	
				Dissolved Oxygen			3

APPENDIX B

FACILITY MAP AND SCHEMATIC



APPENDIX C

NITROGEN AND PHOSPHORUS SAMPLING RESULTS

PERMIT	WPF NAME	MONITORING START DATE	MONITORING END DATE	REPORT FREQUENCY	MONITORING LOCATION	PARAMETER	CONC UNITS	CONC 3 VALUE	CONC 3 LIMIT	CONC 3 SBC	SAMPLE FREQUENCY	SAMPLE TYPE
PA0229460	ABBOTT TWP SEW SYS	1/1/2021	12/31/2021	Annually	Final Effluent	Total Nitrogen	mg/L	16.2	Monitor and Report	Daily Maximum	1/year	Grab
PA0229460	ABBOTT TWP SEW SYS	1/1/2022	12/31/2022	Annually	Final Effluent	Total Nitrogen	mg/L	13.5	Monitor and Report	Daily Maximum	1/year	Grab
PA0229460	ABBOTT TWP SEW SYS	1/1/2023	12/31/2023	Annually	Final Effluent	Total Nitrogen	mg/L	33.4	Monitor and Report	Daily Maximum	1/year	Grab
PA0229460	ABBOTT TWP SEW SYS	1/1/2021	12/31/2021	Annually	Final Effluent	Total Phosphorus	mg/L	3.4	Monitor and Report	Daily Maximum	1/year	Grab
PA0229460	ABBOTT TWP SEW SYS	1/1/2022	12/31/2022	Annually	Final Effluent	Total Phosphorus	mg/L	3.9	Monitor and Report	Daily Maximum	1/year	Grab
PA0229460	ABBOTT TWP SEW SYS	1/1/2023	12/31/2023	Annually	Final Effluent	Total Phosphorus	mg/L	6.2	Monitor and Report	Daily Maximum	1/year	Grab