pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0083721**
Facility Type	**Non-Municipal**	APS ID	**839722**
Major / Minor	**Minor**	Authorization ID	**1247828**

Applicant and Facility Information

Applicant Name	**JAM 1124 LP**	Facility Name	**Paradise Homes Community**
Applicant Address	1045 Lake Road	Facility Address	Lake Road
	Spring Grove, PA 17326		York, PA 17403-4492
Applicant Contact	Alissa Barshinger	Facility Contact	
Applicant Phone	(717) 739-9319	Facility Phone	(717) 873-2817
Client ID	311277	Site ID	252436
Ch 94 Load Status	Not Overloaded	Municipality	Paradise Township
Connection Status	No Limitations	County	York
Date Application Received	October 3, 2018	EPA Waived?	Yes
Date Application Accepted	October 12, 2018	If No, Reason	
Purpose of Application	Renewal of existing NPDES Permit		

Summary of Review

JAM 1124, LP has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit for the Paradise Homes Community STP. The permit was last reissued to the Paradise Mobile Home Park on December 18, 2013 and became effective on January 1, 2014. The permit was transferred to JAM 1124, LP on May 23, 2014. The permit expired on December 31, 2018 but the terms and conditions of the permit have been administratively extended since that time.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted, and a notice of the draft permit be published in the *Pennsylvania Bulletin* for public comments for 30 days. A file review of documents associated with the discharge or permittee may be available at the PA DEP southcentral regional office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO file review coordinator at 717.705.4700.

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		Aaron Baar / PermitsSection	December 11, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.02
Latitude	39º 55' 2.10"	Longitude	-76º 55' 58.59"
Quad Name	Abbottstown	Quad Code	1930
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of Paradise Run (WWF)	Stream Code	N/A (to 08765)
NHD Com ID	57470733	RMI	0.12
Drainage Area	0.25 mi^2	Yield (cfs/mi^2)	0.01092
Q_{7-10} Flow (cfs)	0.00273	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	487.62	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION		
Source(s) of Impairment	CROP PRODUCTION (CROP LAND OR DRY LAND)		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Co.		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.51	Distance from Outfall (mi)	54.63

Drainage Area

The discharge is to UNT of Paradise Run at RMI 0.12. A drainage area upstream of the discharge point is determined to be 0.25 sq.mi. according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to StreamStats, this watershed has a Q_{7-10} of 0.00273 cfs and a drainage area of 0.25 mi^2, which results in a LFY of 0.01092 cfs/mi^2.

UNT of Paradise Run

UNT of Paradise Run is classified as a WWF waterway. Effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. The discharge is in a stream segment listed as attaining uses. No local TMDL has been taken into consideration during this review.

Public Water Supply Intake

The nearest downstream public water supply intake is the Wrightsville Water Supply Company intake located on the Susquehanna River. Considering the distance and nature of the discharge, the discharge is not expected to significantly affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream.

Treatment Facility Summary				
Treatment Facility Name: Paradise MHP				
WQM Permit No.	**Issuance Date**			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Extended Aeration	Hypochlorite	0.02
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.02	40	Not Overloaded	Aerobic Digestion	Other WWTP

JAM 1124, LP owns and operates the Paradise Homes Community sanitary wastewater treatment facility located in Paradise Township, York County. The facility serves only the Paradise Homes Community, all wastes are residential in nature, and all sewer systems are 100% separated. Having an annual average design flow of 0.02 MGD and a hydraulic design capacity of 0.02 MGD, this facility consists of two septic tanks, a grease trap, a bar screen, an EQ tank, three aeration tanks, secondary clarification, a chlorine contact tank, a dechlorination tank, a post-aeration tank and the outfall (Outfall 001). The facility utilizes sodium hypochlorite (disinfection), sodium sulfite (dechlorination) and soda ash (pH control). Solids are stored in a sludge holding tank for offsite disposal.

Compliance History	
Summary of DMRs:	A summary of past DMR data is presented on the next page.
Summary of Inspections:	Since the last NPDES permit renewal on December 18, 2013, there are records in the Department's File Room that the facility has been inspected two times. The notes from the inspections are as follows: 4/01/2014: Bob Haines, DEP Water Quality Specialist, conducted a routine inspection. No violations were noted. 2/11/2015: Bob Haines, DEP Water Quality Specialist, conducted a routine inspection. No violations were noted.

Other Comments: A records review revealed that there are no Clean Water open violations associated with this permitee.

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Compliance History

DMR Data for Outfall 001 (from November 1, 2018 to October 31, 2019)

Parameter	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18
Flow (MGD) Average Monthly	0.0076	0.0077	0.0079	0.0077	0.0081	0.0076	0.008	0.0086	0.011	0.009	0.009	0.009
Flow (MGD) Daily Maximum	0.0106	0.0114	0.0118	0.0102	0.0125	0.0181	0.0137	0.012	0.019	0.02	0.011	0.012
pH (S.U.) Minimum	7.6	7.7	7.7	7.6	7.5	7.1	7.4	7.3	7.1	7.3	7.5	7.6
pH (S.U.) Maximum	7.9	8.0	8.0	8.0	7.9	7.9	7.8	7.9	8.2	7.8	7.9	8.0
DO (mg/L) Minimum	8.6	8.5	8.4	8.0	8.3	8.6	9.2	10.0	10.0	10.4	9.0	9.1
TRC (mg/L) Average Monthly	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
TRC (mg/L) Instantaneous Maximum	0.03	0.01	0.03	0.04	0.05	0.03	0.03	0.03	0.02	0.03	0.04	0.03
CBOD5 (mg/L) Average Monthly	< 2.3	3.4	2.1	< 2.0	< 7.6	3.1	< 2.8	2.9	< 2.5	< 3.1	2	3
TSS (mg/L) Average Monthly	< 5.0	< 6.0	< 5.0	< 5.0	< 5.0	< 5.5	< 5.0	< 5.0	< 5.5	< 5.0	< 5	< 5
Fecal Coliform (CFU/100 ml) Geometric Mean	< 6	16	7	< 1	< 1	< 1	3	8	3	2	< 2	< 5
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	31	133	27	< 1	< 1	1	5	21	4	3	4	21
Nitrate-Nitrite (lbs/year) Total Annual											2225	
Nitrate-Nitrite (mg/L) Annual Average											81.2	
Total Nitrogen (lbs/year) Total Annual											< 2252	
Total Nitrogen (mg/L) Annual Average											< 82.2	

Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.2	0.1	0.2	< 0.1	< 0.2	< 0.1	< 0.5	0.2	< 0.1	< 0.2
TKN (lbs/year) Total Annual											< 27	
TKN (mg/L) Annual Average											< 1	
Total Phosphorus (lbs/year) Total Annual											238	
Total Phosphorus (mg/L) Annual Average											8.7	

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Existing Effluent Limitations and Monitoring Requirements

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	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.03	XXX	0.09	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	15	XXX	30	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-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
Nitrate-Nitrite	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Total Nitrogen	XXX	Report Daily Max	XXX	XXX	XXX	XXX	1/year	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	2/month	8-Hr Composite
TKN	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Total Phosphorus	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall 001

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .02
Latitude 39º 55' 10.07" **Longitude** -76º 56' 0.90"
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)
	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Total Suspended Solids	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)

Comments: These standards apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)

WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges.

The model output indicated that the existing summer WQBEL of 15 mg/L for CBOD5 and the existing summer WQBEL of 1.5 mg/L for NH3 are still appropriate. The model also indicated that the existing DO limit of 5 mg/L is not sufficient to protect water quality; a revised limit of 6.0 mg/l is proposed in this renewal. A review of the facility's DMR records indicates that the existing facility is already able to meet the new proposed DO limit.

The monitoring frequency and sample type for CBOD5, DO and ammonia are proposed to remain unchanged.

Total Residual Chlorine

Since chlorine is used for disinfection, Total Residual Chlorine (TRC) effluent levels must be regulated in accordance with 25 Pa Code §92a.48(b). DEP's TRC_CALC worksheet is utilized to determine if the existing BAT TBEL is still appropriate. The worksheet indicates that existing limits of 0.03 mg/L (average monthly) and 0.09 mg/L (IMAX) are no longer protective of water quality. New limits of 0.02 mg/L (average monthly) and 0.07 mg/L (IMAX) are proposed in this renewal. A review of the facility's DMR records indicates that the existing facility is already able to meet the new proposed TRC limit.

Toxics

DEP's NPDES permit application for minor sewages (less than 1.0 MGD) does not require sampling for heavy metals including Total Copper, Total Lead, and Total Zinc.

Best Professional Judgment (BPJ) Limitations

Total Phosphorus & Total Nitrogen

DEP's SOP no. BPNPSM-PMT-033 recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. These parameters are already included in the existing permit; only changes to the monitoring frequency are proposed (see below)

Additional Considerations

Flow Monitoring

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

Chesapeake Bay TMDL

The Department formulated a strategy in April 2007, to comply with the EPA's and Chesapeake Bay Foundation's requirements to reduce point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP) to the Bay. In the Strategy, sewage dischargers have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers received annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. Phase 4 (0.2 -0.4mgd) and Phase 5 (below 0.2mdg) facilities were required to monitor and report TN and TP during permit renewal at a monitoring frequency following Table 6-3 of DEP's Technical Guidance for Development and Specification of effluent Limitations (No. 362-0400-001).

EPA published the Chesapeake Bay Total Maximum Daily Load (TMDL) in December of 2010. Despite extensive restoration efforts during the past 25 years, the TMDL was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries.

In order to address the TMDL, Pennsylvania developed, in addition to the Bay Strategy, a Chesapeake Watershed Implementation Plan (WIP) Phase 1 in January 2011 and Phase 2 in March 2012. In accordance with the Phase 2 WIP and its supplement, re-issuing permits for significant dischargers follow the same phased approach formulated in the original Bay strategy, whilst Phase 4 and Phase 5 will be required to monitor and report TN and TP during permit renewal.

The Phase 2 WIP categorizes this facility as a phase 5 non-significant sewage facility that has a design flow less than 0.2 MGD but greater than 0.002 MGD. The WIP recommends monitoring and reporting for Total Nitrogen and Total Phosphorus throughout the permit term at a frequency no less than annual. The monitoring of these pollutants once every six months will be written in the permit in conformity with other permits issued in the region.

Monitoring Frequency and Sample Type

The facility currently is required to collect 8-hr composite effluent samples of non-Bay parameters twice a month, which is consistent with DEP Guidance 362-0400-001 (Table 6-3).

The monitoring frequency for Bay parameters is proposed to be increased in this permit from 1/year to once every six months in conformity with other permits issued in the region.

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.

Anti-backsliding Requirement

All effluent limits proposed in this fact sheet are as stringent as effluent limits specified in the existing permit renewal. This approach is in accordance with 40 CFR §122.44(l(1).

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	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.02	XXX	0.07	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	15	XXX	30	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-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
Nitrate-Nitrite	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite
Total Nitrogen	XXX	Report Daily Max	XXX	XXX	XXX	XXX	1/6 months	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	2/month	8-Hr Composite
TKN	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite
Total Phosphorus	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite

Compliance Sampling Location: Outfall 001

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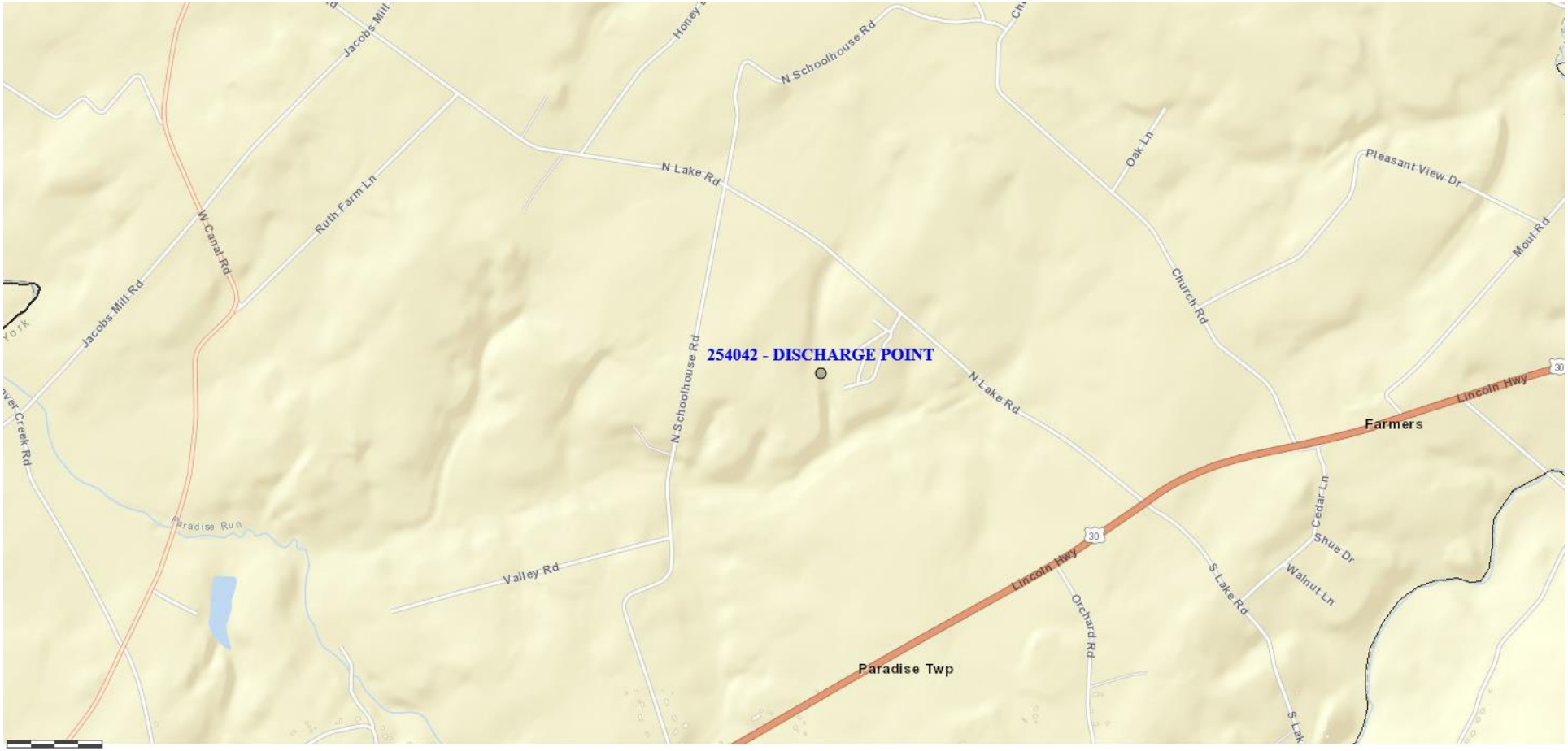

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☒	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other: