

Application Type Renewal
Facility Type Non-Municipal
Major / Minor Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0246387
APS ID 356641
Authorization ID 1479115

Applicant and Facility Information

Applicant Name <u>Rustic Meadows Inc.</u>	Facility Name <u>Rustic Meadows Campground</u>
Applicant Address <u>1980 Turnpike Road</u> <u>Elizabethtown, PA 17022-9542</u>	Facility Address <u>1980 Turnpike Road</u> <u>Elizabethtown, PA 17022-9542</u>
Applicant Contact <u>Karl Schmidt</u>	Facility Contact <u>Karl Schmidt</u>
Applicant Phone <u>(717) 367-7718</u>	Facility Phone <u>(717) 367-7718</u>
Client ID <u>160123</u>	Site ID <u>261205</u>
Ch 94 Load Status <u>Not Overloaded</u>	Municipality <u>West Donegal Township</u>
Connection Status <u>No Limitations</u>	County <u>Lancaster</u>
Date Application Received <u>April 3, 2024</u>	EPA Waived? <u>Yes</u>
Date Application Accepted <u>April 10, 2024</u>	If No, Reason _____
Purpose of Application <u>Individual NPDES Renewal.</u>	

Summary of Review

Rustic Meadows Inc. has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The existing permit was issued November 8, 2019, and became effective on December 1, 2019, authorizing discharge of treated sewage from the facility into UNT to Snitz Creek. The existing permit expiration date was November 30, 2024, and the permit has been administratively extended since that time.

Per the previous fact sheet, Rustic Meadows Campground is a recreational facility that contains 195 campsites, 5 mobile homes, 4 bathhouses, 2 primitive cabins, and a residential dwelling. The facility replaced on-lot disposal systems which served the existing dwelling and five mobile homes and campsites. The Water Quality Management permit was issued on January 22, 2003 for construction and operation of the 0.01215 million gallons per day (mgd) treatment plant (#3602416). This is a seasonal campsite where the WWTP is shut down for the winter.

Changes in this renewal: E. Coli monitoring has been added to the permit.

Sludge use and disposal description and location(s): Sludge holding tank with offsite disposal.

Supplemental information for this facility is provided at the end of this fact sheet.

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

Approve	Deny	Signatures	Date
X		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	January 24, 2025
X		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	January 28, 2025

Summary of Review

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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.01215
Latitude	40° 8' 8"	Longitude	76° 39' 26"
Quad Name		Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Snitz Creek (WWF)	Stream Code	9209
NHD Com ID	57463263	RMI	0.21
Drainage Area	0.2 mi ²	Yield (cfs/mi ²)	0.12
Q ₇₋₁₀ Flow (cfs)	0.024	Q ₇₋₁₀ Basis	USGS Gage # 01576500
Elevation (ft)	456	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	17

Changes Since Last Permit Issuance: A drainage area of 0.20 mi² and a Q₇₋₁₀ flow of 0.024 cubic feet per second (cfs) were determined by establishing a correlation to the yield of USGS Gage Station #01576500 on the Conestoga River. The Q₇₋₁₀ and drainage area at the gage are 38.6 cfs and 324 mi², respectively. These values are taken from the USGS document "Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania". The Q₇₋₁₀ runoff rate at the gage station was calculated as follows:

$$\text{Yield} = (38.6 \text{ cfs}) / 324 \text{ mi}^2 = 0.12 \text{ cfs/mi}^2$$

The drainage area at the discharge point, taken from USGS PA StreamStats = 0.20 mi²

The Q₇₋₁₀ at the discharge point = 0.20 mi² x 0.12 cfs/mi² = 0.024 cfs

The Q₇₋₁₀ is very low, and this receiving stream is considered a dry stream. It was determined in 1999 and 2001 by the Department's aquatic biologist that the point of first use is to be at the outfall with little to no dilution. This receiving stream flows about 1,000' prior to the main stem of Snitz Creek. Stringent effluent limitations have been applied to compensate for the lack of available assimilative capacity and to minimize the potential for nuisance conditions.

Other Comments: None

Treatment Facility Summary				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Ultraviolet	0.01215
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.01215	47	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments: The treatment process consists of: Bar Screen, Equalization Tank, Aeration Tank, Clarifier, Tertiary Sand Filters, UV Disinfection, Sludge Holding Tank, Outfall 001 to UNT to Snitz Creek

Compliance History	
Summary of DMRs:	A summary of past DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	5/4/21: A routine inspection was conducted. The clarifier had small pin floc throughout, and the surface was clear. The effluent trough appeared clear. The sand filter surfaces appeared free of debris and solids. The effluent from the UV disinfection appeared clear with a slight yellow tint. No other issues were noted.

Other Comments: There are currently no open violations associated with the Applicant.

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous 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	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	10	XXX	20	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6.0	2/month	Grab
Total Nitrogen	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Phosphorus	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Compliance History

DMR Data for Outfall 001 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
Flow (MGD) Average Monthly		0.00207	0.00238	0.00298	0.003	0.00278	0.00204	0.00256				
Flow (MGD) Daily Maximum		0.00479	0.00625	0.00520	0.008	0.00569	0.00562	0.00493				
pH (S.U.) Instantaneous Minimum		6.45	6.52	6.6	6.1	6.0	6.1	7.2				
pH (S.U.) Instantaneous Maximum		7.46	7.73	7.72	7.3	7.2	7.6	8.8				
DO (mg/L) Instantaneous Minimum		5.1	5.2	5.1	5.3	5.4	6.8	6.3				
CBOD5 (mg/L) Average Monthly		< 3.35	3.7	< 2.7	3.7	< 3.2	< 2.4	< 2.4				
CBOD5 (mg/L) Instantaneous Maximum		4.3	4.9	3	4	3.9	< 2.4	< 2.4				
TSS (mg/L) Average Monthly		5.5	7	4.5	2	2	3	8				
TSS (mg/L) Instantaneous Maximum		6	9	6	3	2	5	12				
Fecal Coliform (No./100 ml) Geometric Mean		2.83	< 1	< 1	< 1	< 2	< 10	< 1				
Fecal Coliform (No./100 ml) Instantaneous Maximum		8	< 1	< 1	1	4	104	< 1				
UV Transmittance (%) Instantaneous Minimum		19	35	38	50	54	71	86				
Total Nitrogen (lbs/day) Annual Average												< 1
Total Nitrogen (mg/L) Annual Average												< 58.9

Total Nitrogen (lbs) Total Annual												< 251
Ammonia (mg/L) Average Monthly		< 0.14	< 2.5	< 0.10	1.35	< 0.27	0.10	< 0.1				
Ammonia (mg/L) Instantaneous Maximum		0.18	4.9	< 0.10	2.4	0.44	0.10	< 0.1				
Total Phosphorus (lbs/day) Annual Average												0.05
Total Phosphorus (mg/L) Annual Average												2.5
Total Phosphorus (lbs) Total Annual												11

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Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	.01215
Latitude	40° 8' 8"	Longitude	76° 39' 26"
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

CBOD₅, NH₃-N

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.1b is a water quality model designed to assist DEP in determining appropriate water quality based effluent limits (WQBELs) for carbonaceous biochemical oxygen demand (CBOD₅), ammonia (NH₃-N) and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit renewal. The model output indicated a CBOD₅ average monthly limit of 25 mg/l, an NH₃-N average monthly limit of 4.59 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. The flow data used to run the model was acquired from USGS PA StreamStats and is included as an attachment. These limits are less stringent than the limits in the existing permit; therefore, the existing permit limits will remain in place.

There are no industrial/commercial users contributing industrial wastewater to the system and Rustic Meadows Inc. does not currently have an EPA-approved pretreatment program. Accordingly, evaluating reasonable potential of toxic pollutants is not necessary as effluent levels of toxic pollutants are expected to be insignificant.

CBOD₅ and TSS

The existing CBOD₅ and TSS limits were based on DEP's Dry Stream Guidance, Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers (ID# 391-2000-014). This guidance recommends limits for CBOD₅ and TSS of 10 mg/l as a monthly average, and states that seasonal adjustments should not be applied. This is consistent with the existing limits in the permit, which will remain in place.

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NH₃-N

The existing limit of 3.0 mg/l was based on the previous dry stream guidance (08/1997). An average monthly limit of 3.0 mg/l was necessary since this dry stream is nearby a recreational facility. This limit will remain in place in the renewal permit.

Dissolved Oxygen

A minimum D.O. limit of 5.0 mg/L is a D.O. water quality criterion found in 25 Pa. Code § 93.7(a). This limit is included in the existing NPDES permit based BPJ. It is still recommended to include this limit in the draft permit to ensure that the facility continues to achieve compliance with DEP water quality standards.

UV Monitoring

DEP's SOP No. BPNPSM-PMT-033 recommends at a minimum, routine monitoring of UV transmittance, dosage, or intensity when the facility is utilizing a UV disinfection system. The monitoring should occur at the same frequency as would be used for TRC. This recommendation was implemented as a part of the proper operation and maintenance requirement specified in Part B of the NPDES permit, requesting permittees to demonstrate the effectiveness of UV disinfection system. This approach has been assigned to other facilities equipped with similar technology. A parameter for UV Transmittance is included in the existing permit, and will remain in the renewal.

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the *Pennsylvania Chesapeake Watershed Implementation Plan* (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a *Phase 2 Watershed Implementation Plan Wastewater Supplement* (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on December 17, 2019, and is the basis for the development of any Chesapeake Bay related permit parameters. Sewage discharges have been prioritized based on their design flow to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual Cap Loads based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. For Phase 4 and 5 facilities, Cap Loads are not currently being implemented for renewed or amended permits for facilities that do not increase design flow.

This facility is considered a Phase 5 non-significant facility with a design flow less than 0.2 MGD but greater than 0.002 MGD. According to the Phase 3 WIP, TN and TP monitoring is recommended for this facility, which is consistent with the existing permit. TN monitoring and a TP limit are already included in the existing permit and will remain in the permit.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. This is consistent with the existing permit limits.

E. Coli

PA Code § 92a.61 requires IMAX reporting of E. Coli. Per DEP's SOP No. BCW-PMT-033, sewage dischargers with a design flow of 0.002 – 0.05 mgd will include E. Coli monitoring with a frequency of 1/year. This parameter has been added to the renewal permit.

Sampling Frequency & Sample Type

The monitoring requirements were established based on BPJ and/or Table 6-3 of DEP's Technical Guidance No. 362-0400-001.

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Anti-Degradation

The effluent limits for this discharge 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. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams

The discharge is located on a stream segment that is designated as attaining uses.

Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions are addressed by DEP in this fact sheet.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous 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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	10	XXX	20	2/month	Grab
TSS	XXX	XXX	XXX	10	XXX	20	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
Total Nitrogen	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Nitrogen (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6.0	2/month	Grab
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-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	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Phosphorus (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation

Compliance Sampling Location: Outfall 001

Other Comments: None

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment)
<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 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 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 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 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 checked="" 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 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 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 type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: BCW-PMT-033
<input type="checkbox"/>	Other:

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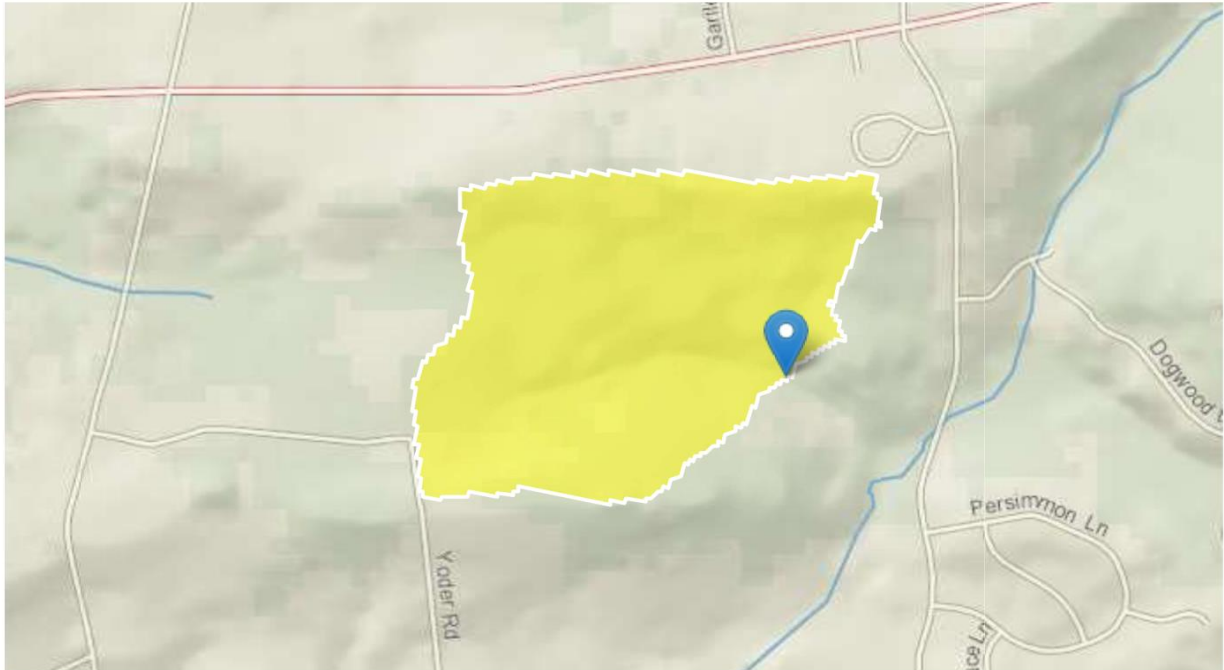
Rustic Meadows Inc. PA0246387 Outfall 001

Region ID: PA

Workspace ID: PA20250123183544577000

Clicked Point (Latitude, Longitude): 40.13576, -76.65646

Time: 2025-01-23 13:36:08 -0500



 Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.9725	degrees
DRNAREA	Area that drains to a point on a stream	0.2	square miles
ROCKDEP	Depth to rock	4	feet
URBAN	Percentage of basin with urban development	0	percent

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➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	3.9725	degrees	1.7	6.4
DRNAREA	Drainage Area	0.2	square miles	4.78	1150
ROCKDEP	Depth to Rock	4	feet	4.13	5.21
URBAN	Percent Urban	0	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0152	ft ³ /s
30 Day 2 Year Low Flow	0.0232	ft ³ /s
7 Day 10 Year Low Flow	0.00472	ft ³ /s
30 Day 10 Year Low Flow	0.0079	ft ³ /s
90 Day 10 Year Low Flow	0.016	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

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Application Version: 4.25.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

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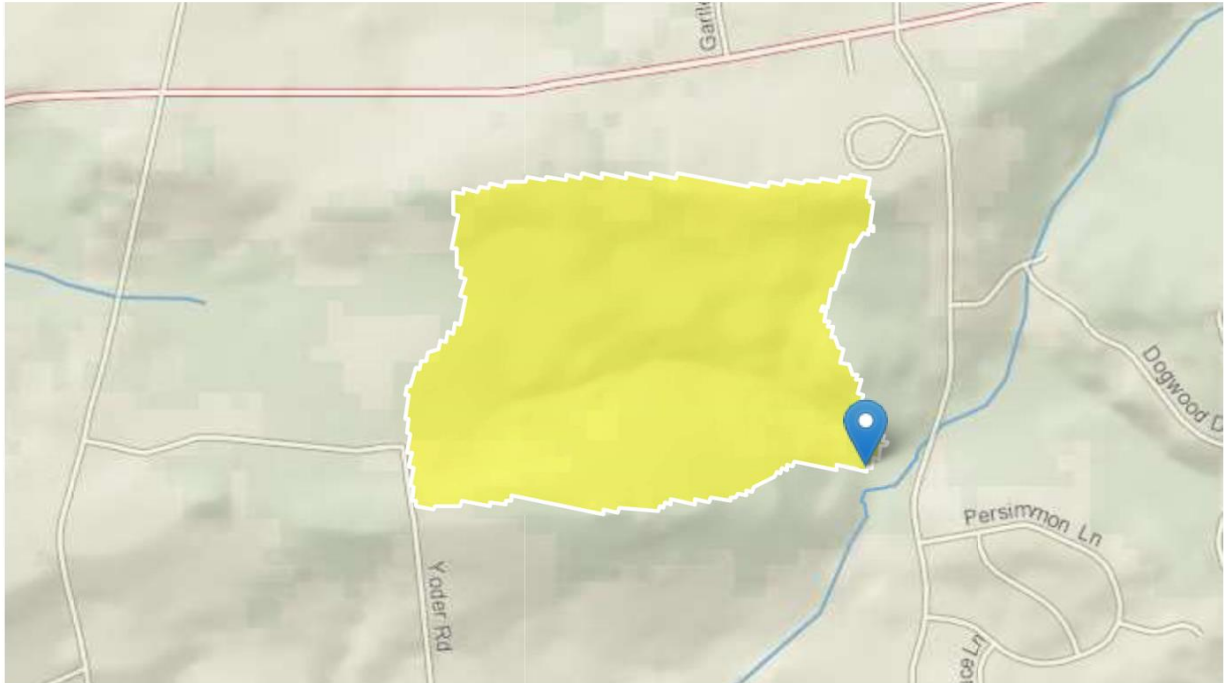
Rustic Meadows Inc. PA0246387 Downstream Pt. RMI = 0.0

Region ID: PA

Workspace ID: PA20250123200757262000

Clicked Point (Latitude, Longitude): 40.13418, -76.65436

Time: 2025-01-23 15:08:22 -0500



 Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.2274	degrees
DRNAREA	Area that drains to a point on a stream	0.23	square miles
ROCKDEP	Depth to rock	4	feet
URBAN	Percentage of basin with urban development	0	percent

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.2274	degrees	1.7	6.4
DRNAREA	Drainage Area	0.23	square miles	4.78	1150
ROCKDEP	Depth to Rock	4	feet	4.13	5.21
URBAN	Percent Urban	0	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0189	ft ³ /s
30 Day 2 Year Low Flow	0.0284	ft ³ /s
7 Day 10 Year Low Flow	0.00604	ft ³ /s
30 Day 10 Year Low Flow	0.00995	ft ³ /s
90 Day 10 Year Low Flow	0.0195	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

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Application Version: 4.25.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

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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
07G	9209	Trib 09209 to Snitz Creek	0.210	456.00	0.20	0.00000	0.00	<input checked="" type="checkbox"/>

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.100	0.00	0.02	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
Rustic Meadows	PA0246387	0.0121	0.0121	0.0121	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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Permit No. PA0246387

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
07G	9209	Trib 09209 to Snitz Creek	0.210	456.00	0.20	0.00000	0.00	<input checked="" type="checkbox"/>

Design Cond.	Stream Data											
	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)						Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.100	0.00	0.02	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
Rustic Meadows	PA0246387	0.0121	0.0121	0.0121	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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>			<u>Stream Name</u>							
07G		9209			Trib 09209 to Snitz Creek							
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
Q7-10 Flow												
0.210	0.02	0.00	0.02	.0188	0.02706	.317	2.29	7.24	0.06	0.218	22.20	7.00
Q1-10 Flow												
0.210	0.02	0.00	0.02	.0188	0.02706	NA	NA	NA	0.05	0.247	22.75	7.00
Q30-10 Flow												
0.210	0.03	0.00	0.03	.0188	0.02706	NA	NA	NA	0.07	0.196	21.83	7.00

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WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

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WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>					
07G		9209		Trib 09209 to Snitz Creek					
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		
	0.210 Rustic Meadows	13.34	24.25	13.34	24.25	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		
	0.210 Rustic Meadows	1.68	4.59	1.68	4.59	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)		
	0.21 Rustic Meadows	25	25	4.59	4.59	5	5	0	0

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WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>			
07G	9209	Trib 09209 to Snitz Creek			
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
0.210	0.012	22.196		7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
2.292	0.317	7.240		0.059	
<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>	
12.10	1.336	2.02		0.829	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
6.819	28.804	Owens		5	
<u>Reach Travel Time (days)</u>	Subreach Results				
0.218	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)	
	0.022	11.72	1.98	7.19	
	0.044	11.35	1.94	7.41	
	0.065	10.99	1.91	7.54	
	0.087	10.64	1.88	7.62	
	0.109	10.30	1.84	7.68	
	0.131	9.98	1.81	7.73	
	0.152	9.66	1.78	7.76	
	0.174	9.36	1.75	7.80	
	0.196	9.06	1.71	7.83	
	0.218	8.77	1.68	7.86	

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WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
07G		9209	Trib 09209 to Snitz Creek				
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)
0.210	Rustic Meadows	PA0246387	0.012	CBOD5	25		
				NH3-N	4.59	9.18	
				Dissolved Oxygen			5