pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0098523**
Facility Type	**Non-Municipal**	APS ID	**1076510**
Major / Minor	**Minor**	Authorization ID	**1419016**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Glen Meadows MHP LLC**	Facility Name	**Glen Meadow MHP**
Applicant Address	4007 Dean Martin Drive	Facility Address	1 Laurie Lane
	Las Vegas, NV 89103-4137		Washington, PA 15135
Applicant Contact	Kelly Thomas	Facility Contact	Tom Bibby
Applicant Phone	724-209-4442	Facility Phone	724-366-5184
Client ID	358257	Site ID	250399
Ch 94 Load Status	Not Overloaded	Municipality	Amwell Township
Connection Status	No Limitations	County	Washington
Date Application Received	December 1, 2022	EPA Waived?	Yes
Date Application Accepted	December 22, 2022	If No, Reason	

Purpose of Application: Renewal of the NPDES sewage Permit

Summary of Review

The permittee has applied for a renewal of NPDES Permit No. PA0098523 on December `1, 2022. NPDES Permit No. PA0098523was previously issued by the PA Department of Environmental Protection (DEP) on December 14, 2020 and expired on August 31, 2022.

The existing treatment process consists of extended aeration, final clarification, and ultraviolet disinfection.

The facility discharges to Little Tenmile Creek through outfall 001. Little Tenmile Creek is classified as Trout Stock Fishes (TSF) per Chapter 93 Designated Uses.

The applicant is currently enrolled in and will continue to use eDMR.

The applicant has complied with Act 14 Notifications and no comments were received.

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*

Approve	Deny	Signatures	Date
X		Jordan T Coldsmith Jordan Coldsmith / Environmental Engineering Specialist	April 13, 2023
x		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	May 8, 2023

Summary of Review
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)	.0367
Latitude	40º 7' 57.71"	Longitude	-80º 13' 49.37"
Quad Name	Washington East	Quad Code	40080B2
Wastewater Description:	Sewage Effluent		

Receiving Waters	Little Tenmile Creek (TSF)	Stream Code	40813
NHD Com ID	99410568	RMI	12.4
Drainage Area	0.3	Yield (cfs/mi^2)	0.007
Q_{7-10} Flow (cfs)	0.00197	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1332	Slope (ft/ft)	
Watershed No.	19-B	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	HABITAT ALTERATIONS, HABITAT ALTERATIONS, SILTATION, SILTATION		
Source(s) of Impairment	GRAZING IN RIPARIAN OR SHORELINE ZONES, GRAZING IN RIPARIAN OR SHORELINE ZONES, REMOVAL OF RIPARIAN VEGETATION, REMOVAL OF RIPARIAN VEGETATION		
TMDL Status	**None**	Name	**None**

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	TRI CNTY JT MUNI AUTH		
PWS Waters	Monongahela River (WWF)	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	28.0

Changes Since Last Permit Issuance: None

Other Comments: N/A

Treatment Facility Summary

Treatment Facility Name: Glen Meadow MHP

WQM Permit No.	Issuance Date
6370407 A-1 T-1	12/04/2020

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	UV	0.0367

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0367		Not Overloaded		Other WWTP

Changes Since Last Permit Issuance: None

Other Comments:

The existing treatment process consists of:

- extended aeration
- final clarification
- ultraviolet disinfection.

Compliance History

Operations Compliance Check Summary Report

Facility: Glen Meadows MHP STP

NPDES Permit No.: PA0098523

Compliance Review Period: 3/1/2018-4/17/2023

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
08/13/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
06/24/2021	Administrative/File Review	PA Dept of Environmental Protection	Administratively Closed
10/18/2019	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted
10/08/2019	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE	INSPECTED DATE
10/18/2019	92A.44	NPDES - Violation of effluent limits in Part A of permit	10/18/2019	10/18/2019
10/08/2019	302.202	Operator Certification - Failure to submit annual system fee	10/29/2019	10/08/2019

Open Violations by Client ID: No open violations noted for Client ID 358257 (Current) or Client ID 45124 (Previous)

Enforcement Summary:

ENF TYPE	ENF TYPE DESC	EXECUTED DATE	VIOLATIONS	AMOUNT RECEIVED	ENF FINAL STATUS
CACP	Consent Assessment of Civil Penalty	10/25/2019	92A.44	$8,000.00	Comply/Closed
NOV	Notice of Violation	10/08/2019	302.202		Comply/Closed

Effluent Violation Summary:

MON_PD_BEGIN	MON_PD_END	OUTFALL	PARAMETER	SAMPLE	PERMIT	UNIT	STAT_BASE_CODE
5/1/2019	5/31/2019	1	Ammonia-Nitrogen	10.1	2	mg/L	Average Monthly
5/1/2019	5/31/2019	1	Ammonia-Nitrogen	14.3	4	mg/L	Instantaneous Maximum
3/1/2018	3/31/2018	1	Ammonia-Nitrogen	4.7	3	mg/L	Average Monthly
3/1/2018	3/31/2018	1	Ammonia-Nitrogen	7.5	6	mg/L	Instantaneous Maximum
3/1/2018	3/31/2018	1	Total Suspended Solids	36	30	mg/L	Average Monthly
3/1/2018	3/31/2018	1	Total Suspended Solids	64	60	mg/L	Instantaneous Maximum

Compliance Status: Facility is currently in compliance with no outstanding violations or pending enforcements.

Completed by: Amanda Schmidt

Completed date: 4/17/23

Compliance History

DMR Data for Outfall 001 (from March 1, 2022 to February 28, 2023)

Parameter	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22
Flow (MGD) Average Monthly	0.012	0.015	0.014	0.014	0.015	0.014	0.012	0.014	0.009	0.014	0.013	0.016
pH (S.U.) Instantaneous Minimum	6.7	6.4	6.5	6.6	6.5	6.5	6.5	6.7	6.8	6.2	6.3	6.3
pH (S.U.) Daily Maximum	6.9	6.9	6.9	7.0	6.9	7.0	7.1	6.9	6.9	7.1	7.0	7.1
DO (mg/L) Instantaneous Minimum	5.3	5.5	5.6	5.9	5.5	5.6	5.3	5.6	5.6	5.6	5.3	5.5
CBOD5 (mg/L) Average Monthly	3.4	6.2	3.95	5.1	4.0	5.5	4.0	2.1	2.75	2.6	2.4	< 2.0
CBOD5 (mg/L) Instantaneous Maximum	4.7	8.0	4.5	5.6	4.5	8.3	5.2	2.2	3.0	2.9	2.8	< 2.0
TSS (mg/L) Average Monthly	16.0	9.5	< 5.0	< 5.0	6.0	7.0	5.5	10.5	< 5.0	5.5	6.0	15.0
TSS (mg/L) Instantaneous Maximum	25.0	10.0	< 5.0	< 5.0	7.0	9.0	6.0	16.0	< 5.0	6.0	7.0	25.0
Fecal Coliform (No./100 ml) Geometric Mean	3	53	16	2	118	12	89	2	4	134	16	7
Fecal Coliform (No./100 ml) Instantaneous Maximum	5	57	62	2	261	18	96	2	18	298	121	24
UV Transmittance (%) Average Monthly	100	100	100	100	91	90	88	100	100	80	89	100
Total Nitrogen (mg/L) Daily Maximum			32.91									
Ammonia (mg/L) Average Monthly	0.1	0.8	0.65	0.3	0.6	0.45	0.55	0.95	0.8	0.15	2.95	0.95
Ammonia (mg/L) Instantaneous Maximum	0.1	0.8	0.9	0.3	0.7	0.5	0.9	1.3	1.3	0.2	5.8	1.5
Total Phosphorus (mg/L) Daily Maximum			2.1									

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0367
Latitude 40º 7' 57.71" **Longitude** -80º 13' 49.37"
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

The discharge was evaluated using WQM7.0 to determine the $CBOD_5$, ammonia nitrogen, and dissolved oxygen parameters. The model results show slightly more restrictive limits for $CBOD_5$ and for summer ammonia-nitrogen Limits. The Limits evaluated for winter ammonia-nitrogen and DO are less restrictive than limits previously imposed.

To comply with anti-backsliding regulations, the previous, more restrictive limits for winter ammonia-nitrogen and DO, will again be imposed for the facility.

Parameter	Limit (mg/l)	SBC	Model
$CBOD_5$	25	Average Monthly	WQM7.0
Dissolved Oxygen	6.0	Minimum	WQM7.0
Ammonia Nitrogen (Nov 1 – Apr 30)	2.0 3.9	Average Monthly IMAX	WQM7.0
Ammonia Nitrogen (May 1 – Oct 31)	2.8 5.6	Average Monthly IMAX	WQM7.0

The facility has shown through submitted DMR data that they are capable of meeting the new Ammonia Nitrogen limit, so they will not receive a compliance schedule for this parameter. However, they have not shown that that they are capable of meeting the new limit for DO. Therefore, the facility will be receiving a compliance period of one year for DO and a schedule has been added to the NPDES Draft permit.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 **(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.**

The facility is not seeking to revise the previously permitted effluent limits.

Additional Considerations

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/year for facilities with design flows of 0.002 – 0.05 MGD.

An annual sampling frequency for total phosphorus and total nitrogen will again be imposed per 25 PA Code §92a.61.

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 End of Twelve (12) Months from Permit Effective 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	Daily Maximum	Instant. Maximum		
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab

Compliance Sampling Location: Outfall 001

Other Comments: N/A

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: Beginning of Thirteen (13) months 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	Daily Maximum	Instant. Maximum		
DO	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab

Compliance Sampling Location: Outfall 001

Other Comments: N/A

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	Instantaneous Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	2.0	XXX	3.9	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	2.0	XXX	4.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

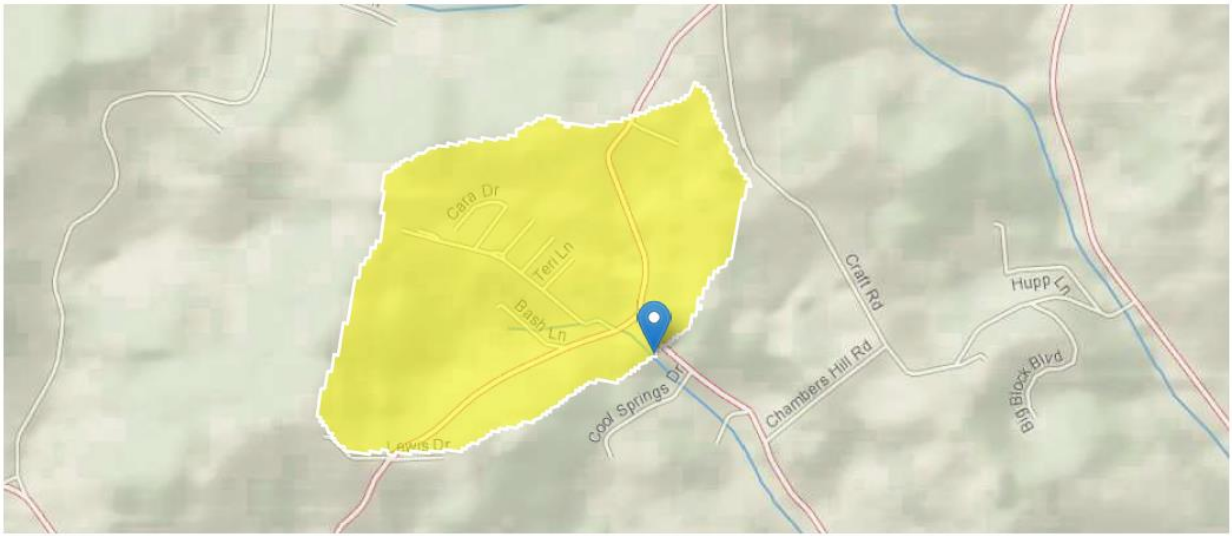
Compliance Sampling Location: Outfall 001

Other Comments: N/A

Attachment 1
Downstream and Upstream USGS StreamStats Report

StreamStats Report

Region ID: PA
Workspace ID: PA20230331195505795000
Clicked Point (Latitude, Longitude): 40.13266, -80.23036
Time: 2023-03-31 15:55:30 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.3	square miles
ELEV	Mean Basin Elevation	1332	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.3	square miles	2.26	1400
ELEV	Mean Basin Elevation	1332	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

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 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00777	ft^3/s
30 Day 2 Year Low Flow	0.016	ft^3/s
7 Day 10 Year Low Flow	0.00197	ft^3/s
30 Day 10 Year Low Flow	0.00467	ft^3/s

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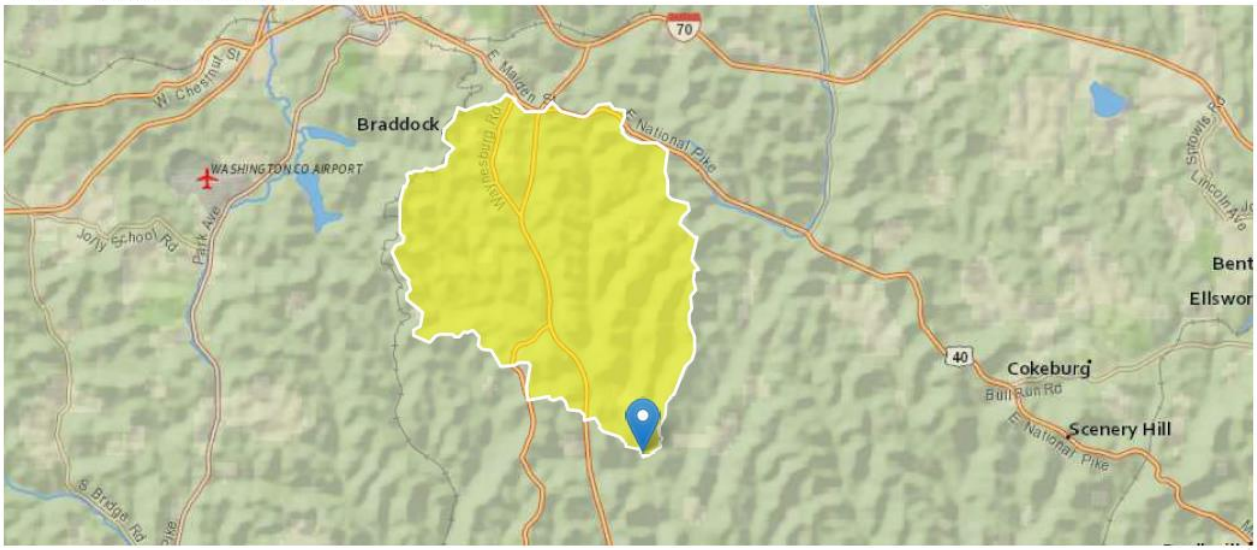
StreamStats Report

Region ID: PA
Workspace ID: PA20230404195338381000
Clicked Point (Latitude, Longitude): 40.08296, -80.17925
Time: 2023-04-04 15:54:06 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	13.3	square miles
ELEV	Mean Basin Elevation	1216	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.3	square miles	2.26	1400
ELEV	Mean Basin Elevation	1216	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.541	ft^3/s	43	43
30 Day 2 Year Low Flow	0.926	ft^3/s	38	38
7 Day 10 Year Low Flow	0.201	ft^3/s	66	66
30 Day 10 Year Low Flow	0.355	ft^3/s	54	54
90 Day 10 Year Low Flow	0.643	ft^3/s	41	41

Attachment 2
Summer WQM7 Modeling

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
19B	40813	LITTLE TENMILE CREEK	**12.400**	1332.00	0.30	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.007	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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
Glen Meadows	PA0098523	0.0367	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/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE CREEK

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
Q7-10 Flow												
12.400	0.00	0.00	0.00	.0568	0.00439	.335	3.16	9.44	0.06	5.517	20.17	7.00
Q1-10 Flow												
12.400	0.00	0.00	0.00	.0568	0.00439	NA	NA	NA	0.06	5.554	20.11	7.00
Q30-10 Flow												
12.400	0.00	0.00	0.00	.0568	0.00439	NA	NA	NA	0.06	5.480	20.23	7.00

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WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE 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
12.400	Glen Meadows	16.61	16.98	16.61	16.98	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
12.400	Glen Meadows	1.86	1.95	1.86	1.95	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
12.40	Glen Meadows	25	25	1.95	1.95	6	6	0	0

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WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
12.400	0.037	20.168	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
3.164	0.335	9.439	0.055
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.23	0.449	1.88	0.709
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.075	23.683	Owens	6
Reach Travel Time (days)			
5.517			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.552	18.88	1.27	8.22
1.103	14.71	0.86	8.22
1.655	11.46	0.58	8.22
2.207	8.93	0.39	8.22
2.758	6.96	0.27	8.22
3.310	5.42	0.18	8.22
3.862	4.23	0.12	8.22
4.413	3.29	0.08	8.22
4.965	2.57	0.06	8.22
5.517	2.00	0.04	8.22

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE 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)
12.400	Glen Meadows	PA0098523	0.037	CBOD5	25		
				NH3-N	1.95	3.9	
				Dissolved Oxygen			6

Attachment 3
Winter WQM7 Modeling

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
19B	40813	LITTLE TENMILE CREEK	**12.400**	1332.00	0.30	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.014	0.00	0.00	0.000	0.000	0.0	0.00	0.00	5.00	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
Glen Meadows	PA0098523	0.0367	0.0000	0.0000	0.000	15.00	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	4.00	12.51	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
19B	40813	LITTLE TENMILE CREEK

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
Q7-10 Flow												
12.400	0.00	0.00	0.00	.0568	0.00439	.335	3.16	9.44	0.06	5.517	14.66	7.00
Q1-10 Flow												
12.400	0.00	0.00	0.00	.0568	0.00439	NA	NA	NA	0.06	5.554	14.78	7.00
Q30-10 Flow												
12.400	0.00	0.00	0.00	.0568	0.00439	NA	NA	NA	0.06	5.480	14.55	7.00

Permit No. PA0098523

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE 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
12.400	Glen Meadows	24.1	24.64	24.1	24.64	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
12.400	Glen Meadows	2.68	2.81	2.68	2.81	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
12.40	Glen Meadows	25	25	2.81	2.81	6	6	0	0

Permit No. PA0098523

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
12.400	0.037	14.665	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
3.164	0.335	9.439	0.055
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.23	0.578	2.71	0.464
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.218	20.785	Owens	6
Reach Travel Time (days)			
5.517			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.552	18.88	2.10	9.16
1.103	14.71	1.63	9.16
1.655	11.46	1.26	9.16
2.207	8.93	0.97	9.16
2.758	6.96	0.75	9.16
3.310	5.42	0.58	9.16
3.862	4.23	0.45	9.16
4.413	3.29	0.35	9.16
4.965	2.57	0.27	9.16
5.517	2.00	0.21	9.16

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19B	40813	LITTLE TENMILE 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)
12.400	Glen Meadows	PA0098523	0.037	CBOD5	25		
				NH3-N	2.81	5.62	
				Dissolved Oxygen			6