

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0239721
APS ID 911283
Authorization ID 1372300

Applicant and Facility Information

Applicant Name	<u>Bear Creek Watershed Authority</u>	Facility Name	<u>Fairview STP</u>
Applicant Address	<u>258 Argyle Street</u> <u>Petrolia, PA 16050</u>	Facility Address	<u>Fairview STP Washington Street</u> <u>Petrolia, PA 16050</u>
Applicant Contact	<u>Thomas McElravy</u>	Facility Contact	<u>Chris Dunmyre, Operator</u>
Applicant Phone	<u>(724) 756-4600</u>	Facility Phone	<u>724-756-0600</u>
Applicant E Mail	<u>bearcreekwater@zoominternet.net</u>	Facility E Mail	<u></u>
Client ID	<u>62798</u>	Site ID	<u>724612</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Fairview Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Butler</u>
Received	<u>October 12, 2021</u>	EPA Waived?	<u>Yes</u>
Accepted	<u>October 18, 2021</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES renewal</u>		

Summary of Review

No current violations reported. The facility serves Fairview Township with a 109-person population for 36% of the total population served and Fairview Borough with a 198-person population for 64% of the total population served with 100% separate sanitary sewers.

Sludge is sent to the Petrolia STP for final treatment and disposal.

The WQM permit design and WLMR design flows do not match. The WQM permit design flow is lower at 0.0263-MGD than the WLMR 0.0299-MGD design flow.

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		<i>William H. Mentzer</i> William H. Mentzer, P.E. Environmental Engineering Specialist	January 5, 2023
X		<i>Vacant</i> Environmental Engineer Manager	Okay to Draft JCD 1/11/2023

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.0263
Latitude DP	41° 1' 5.57"	Longitude DP	-79° 45' 8.95"
Latitude NHD	41° 1' 5.95"	Longitude NHD	-79° 45' 8.18"
Quad Name	Hilliards	Quad Code	1007
Wastewater Description:	Municipal sanitary wastes		
Receiving Waters	Unnamed Tributary of Bear Creek	Stream Code	49189
NHD Com ID	123860110	RMI	0.2200
Drainage Area	0.2	Yield (cfs/mi ²)	0.048
Q ₇₋₁₀ Flow (cfs)	0	Q ₇₋₁₀ Basis	dry stream
Elevation (ft)	1240.03	Slope (ft/ft)	0.00042
Watershed No.	17-C	Chapter 93 Class.	CWF
Existing Use	Statewide	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	Confluence tributary 49188 RMI 0.27 Drainage 0.9-square mile, Elevation 1163.92 ft Confluence Bear Creek RMI 9.02 Drainage 13.3-square mile Elevation 1130.53 ft		
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Background/Ambient Data		Data Source	
Ph (SU)			
Temperature (°C)	20	CWF default	
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake	Butler District Pennsylvania-American Water Company		
PWS Waters	Allegheny River	Flow at Intake (cfs)	NA
PWS RMI	69.9	Distance from Outfall (mi)	22.38

Changes Since Last Permit Issuance: none

Other Comments: Supplemental water transfer point.

Treatment Facility Summary				
Treatment Facility Name: Bear Creek Watershed Authority – Fairview STP				
WQM Permit No.		Issuance Date		
1083403		25 August 1983		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.0263
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0263	72	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: none

Other Comments: none

	Flow MGD	BOD5 PPD			
Annual Average Design	0.0263	72			
Hydraulic Design	0.0263				
Annual Average	2018 0.0250				
	2019 0.021				
	2020 0.020				
Previous Year Max	March 0.027				
Ph			7.21	7.82	1460
TRC				0.22	1.29
F Coliform				285.3	2000
CBOD5				5.34	11
TSS				7.85	17
NH3N				2.14	6.82
N				3.15	59.54
P				3.56	5.94

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Chemicals Used

Calcium Oxide (lime) for Ph adjustment
Calcium hypochlorite for disinfection.

Sludge

4.23 dry tons removed last year to Dalton’s Processing Facility in Bever County for landfill disposal.

No significant users reported.

Compliance History

DMR Data for Outfall 001 (from September 1, 2020 to August 31, 2021)

Parameter	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20
Flow (MGD) Ave Mon	0.0298	0.0201	0.0186	0.0192	0.0167	0.0193	0.0185	0.0212	0.0216	0.0197	0.0239	0.0144
Flow (MGD) Weekly A	0.0307	0.0234	0.0193	0.0186	0.0186	0.0207	0.0198	0.0269	0.0243	0.0321	0.0485	0.0369
Ph (S.U.) Minimum	7.52	7.49	7.47	7.43	7.47	7.40	7.38	7.37	7.27	7.26	7.21	7.41
DO (mg/L) Minimum	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
TRC (mg/L) Ave M	0.32	0.35	0.31	0.23	0.21	0.22	0.23	0.26	0.23	0.22	0.24	0.3
CBOD5 (ppd) Ave M	1.8	0.7	0.7	1.0	1.3	1.29	1.3	0.48	1.1	0.95	1.16	0.38
CBOD5 (lbs/day) Weekly Average	2.9	1.0	0.7	1.1	1.7	1.79	1.4	0.99	1.4	1.07	1.65	1.81
CBOD5 (mg/L) Ave M	7.4	4.0	4.2	6.5	9.2	7.99	8.4	2.7	6.3	5.8	5.83	3.15
CBOD5 (mg/L) Weekly Average	11.5	5.0	4.3	6.9	10.9	9.90	8.7	4.4	6.7	6.5	8.27	5.9
BOD5 (ppd) Influent Average Monthly	84.7	4.7	51.0	235.5	23.6	17.9	45.7	33.9	23.4	33.5	55.7	27.4
BOD5 (ppd) Influent Daily Maximum	134.7	7.0	69.1	29.4	32.9	30.6	49.4	45.8	26.5	43.5	61.2	78.5
BOD5 (mg/L) Influent Average Monthly	341	28	329	159.5	170	111	296	191.5	130	208	280	228
TSS (ppd) Average M	2.1	0.5	0.9	0.8	0.8	0.4	1.3	1.03	1.3	1.1	0.7	1.0
TSS (lbs/day) Influent Average Monthly	89.7	14.2	47.3	26.3	26.7	15.9	54.9	22.6	17.9	44.9	66.4	23.0
TSS (lbs/day) Influent Daily Maximum	182	31.6	65.9	29.2	30.1	30.0	72.0	46.7	27.2	48.2	84.5	61.9
TSS (ppd) Weekly A	3.3	1.1	1.7	1.2	1.2	0.8	1.5	1.61	1.7	1.8	0.8	2.7
TSS (mg/L) Ave M	8.4	3.1	5.8	5.0	6.0	2.2	8.4	5.8	7.1	6.4	3.5	8.5
TSS (mg/L) Influent Average Monthly	361	85	305	164	192	99	356	128	100	273.5	333.0	192
TSS (mg/L) Weekly A	12.8	5.6	10.4	8.0	7.6	4.4	9.2	7.2	8.4	6.8	4.0	9.0
Fecal Coliform (#/100 ml) Geo Mean	100	100	110	100	159	126	1056	1224	412	1414	570	84
Total Nitrogen (mg/L) Average Monthly	7.6	1.2	1.9	0.5	2.14	2.4	6.3	3.55	6.0	2.84	5.6	1.82
Ammonia (ppd) Ave M	1.4	0.07	0.1	0.05							0.007	0.7
Ammonia (mg/L) Average Monthly	5.3	0.4	0.9	0.3	0.7	5.2	5.9	0.6	3.8	2.7	0.34	5.8
Total Phosphorus (mg/L) Average Mon	4.3	3.1	4.5	2.79	3.9	2.7	4.8	2.39	4.9	3.19	5.35	5.82

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>0.0263</u>
Latitude <u>41° 1' 5.57"</u>	Longitude <u>-79° 45' 8.95"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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©	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)
DO	4.0	Daily Minimum		BPJ
E Coli	Report			BPJ

Comments:

Treatment was evaluated in 1983 and 1985 resulting in 0.0263 and 0.0299-MGD design flows.

	0.0263 MGD WQM Permit		0.0299-MGD WLMR				
	Monthly Average PPD	Weekly Average PPD	Monthly Average PPD	Weekly Average PPD	Monthly Average mg/L	Weekly Average mg/L	Daily Maximum mg/L
CBOD ₅	5.5	8.8	6.2	10.0	25.0	40.0	50.0
TSS	6.6	9.9	7.5	11.1	30.0	45.0	60.0

The 0.0299-MGD design flow is not supported by the WQM permit as the WQM application design flow is lower at 0.0263-MGD.

Mass loading should be based on the WQM permit 0.0263-MGD design flow.

Water Quality-Based Limitations

A sewage based "Reasonable Potential Analysis determined the following parameters were candidates for limitations: BOD₅, CBOD₅, TSS, Ammonia-nitrogen, nitrogen, phosphorus, TRC and pH.

Phosphorus and nitrogen monitoring has been implemented.

As the discharge is to an intermittent dry stream no chlorine requirements are necessary to protect aquatic life.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Period	Limit (mg/l)		SBC	Model		
CBOD ₅		25.0	50.0	NQ		25.0	50.0
TSS		30.0	60.0	NA		30.0	60.0
Ammonia Nitrogen	Summer	13.0	26.0	NA			
DO		4.0		NA	4.0		

Comments: Retention of existing requirements proposed. Ammonia limits are based on WQM6.3 modelling

Best Professional Judgment (BPJ) Limitations

Comments: DO only

Anti-Backsliding

Backsliding is not necessary for compliance.

1A	B	C	D	E	F	G	H	I	J	K	L	M
	Discharger Site		Fairview Borough						Revised		Wednesday, December 15, 2021	
	Municipality		Fairview STP								Thursday, January 5, 2023	
	County		Fairview Township									
	NPDES Permit		Butler									
	0.5		PA0239721									
2	TRC EVALUATION											
3	Input appropriate values in B4:B8 and E4:E7											
4	0.6048	= Q stream (cfs)				0.5	= CV Daily					
5	0.0290	= Q discharge (MGD)				0.5	= CV Hourly					
6	30	= no. samples				1	= AFC_Partial Mix Factor					
7	0.3	= Chlorine Demand of Stream				1	= CFC_Partial Mix Factor					
8	0	= Chlorine Demand of Discharge				15	= AFC_Criteria Compliance Time (min)					
9	0	= BAT/BPJ Value				720	= CFC_Criteria Compliance Time (min)					
		= % Factor of Safety (FOS)					= Decay Coefficient (K)					
10	Source		Reference		AFC Calculations			Reference		CFC Calculations		
11	TRC		1.3.2.iii		WLA afc = 4.320			1.3.2.iii		WLA cfc = 4.204		
12	PENTOXSD TRG		5.1a		LTAMULT afc = 0.373			5.1c		LTAMULT cfc = 0.581		
13	PENTOXSD TRG		5.1b		LTA_afc = 1.610			5.1d		LTA_cfc = 2.444		
14	Source		Effluent Limit Calculations									
15	PENTOXSD TRG		5.1f		AML MULT = 1.231							
16	PENTOXSD TRG		5.1g		↓ LIMIT (mg/l) = 0.500			BAT/BPJ				
17						↓ LIMIT (mg/l) = 1.635						
18												
	WLA afc		$(0.19/e^{-(k \cdot AFC_tc)}) + [(AFC_Yc \cdot Qs \cdot 0.019 / Qd) \cdot e^{-(k \cdot AFC_tc)}] \dots$									
	LTAMULT afc		$\dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd) \cdot (1 - FOS / 100)$									
	LTA_afc		$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$									
	WLA_cfc		$(0.11/e^{-(k \cdot CFC_tc)}) + [(CFC_Yc \cdot Qs \cdot 0.11 / Qd) \cdot e^{-(k \cdot CFC_tc)}] \dots$									
	LTAMULT_cfc		$\dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd) \cdot (1 - FOS / 100)$									
	LTA_cfc		$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$									
	AML MULT		$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$									
	AVG MON LIMIT		$MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) \cdot AML_MULT)$									
	INST MAX LIMIT		$1.5 \cdot ((av_mon_limit \cdot AML_MULT) / LTA_afc)$									
	$(0.011 / EXP(-k \cdot CFC_tc / 1440)) + (((CFC_Yc \cdot Qs \cdot 0.011) / (1.547 \cdot Qd)) \dots$ $\dots \cdot EXP(-k \cdot CFC_tc / 1440)) + Xd + (CFC_Yc \cdot Qs \cdot Xs / 1.547 \cdot Qd) \cdot (1 - FOS / 100)$											
	Stream	Chlorine Required	=	perennial	Chlorine Demand	+	Chlorine Residual					
	Stream	Reach/Node	3	1	2	3						
	Stream	Flow	Conditions	dry	dry	perennial						
	Stream	Code		49189	49188	49116						
	Stream	Function										
	Samples			30	30	30						
	reach	outfall	RMI	0.21	0.27	8.66						
	reach	Reach End	RMI	0	0	0						
	reach		feet	1108.8	1425.6	45724.8						
	drainage		sq miles	0.23	0.85	13.9						
	TRC	limitation	average	mg/L	0.041	0.129	0.500					
			maximum	mg/L	0.135	0.423	1.600					
	elevation	modelled	feet	1240.03	1148.11	1125.99						
	elevation	modelled	feet	1148.11	1125.99	1038.76						
	slope	modelled	foot/foot	0.083	0.016	0.002						
	low flow		cfs/sq mi	0.044	0.044	0.044						
	discharge		mgd	0.0290	0.0290	0.0290						
	Runoff	Period	hours	24.000	24.000	24.000						
	Two node dry stream discharge. Perennial stream flow at Bear Creek. No aquatic life impairment expected at perennial stream conditions.											
	stream	flow	cfs	0.01001	0.03699	0.60483						
	stream	flow	MGD	0.006468	0.023905	0.390909						
	stream	flow	total	MGD	0.035468	0.052905	0.419909					
	stream	chlorine	demand	mg/L	0.3	0.3						
	discharge	discharge	demand	mg/L								
	stream	Total Stream/Waste	ratio	1.2	1.8	14.5						
	PaGIS map and NHD place the discharge at RMI 0.34. This is approximately 1000 feet above tributary 62717 and perennial stream conditions.											
	permitted	TRC	mean	BAT	0.5	0.5	0.5					
	permitted	TRC	maximum	BAT	1.6	1.6	1.6					
	B	C	D	E	F	G	H	I	J	K	L	M

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
17C		49116		BEAR 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)
9.017	Fairview T	PA0239721d	0.030	CBOD5	5.93		
				NH3-N	7.41	14.82	
				Dissolved Oxygen			7

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
17C	49116	BEAR CREEK		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
9.017	0.030	20.366	6.920	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
14.679	0.497	29.520	0.087	
<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>	
2.29	0.244	0.64	0.720	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
8.152	15.467	Owens	5	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.252	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.025	2.27	0.62	8.24
	0.050	2.26	0.61	8.24
	0.076	2.25	0.60	8.24
	0.101	2.23	0.59	8.24
	0.126	2.22	0.58	8.24
	0.151	2.20	0.57	8.24
	0.176	2.19	0.56	8.24
	0.201	2.18	0.55	8.24
	0.227	2.16	0.54	8.24
	0.252	2.15	0.53	8.24

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
17C	49116	BEAR CREEK	9.017	1130.53	13.30	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

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	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.90	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
Fairview T	PA0239721d	0.0299	0.0299	0.0299	0.000	25.00	7.30

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	5.93	2.00	0.00	1.50
Dissolved Oxygen	7.00	8.24	0.00	0.00
NH3-N	7.41	0.10	0.00	0.70

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
17C	49116	BEAR CREEK	8.660	1125.99	13.90	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

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	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	69.00	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
Fairview T	PA0239721b	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	2.08	2.00	0.00	1.50
Dissolved Oxygen	8.24	8.24	0.00	0.00
NH3-N	0.10	0.10	0.00	0.70

WQM 7.0 Wasteload Allocations

SWP Basin Stream Code Stream Name
17C 49116 BEAR 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
9.017	Fairview T	16.98	14.82	16.98	14.82	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
9.017	Fairview T	1.91	7.41	1.91	7.41	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)		
9.02	Fairview T	5.93	5.93	7.41	7.41	7	7	0	0

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	95.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
17C		49116				BEAR CREEK						
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc 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												
9.017	0.59	0.00	0.59	.0463	0.00241	.497	14.68	29.52	0.09	0.252	20.37	6.92
Q1-10 Flow												
9.017	0.37	0.00	0.37	.0463	0.00241	NA	NA	NA	0.07	0.316	20.55	6.93
Q30-10 Flow												
9.017	0.80	0.00	0.80	.0463	0.00241	NA	NA	NA	0.10	0.214	20.27	6.91

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
17C	49116	BEAR CREEK	9.017	1130.53	13.30	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.90	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
Fairview T	PA0239721d	0.0299	0.0299	0.0299	0.000	25.00	7.30

Parameter Data				
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	5.93	2.00	0.00	1.50
Dissolved Oxygen	7.00	8.24	0.00	0.00
NH3-N	7.41	0.10	0.00	0.70

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
17C	49116	BEAR CREEK	8.660	1125.99	13.90	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

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	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	69.00	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
Fairview T	PA0239721b	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	2.08	2.00	0.00	1.50
Dissolved Oxygen	8.24	8.24	0.00	0.00
NH3-N	0.10	0.10	0.00	0.70

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
17C	49116	BEAR CREEK	9.017	1130.53	13.30	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		Stream	
									Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.90	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
Fairview T	PA0239721d	0.0299	0.0299	0.0299	0.000	25.00	7.30

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	5.93	2.00	0.00	1.50
Dissolved Oxygen	7.00	8.24	0.00	0.00
NH3-N	7.41	0.10	0.00	0.70

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
17C	49116	BEAR CREEK	8.660	1125.99	13.90	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	69.00	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
Fairview T	PA0239721b	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	2.08	2.00	0.00	1.50
Dissolved Oxygen	8.24	8.24	0.00	0.00
NH3-N	0.10	0.10	0.00	0.70

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
17C	49189	Trib 49189 of Bear Creek

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
17C	49189	Trib 49189 of Bear Creek		
<hr/>				
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
0.210	0.029	24.080	6.980	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
2.125	0.358	5.930	0.072	
<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>	
20.40	1.500	20.40	0.958	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
4.781	27.435	Owens	3	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.178	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
	0.018	19.75	20.05	4.21
	0.036	19.13	19.72	3.90
	0.053	18.52	19.38	3.76
	0.071	17.94	19.06	3.72
	0.089	17.37	18.73	3.73
	0.107	16.82	18.42	3.78
	0.124	16.29	18.11	3.85
	0.142	15.77	17.80	3.93
	0.160	15.27	17.50	4.02
	0.178	14.79	17.20	4.11

WQM 7.0 Effluent Limits

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>	
17C	49189	Trib 49189 of Bear Creek	

RMI	Name	Permit Number	Disc Flow (mgd)
0.210	Fairview T	PA0239721	0.029

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
17C	49189 Trib	49189 of Bear Creek	0.210	1240.03	0.23	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfs)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.90	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
Fairview T	PA0239721	0.0290	0.0290	0.0290	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	0.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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
17C	49189	Trib 49189 of Bear Creek	0.000	1148.11	0.85	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.90	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
		0.0000	0.0000	0.0000	0.000	0.00	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

<u>SWP Basin</u>		<u>Stream Code</u>			<u>Stream Name</u>							
17C		49189			Trib 49189 of Bear Creek							
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc 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												
0.210	0.01	0.00	0.01	NA	0.08290	.358	2.12	5.93	0.07	0.178	24.08	6.98
Q1-10 Flow												
0.210	0.01	0.00	0.00	NA	0.08290	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
0.210	0.01	0.00	0.00	NA	0.08290	NA	NA	NA	0.00	0.000	0.00	0.00

WQM 7.0 Modeling Specifications

Parameters	D.O.	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	Simulation	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	95.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	3		

WQM 7.0 Effluent Limits

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>	
17C	49188	Trib 49188 to Bear Creek	

RMI	Name	Permit Number	Disc Flow (mgd)
0.270	Fairview T	PA0239721a	0.029

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>			
17C	49188	Trib 49188 to Bear Creek			
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
0.270	0.029	22.727		7.342	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
4.121	0.338	12.189		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>	
8.98	1.311	9.43		0.863	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
5.989	25.863	Owens		3	
<u>Reach Travel Time (days)</u>	<u>Subreach Results</u>				
0.279	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>	
	0.028	8.61	9.20	6.27	
	0.056	8.26	8.98	6.44	
	0.084	7.92	8.77	6.56	
	0.112	7.60	8.56	6.65	
	0.140	7.29	8.35	6.72	
	0.168	7.00	8.16	6.78	
	0.196	6.71	7.96	6.84	
	0.224	6.44	7.77	6.90	
	0.251	6.18	7.59	6.95	
	0.279	5.93	7.41	7.00	

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
17C	49188	Trib 49188 to Bear Creek

WQM 7.0 Modeling Specifications

Parameters	D.O.	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	Simulation	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	95.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	3		

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>			<u>Stream Name</u>							
17C		49188			Trib 49188 to Bear Creek							
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc 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												
0.270	0.04	0.00	0.04	NA	0.01551	.338	4.12	12.19	0.06	0.279	22.73	7.34
Q1-10 Flow												
0.270	0.02	0.00	0.00	NA	0.01551	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
0.270	0.05	0.00	0.00	NA	0.01551	NA	NA	NA	0.00	0.000	0.00	0.00

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
17C	49188	Trib 49188 to Bear Creek	0.000	1125.99	13.90	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.044	0.00	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
		0.0000	0.0000	0.0000	0.000	25.00	7.00
Parameter Data							
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/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			

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
17C	49188 Trib	49188 to Bear Creek	0.270	1148.10	0.85	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.044	0.00	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
Fairview T	PA0239721a	0.0290	0.0290	0.0290	0.000	25.00	698.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	14.79	2.00	0.00	1.50
Dissolved Oxygen	4.11	8.24	0.00	0.00
NH3-N	17.20	0.10	0.00	0.70

WQM 7.0 Effluent Limits

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>	
17C	49189	Trib 49189 of Bear Creek	
RMI	Name	Permit Number	Disc Flow (mgd)
0.210	Fairview T	PA0239721	0.029

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
17C	49189	Trib 49189 of Bear Creek		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>
0.210	0.029	24.080		6.980
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>
2.125	0.358	5.930		0.072
<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>
20.40	1.500	20.40		0.958
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>
4.781	27.435	Owens		3
<u>Reach Travel Time (days)</u>	Subreach Results			
0.178	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.018	19.75	20.05	4.21
	0.036	19.13	19.72	3.90
	0.053	18.52	19.38	3.76
	0.071	17.94	19.06	3.72
	0.089	17.37	18.73	3.73
	0.107	16.82	18.42	3.78
	0.124	16.29	18.11	3.85
	0.142	15.77	17.80	3.93
	0.160	15.27	17.50	4.02
	0.178	14.79	17.20	4.11

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
17C	49189	Trib 49189 of Bear Creek

WQM 7.0 Modeling Specifications

Parameters	D.O.	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	Simulation	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	95.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	3		

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>			<u>Stream Name</u>							
17C		49189			Trib 49189 of Bear 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												
0.210	0.01	0.00	0.01	NA	0.08290	.358	2.12	5.93	0.07	0.178	24.08	6.98
Q1-10 Flow												
0.210	0.01	0.00	0.00	NA	0.08290	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
0.210	0.01	0.00	0.00	NA	0.08290	NA	NA	NA	0.00	0.000	0.00	0.00

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
17C	49116	BEAR CREEK	8.660	1125.99	13.90	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

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	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	69.00	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
Fairview T	PA0239721b	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	2.08	2.00	0.00	1.50
Dissolved Oxygen	8.24	8.24	0.00	0.00
NH3-N	0.10	0.10	0.00	0.70

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
17C	49116	BEAR CREEK	9.017	1130.53	13.30	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

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	0.044	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.90	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
Fairview T	PA0239721d	0.0299	0.0299	0.0299	0.000	25.00	7.30

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	5.93	2.00	0.00	1.50
Dissolved Oxygen	7.00	8.24	0.00	0.00
NH3-N	7.41	0.10	0.00	0.70

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	5.5	8.8	XXX	25.0	40.0	50.0	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS	6.2	10.0	XXX	30.0	45.0	60.0	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
E Coli	XXX	XXX	XXX	XXX	XXX	Report	1/year	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	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	3.2	XXX	XXX	13.0	XXX	26.0	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Compliance Sampling Location: Outfall 001 after disinfection