pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0222453**
Facility Type	**Non-Municipal**	APS ID	**1094968**
Major / Minor	**Minor**	Authorization ID	**1451087**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Scenic Heights Inc.**	Facility Name	**Scenic Heights Golf Course**
Applicant Address	7830 Knoyle Road	Facility Address	7830 Knoyle Road
	Wattsburg, PA 16442-1002		Wattsburg, PA 16442-1002
Applicant Contact	John Afton	Facility Contact	
Applicant Phone	(814) 572-2998	Facility Phone	
Applicant E Maik	johntafton@adl,com	Facility E Mail	
Client ID	233984	Site ID	465367
Municipality	Venango Township	County	Erie
Ch 94 Load Status		Connection Status	
SIC Code	7992	SIC Code	4952
SIC Description	Services - Public Golf Courses	SIC Description	Trans. & Utilities - Sewerage Systems
Date Application Received	July 24, 2023	EPA Waived?	Yes
Date Application Accepted	August 22, 2023	If No, Reason	

Purpose of Application: NPDES permit rrewal

Summary of Review

No open violations on file.

Sludge removed by Anthony's Septic Service on June 21, 2023.

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		*William H. Mentzer* William H. Mentzer, P.E. Environmental Engineering Specialist	January 30. 2024
X		*Vacant* Environmental Engineer Manager	Okay to Draft JCD 2/5/2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.002
Latitude DP	42º 5' 2.50"	Longitude DF	79º 53' 40.30"
Latitude NHD	42º 4' 59.24	Longitude NHD	79º 53' 48.92"
Quad Name	Hammett	Quad Code	0206

Wastewater Description: Treated golf course and residential domestic wastes

Receiving Waters	Unnamed Tributary of Sixmile Creek	Stream Code	unknown
NHD Com ID	123923410e	RMI	0.14
Drainage Area	0.12	Yield (cfs/mi^2)	0
Q_{7-10} Flow (cfs)	0	Q_{7-10} Basis	Dry Stream
Elevation (ft)	1390	Slope (ft/ft)	0.024
Watershed No.	15-A	Chapter 93 Class.	CWF, MF
Existing Use	**statewide**	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	Tributary 62382 confluence at Node RMI 0.48 (NHD outfall) Stream RMI 1.09		

Assessment Status	Attaining Use(s)
Cause(s) of Impairment	
Source(s) of Impairment	
TMDL Status	Name

Background/Ambient Data		Data Source
pH (SU)	7.0	default
Temperature (°C)	20	Default (CWF)
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Lake Erie		
PWS Waters	Lake Erie	Flow at Intake (cfs)	
PWS RMI	891,63	Distance from Outfall (mi)	25.42

Changes Since Last Permit Issuance: none

Other Comments: Canada is 28 miles away and mid lake

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Treatment Facility Summary				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Seconday w/ chemical addition	Septic Tank/Sand Filter	Tablet Chlorination	0.002
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.002	7.4		Off site	Hauled Offsite

Changes Since Last Permit Issuance: none

Other Comments:

Initial design was for 1 clubhouse with 230 patrons and 2 residences for 2 000-gpd and 7-PPD BOD5. The revised design was for 1 clubhouse with 150 patrons and 4 residences for 2 000-gpd and 7.4-PPD BOD5

The Domestic Wastewater Facilities Manual limits the organic load to 17-PPD based on 140-PPD/acre, 0.06-acre sand filter and 50% Septic tank BOD5 reduction.

Initially the permittee proposed two facilities referred to as east and west. The west proposal had clubhouse and two residences while the east had five additional homes. Upon permitting only the clubhouse and the west sewage treatment facility was built, When alum addition for phosphorus control was required development plans were changed to eliminate the east development, shifted four east residences to the west development and deleted three residences.

Each of the four Plum Road residences have a dual compartment 1 000-gallon septic tank and discharge to a duplex 30-gpm pump station for conveyance to the treatment facility.

The clubhouse has two 1000-gallon septic tanks and the liquid alum phosphorus control. Alum injection is near the clubhouse into the gravity sewer below the residential force main connection.

Continued primary treatment final phosphorus treatment is in a 1 500-gallon septic tank.

Secondary treatment is provided through intermittent sand filtration consisting of a 1 000-gallon dosing tank with 135-gpm simplex dosing pump and a 48-foot by 55-foot 2 640-square foot subsurface sand filter with a 20-mil synthetic liner

Hypochlorite Chlorination with a 1 000-gallon Chlorination contact tank is provided.

Outfall elevation is at 1382-feet

Effluent		Minimum	Average	Maximum
pH	SU	6.94	7.48	
CBD5	mg/L		3.59	8.0
TSS	mg/L		< 5	8.0
Fecal Coliform	#/00ml		139	8.0
TRC	mg/L		1	12.0

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .002
Latitude 42º 5' 2.50" **Longitude** -79º 53' 40.30"
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 following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
TRC	1.2	IMAX	TRC Spreadsheet

Comments:

1.2 mg/l as an Instantaneous Maximum (IMAX) is typical for a permittee with tech based average monthly limit and required sampling of 4/week or less.

The IMAX 1.2-mg/L is a former BAT maximum coupled to a 0.5-mg/L monthly average. The BAT maximum is now 1.635-mg/L. With compliance of the 1.2-mg/L IMAX there is no need to backslide to provide compliance.

Best Professional Judgment (BPJ) Limitations

Comments: Effluent limits for BOD_5 , TSS, and fecal coliform and monitoring of flow, found in the Department's SOP entitled "New and reissuance Small Flow Treatment Facility Individual NPDES Permit Applications," will be placed in the permit in accordance with that SOP. BOD_5 replaces $CBOD_5$ limits in the renewal but should easily be achieved at that degree of treatment. The phosphorus effluent limits are being retained from the previous permit and are based on the IJC Agreement for discharges to the Lake Erie Basin. The D.O. limit is an existing limit that is being retained in this permit renewal. Ammonia nitrogen monitoring was removed in this proposed permit renewal due to a review of DMRs which show consistently very low concentrations (less than criteria) in the effluent.

The IJC phosphorus requirement is for large municipal with specialized treatment at automated treatment facilities. Compliance is difficult in small manually operated facilities without dedicated specialized phosphorus controls.

Anti-Backsliding

See TRC above. *Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.* *JCD*

Compliance Sampling Location: Outfall 001

Other Comments: The monitoring frequencies for BOD_5, TSS and fecal coliform are more relaxed than those recommended in the Department's SOP entitled "New and reissuance Small Flow Treatment Facility Individual NPDES Permit Applications".

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
15	62382	Trib 62382 to Sixmile Creek	**1.230**	1390.00	0.12	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	0.035	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
Scenic Heights	PA0222463	0.0020	0.0020	0.0020	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	4.00	8.24	0.00	0.00
NH3-N	25.00	0.01	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
15	62382	Trib 62382 to Sixmile Creek	**1.090**	1360.00	0.21	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	0.035	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
15	62382	Trib 62382 to Sixmile Creek	**0.580**	1300.00	1.11	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	0.035	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
15	62382	Trib 62382 to Sixmile Creek	**0.000**	1253.49	18.90	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	0.035	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

	Discharger	Scenic Heights							Thursday, January 25, 2024			
	Site	Scenic Heights STP						Revised	Thursday, January 25, 2024			
	Municipality	Venango Township										
	County	Erie										
	NPDES Permit	PA0222453										
	0.5											
2	**TRC EVALUATION**											
3	Input appropriate values in B4:B8 and E4:E7											
4	0.039	**= Q stream (cfs)**				**0.5**	**= CV Daily**					
5	0.0020	**= 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	0.5	**= BAT/BPJ Value**				**720**	**= CFC_Criteria Compliance Time (min)**					
	0	**= % Factor of Safety (FOS)**					**=Decay Coefficient (K)**					
10	Source	Reference	AFC Calculations				Reference	CFC Calculations				
11	TRC	**1.3.2.iii**	WLA afc = 4.035				**1.3.2.iii**	WLA cfc = 3.926				
12	PENTOXSD TRG	**5.1a**	LTAMULT afc = 0.373				**5.1c**	LTAMULT cfc = 0.581				
13	PENTOXSD TRG	**5.1b**	LTA_afc= 1.503				**5.1d**	LTA_cfc = 2.282				
14												
15	Source					Effluent Limit Calculations						
16	PENTOXSD TRG	5.1f			AML MULT = 1.231							
17	PENTOXSD TRG	5.1g			LIMIT (mg/l) = 0.500			BAT/BPJ				
18					LIMIT (mg/l) = 1.635							

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Chlorine Required			=	intermittent	Chlorine Demand		+	Chlorine Residual
Stream	Reach/Node		3	1	2	3		
Stream	Flow	Conditions		dry	intermittent	Perennial		
Stream	Code			unknown	62382	62382		
	Function			OUTFALL				
Samples				30	30	30		
reach	outfall		RMI	0.14	1.09	0.58		
	Reach End		RMI	0	0.58	0		
reach			feet	739.2	2692.8	3062.4		
drainage			sq miles	0.12	0.21	1.11		
TRC	limitation	average	mg/L	0.208	0.357	0.500		
		maximum	mg/L	0.680	0.168	1.600		
elevation		modelled	feet	1390	1360	1300		
elevation		modelled	feet	1360.00	1300	1253.49		
slope		modelled	foot/foot	0.041	0.022	0.015		
low flow			cfs/sq mi	0.035	0.035	0.035		
discharge			mgd	0.0020	0.0020	0.0020		
Runoff	Period		hours	24.000	24.000	24.000		

The first two segments are dry with no aquatic life. The third sement is perennial with no impairment.

stream	flow		cfs	0.00421	0.00737	0.03895
stream	flow		MGD	0.002721	0.004762	0.025172
stream	flow	total	MGD	0.004721	0.006762	0.027172
stream	chlorine	demand	mg/L	0.3	0.3	0.3
discharge	discharge	demand	mg/L			
stream	Total Stream/Waste		ratio	2.4	3.4	13.6
BAT	TRC	mean	BAT	0.5	0.5	0.5
BAT	TRC	maximum	BAT	1.6	1.6	1.6

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
15	62382	Trib 62382 to Sixmile 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												
1.230	0.00	0.00	0.00	.0031	0.04058	.237	1.21	5.12	0.03	0.337	22.12	7.00
1.090	0.01	0.00	0.01	.0031	0.02228	.245	1.64	6.7	0.03	1.195	21.48	7.00
0.580	0.04	0.00	0.04	.0031	0.01519	.303	3.64	12.03	0.04	0.928	20.37	7.00
Q1-10 Flow												
1.230	0.00	0.00	0.00	.0031	0.04058	NA	NA	NA	0.02	0.384	22.67	7.00
1.090	0.00	0.00	0.00	.0031	0.02228	NA	NA	NA	0.02	1.407	21.98	7.00
0.580	0.02	0.00	0.02	.0031	0.01519	NA	NA	NA	0.03	1.165	20.55	7.00
Q30-10 Flow												
1.230	0.01	0.00	0.01	.0031	0.04058	NA	NA	NA	0.03	0.304	21.75	7.00
1.090	0.01	0.00	0.01	.0031	0.02228	NA	NA	NA	0.03	1.053	21.18	7.00
0.580	0.05	0.00	0.05	.0031	0.01519	NA	NA	NA	0.04	0.790	20.28	7.00

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WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	Uniform Treatme	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	85.00%	Use Balanced Technology	☑
D.O. Goal	5		

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WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
15	62382	Trib 62382 to Sixmile 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
1.230	Scenic Heights	NA	50	13.43	50	0	0
1.090		NA	NA	14.22	NA	NA	NA
0.580		NA	NA	16.01	NA	NA	NA

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
1.230	Scenic Heights	NA	25	1.69	25	0	0
1.090		NA	NA	1.75	NA	NA	NA
0.580		NA	NA	1.85	NA	NA	NA

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)		
1.23	Scenic Heights	25	25	25	25	4	4	0	0
1.09		NA	NA	NA	NA	NA	NA	NA	NA
0.58		NA	NA	NA	NA	NA	NA	NA	NA

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
15	62382	Trib 62382 to Sixmile Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.230	0.002	22.117	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.214	0.237	5.115	0.025
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
11.74	1.310	10.59	0.824
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.446	27.839	Owens	NA
Reach Travel Time (days)			
0.337			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.034	11.18	10.30	6.49
0.067	10.65	10.02	6.55
0.101	10.14	9.75	6.62
0.135	9.66	9.48	6.70
0.169	9.20	9.22	6.77
0.202	8.77	8.97	6.84
0.236	8.35	8.72	6.91
0.270	7.95	8.48	6.98
0.304	7.57	8.25	7.04
0.337	7.21	8.02	7.10

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.090	0.002	21.478	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.639	0.245	6.696	0.026
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.64	0.799	5.60	0.784
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.445	26.398	Owens	NA
Reach Travel Time (days)			
1.195			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.119	5.09	5.10	7.58
0.239	4.60	4.64	7.58
0.358	4.15	4.23	7.58
0.478	3.75	3.85	7.58
0.597	3.38	3.50	7.58
0.717	3.06	3.19	7.58
0.836	2.76	2.90	7.58
0.956	2.49	2.64	7.58
1.075	2.25	2.41	7.58
1.195	2.03	2.19	7.58

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
15	62382	Trib 62382 to Sixmile Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.580	0.002	20.368	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
3.641	0.303	12.032	0.038
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.004	0.55	0.720
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.077	22.416	Owens	5
Reach Travel Time (days)			
0.928			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.093	2.01	0.51	7.73
0.186	2.01	0.48	7.73
0.279	2.01	0.45	7.73
0.371	2.00	0.42	7.73
0.464	2.00	0.39	7.73
0.557	2.00	0.37	7.73
0.650	2.00	0.34	7.73
0.743	2.00	0.32	7.73
0.836	2.00	0.30	7.73
0.928	2.00	0.28	7.73

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
15	62382	Trib 62382 to Sixmile 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)
1.230	Scenic Heights	PA0222463	0.002	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

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	Minimum	Average Quarterly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/quarter	Grab
DO	XXX	XXX	3.0 Daily Min	XXX	XXX	XXX	1/quarter	Grab
TRC	XXX	XXX	XXX	0.5 Avg Mo	XXX	1.2	1/month	Grab
BOD5	XXX	XXX	XXX	10.0	XXX	20	1/quarter	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	1/quarter	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	1000	1/quarter	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2	1/quarter	Grab

Compliance Sampling Location: Outfall 001 after disinfection