pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0098299**
Facility Type	**Non-Municipal**	APS ID	**795256**
Major / Minor	**Minor**	Authorization ID	**1210134**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Bruno Family Trust**	Facility Name	**Donegal Center Inc.STP**
Applicant Address	71 E Pine Avenue	Facility Address	212 Snyder Road
	Washington, PA 15301-6722		Donegal, PA 15628-9704
Applicant Contact	Mr. Robert A. Bruno	Facility Contact	Same as Applicant
Applicant Phone	(724) 228-1592	Facility Phone	Same as Applicant
Client ID	279533	Site ID	252712
Ch 94 Load Status	Not Overloaded	Municipality	Donegal Township
Connection Status		County	Westmoreland
Date Application Received	December 4, 2017	EPA Waived?	Yes
Date Application Accepted	December 13, 2017	If No, Reason	

Purpose of Application: Application for a renewal of an existing NPDES permit for discharge of treated Sewage.

Summary of Review

The applicant has applied for a renewal of NPDES Permit No. PA0098299, which was previously issued by the Department on May 22, 2013. That permit expired on May 31, 2018

WQM Permit No. 6569426 issued on November 26, 1969 authorized construction of the plant to treat an average design flow of 0.022 mgd. That plant ran in an extended aeration mode with intermittent sand filtration and chlorination. That plant was in disrepair and was replaced.

Part II Permit No. 6569426 A-1, issued on December 21, 2010, approved the construction of a new extended aeration type activated sludge plant with UV disinfection. The design flow of the STP remained unchanged at 0.022 mgd.

The receiving stream, Swale to an UNT to Fourmile Run, is classified as a TSF and is located in State Watershed No.18-C.

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 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		/s/ William C. Mitchell, E.I.T. / Project Manager	October 2, 2019
X		/s/ Christopher Kriley, P.E. / Environmental Program Manager	October 3, 2019

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.022
Latitude	40º 06' 29.00"	Longitude	-79º 22' 33.00"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Swale to an Unnamed Tributary to Fourmile Run (TSF)	Stream Code	Swale to 43542
NHD Com ID	125294356	RMI	16.0 on 43542
Drainage Area	0.01	Yield (cfs/mi^2)	0
Q_{7-10} Flow (cfs)	0	Q_{7-10} Basis	Dry drainage swale shown on USGS map.
Elevation (ft)		Slope (ft/ft)	0.083
Watershed No.	18-C	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	NONE	Exceptions to Criteria	NONE
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

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

Nearest Downstream Public Water Supply Intake		Latrobe Municipal Authority	
PWS Waters	Loyalhanna Creek	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: STP resumed operation in early 2019.

Other Comments: Donegal Lake is located approximately 2 miles downstream from the STP. Aquatic Biologist Richard Spear stated on November 15, 2012 that a trophic study has not been done on this dam to date, but that it may be put on a list for a future survey. I requested an update on the status of Donegal Lake in September 2019. Any information provided by Mr. Spear will be included in the Fact Sheet Addendum. There have been no reported nutrient problems in the lake. Sewage discharges with design flows > 2,000 gpd require monitoring, at a minimum, for Total Nitrogen and Total Phosphorus in reissued permits. A monitoring frequency of once per year is considered acceptable for this facility.

This facility indirectly discharges into the Kiskiminetas-Conemaugh River Watersheds, which has a Final TMDL for metals. The contribution of metals from a sewage plant of this nature is expected to be less than water quality criteria and therefore not contributing to stream impairment. Furthermore, an aggregate waste load allocation was included in the TMDL for these types of facilities. A 1/year monitoring requirement for Iron, Manganese, and Aluminum is established in the permit to verify that the sewage discharge is not contributing to the impairment of the receiving stream. The monitoring frequency is yearly for plants rated less than 0.499 MGD.

Treatment Facility Summary

Treatment Facility Name: Donegal Center Inc.

WQM Permit No.	Issuance Date
6569426	11/26/1969
6569426 A-1	12/21/2010

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with Ammonia Reduction	Activated Sludge	UV Disinfection	

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.022	42.0	Not Overloaded		

Changes Since Last Permit Issuance: STP resumed operation in early 2019.

Compliance History

Other Comments: An Operations Compliance Check for this facility was requested on September 12, 2019. Mr. John Murphy responded and stated that this facility was put into operation in early 2019. He also stated that Ms. Lisa Milsop issued an NOV for this facility in June of 2019. An Operations Compliance Check Report will be included in the Fact Sheet Addendum.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .022
Latitude 40º 06' 29.00" **Longitude** -79º 22' 33.00"
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 previously modeled using WQM6.3 to evaluate $CBOD_5$, Ammonia Nitrogen and Dissolved Oxygen parameters and there have been no changes to the discharge or the receiving stream. Therefore, it is not necessary to remodel those three parameters using the current WQM 7.0 model because the same effluent results are computed for a single discharge scenario. The modeling results show technology based effluent limitations for CBOD5 are appropriate and that Ammonia-Nitrogen and Dissolved Oxygen limitations are necessary to meet in-stream water quality criterion.

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

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen May 1 - Oct 31	2.5	Average Monthly	WQM6.3
Ammonia-Nitrogen Nov 1 - Apr 30	7.5	Average Monthly	WQM6.3
Dissolved Oxygen	5.0	Minimum	WQM6.3

Best Professional Judgment (BPJ) Limitations

Comments: N/A

Anti-Backsliding

N/A

Additional Considerations:

For pH, Dissolved Oxygen (DO) and UV Light Transmittance, a monitoring frequency 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations.

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	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.022	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	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
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	7.5	XXX	15.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.5	XXX	5.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Iron	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

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	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Manganese	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall # 001

Summer Swale

HEADWATER DATA

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$Q_{7\text{-}10}$	=	0.0
TEMP.	=	25
pH	=	7
D.O.	=	85% Saturation
$CBOD_5$	=	2
NH_3-N	=	.1
K_c	=	0

Q_d	=	.022
TEMP.	=	20
pH	=	7
D.O.	=	2 Used as
$CBOD_5$	=	25 starting limits since
NH_3-N	=	25 no nuisance conditions
K_c	=	1.5 reported in Swale

Q_t	=	0.0
TEMP.	=	
pH	=	
$CBOD_5$	=	
NH_3-N	=	

D.O.	=	3
K_a	=	.6
Slope	=	.083
Length	=	1200'
D.A.	=	.01
W/D ratio	=	10

Pt of discharge to confluence with Fourmile Run

Summer
Four mile

HEADWATER DATA

page

$Q_{7\text{-}10}$	=	.011
TEMP.	=	7
pH	=	25
D.O.	=	85% Saturation
$CBOD_5$	=	2
NH_3-N	=	.1
K_c	=	0

Q_d	=	.022
TEMP.	=	20
pH	=	7
D.O.	=	3.1
$CBOD_5$	=	22.3
NH_3-N	=	23.9
K_c	=	1.3

End of reach From Swale

Q_t	=	
TEMP.	=	
pH	=	
$CBOD_5$	=	
NH_3-N	=	

D.O.	=	5
K_r	=	
Slope	=	60/1300 = .046
Length	=	1300
D.A.	=	.18
W/D ratio	=	10

End of just reach to confluence with downstream trib

HEADWATERS AND TRIBUTARY DATA

NO. OF REACHES : 1

RH	Q7-10 (CFS)	T (C)	PH	DO (MG/L)	CBOD5 (MG/L)	NH3-N (MG/L)
HW	1E-03	25	7	7.54	2	.1
1	0					

LAUREL HIGHLAND ML DISCHARGE ON DRY SWALE
FILE: LAUREL DRY.WQM6.3

DISCHARGER DATA
Q7-10 DESIGN CONDITIONS

RH	Q MGD	T (C)	PH	DO MG/L	CBOD5 MG/L	NH3-N MG/L	KC
1	.022	20	7	5	25	10.7	1.5

REACH CHARACTERISTICS

RH	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	3	.6	.083	1200	1E-0310	

Dry Swale no.

Perennial

LAUREL HIGHLAND ML DISCHARGE ON DRY SWALE
FILE: LAUREL DRY.WQM6.3

DISCHARGER DATA
Q7-10 DESIGN CONDITIONS

RH	Q MGD	T (C)	PH	DO MG/L	CBOD5 MG/L	NH3-N MG/L	KC
1	.022	20	7	3	25	25	1.5

MULTIPLE DISCHARGE LIMITATIONS
(TOTAL) DISCHARGE = .022 MGD
TEMP = 20.1 PH = 7
CBOD-5= 24.34 NH3-N= 24.29 D.O. = 3.13
KC'= 1.496 KN= .6 D.O.GOAL = 3
KR= 20 (USR DEF.)
DIS. 1 RCH. 1 TRVL TIME:.075

TR.TM. (DAYS)	CBOD-5 (MG/L)	NH3-N (MG/L)	D.O. (MG/L)
7E-03	24.07	24.18	3.12
.015	23.8	24.07	3.11
.022	23.53	23.96	3.12
.03	23.27	23.85	3.12
.037	23.01	23.74	3.14
.045	22.75	23.64	3.16
.052	22.5	23.53	3.18
.06	22.24	23.42	3.2
.067	22	23.32	3.23
.075	21.75	23.21	3.26

Set, originally Calculated 276

LAUREL HIGHLAND ML DISCHARGE ON DRY SWALE
FILE: LAUREL DRY.W0M6.3

D.O. ALLOCATIONS

DIS #	Q (MGD)	----NH3-N--- IND. CONC. (MG/L)	CUM. CONC. (MG/L)	---CBOD5----- IND. CONC. (MG/L)	CUM. CONC. (MG/L)	CRIT. RCH.	PCT. REM. (PCT)
1	.0220	25.00	25.00	25.00	25.0000		

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE:

No reduction

HEADWATERS AND TRIBUTARY DATA

Fourmile Run

NO. OF REACHES : 1

RH	Q7-10 (CFS)	T (C)	PH	DO (MG/L)	CBOD5 (MG/L)	NH3-N (MG/L)
HW	.011	25	7	7.79	2	.1
1	0					

DISCHARGER DATA
Q7-10 DESIGN CONDITIONS

RH	Q MGD	T (C)	PH	DO MG/L	CBOD5 MG/L	NH3-N MG/L	KC
1	.022	20	7	3.1	22.3	23.9	1.3

End of reach characteristics of discharge

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE:

REACH CHARACTERISTICS

RH	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	5	.6	.043	1300	.18	10

NH3-N DISCHARGE ALLOCATIONS AT Q30-10

DIS	Q (MGD)	IND. CONC. (MG/L)	ALL. CONC. (MG/L)	CRIT. RCH.	PCT. RED. (%)
1	.022	2.43	2.43	0	0

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE: LAUREL FOUR.WQM6.3

NH3-N DISCHARGE ALLOCATIONS AT Q1-10

DIS	Q (MGD)	IND. CONC. (MG/L)	ALL. CONC. (MG/L)	CRIT. RCH.	PCT. RED. (%)
1	.022	10.95	10.95	0	0

MULTIPLE DISCHARGE LIMITATIONS
(TOTAL) DISCHARGE = .022 MGD
TEMP = 21.2 PH = 7
CBOD-5= 17.34 NH3-N= 1.86 D.O. = 5
KC'= 1.257 KN= .6 D.O.GOAL = 5
KR= 20 (USR DEF.)
DIS. 1 RCH. 1 TRVL TIME:.233

Let Calc. around 40

TR.TM. (DAYS)	CBOD-5 (MG/L)	NH3-N (MG/L)	D.O. (MG/L)
.023	16.81	1.83	5.74
.047	16.3	1.8	6.22
.07	15.8	1.78	6.54
.093	15.32	1.75	6.77
.117	14.85	1.72	6.92
.14	14.4	1.7	7.04
.163	13.96	1.67	7.13
.187	13.53	1.64	7.21
.21	13.12	1.62	7.27
.233	12.72	1.59	7.33

Note - For TSF Classified Streams, a DO Criteria of 5.0 mg/l is in effect when the Q7-10 low flow is generally lower (8/1-2/14) & 6.0 mg/l is in effect when the Q7-10 low flow is higher (2/15-7/31). The modeling was assumed to be adequate to maintain the DO criteria yearround.

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE: LAUREL FOUR.WQM6.3

D.O. ALLOCATIONS

DIS #	Q	---NH3-N--- IND. CONC.	CUM. CONC.	---CBOD5--- IND. CONC.	CUM. CONC.	CRIT. RCH.	PCT. REM.
	(MGD)	(MG/L)	(MG/L)	(MG/L)	(MG/L)		(PCT)
1	.0220	2.400	2.400	22.30	22.3000		

EFFLUENT LIMITATIONS DISPLAY

DIS #	Q MGD	NH3-N TOX. 1 DAY	30 DAY	C-BOD5 30-DAY	DISS. OXYGEN NH3-N 30-DAY	EFF. D.O.
1	.022	4.9	2.4	22.3	2.4	4.1

Toxicity

No reduction

Equation from 1/27/88 memo dealing with Swatara

$EL_2 = 2.4$

$EDC = 23.9$

$DC_1 = 25$

$r =$

$$\frac{(2.4)(25)}{23.9} = 2.51$$

Impose - 2.5 mg/l NH_3-N
25 mg/l CBOD
D.O - 5

HEADWATER DATA

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Irwin Woods

$Q_{7\text{-}10}$	=	0.0
TEMP.	=	5
pH	=	7
D.O.	=	85% Saturation
$CBOD_5$	=	2
NH_3-N	=	.1
K_c	=	0

Q_d	=	.022
TEMP.	=	~~20~~ 15
pH	=	7
D.O.	=	2
$CBOD_5$	=	25
NH_3-N	=	25
K_c	=	1.5

Q_t	=	0.0
TEMP.	=	
pH	=	
$CBOD_5$	=	
NH_3-N	=	

D.O.	=	3
K_r	=	.6
Slope	=	.083
Length	=	1200'
D.A.	=	.01
W/D ratio	=	10

Pt of discharge to confluence with Fourmile Run

Trout Fourmile

HEADWATER DATA

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Q_{7-10}	=	~~.011~~ .022
TEMP.	=	7
pH	=	~~25~~ 5
D.O.	=	85% Saturation
$CBOD_5$	=	2
NH_3-N	=	.1
K_r	=	0

Q_d	=	.022
TEMP.	=	~~20~~ 15
pH	=	7
D.O.	=	~~3.1~~ 5.2
$CBOD_5$	=	~~22.3~~ 22.9
NH_3-N	=	~~23.4~~ 24.3
K_c	=	1.3

Q_r	=	
TEMP.	=	
pH	=	
$CBOD_5$	=	
NH_3-N	=	

D.O.	=	5
K_r	=	.6
Slope	=	60/1300 = .046
Length	=	1300
D.A.	=	.18
W.D. ratio	=	10

End of first reach to confluence with downstream trib

LAUREL HIGHLAND ML DISCHARGE ON DRY SWALE
FILE: LAUREL DRY.WQM6.3

HEADWATERS AND TRIBUTARY DATA

NO. OF REACHES : 1

RH	Q7-10 (CFS)	T (C)	PH	DO (MG/L)	CBOD5 (MG/L)	NH3-N (MG/L)
HW 1	1E-03 0	5	7	10.79	2	.1

DISCHARGER DATA
Q7-10 DESIGN CONDITIONS

RH	Q MGD	T (C)	PH	DO MG/L	CBOD5 MG/L	NH3-N MG/L	KC
1	.022	15	7	3	25	25	1.5

LAUREL HIGHLAND ML DISCHARGE ON DRY SWALE
FILE: LAUREL DRY WINTER.WQM6.3

MULTIPLE DISCHARGE LIMITATIONS

(TOTAL) DISCHARGE = .022 MGD
TEMP = 14.7 PH = 7
CBOD-5= 24.34 NH3-N= 24.29 D.O. = 3.22
KC'= 1.496 KN= .6 D.O.GOAL = 3
KR= 20 (USR DEF.)
DIS. 1 RCH. 1 TRVL TIME:.075

TR.TM. (DAYS)	CBOD-5 (MG/L)	NH3-N (MG/L)	D.O. (MG/L)
7E-03	24.13	24.22	3.58
.015	23.92	24.14	3.9
.022	23.71	24.07	4.17
.03	23.5	24	4.41
.037	23.3	23.93	4.62
.045	23.09	23.86	4.8
.052	22.89	23.79	4.96
.06	22.69	23.72	5.11
.067	22.49	23.64	5.23
.075	22.3	23.57	5.34

DISCHARGE CHARACTERISTICS

END OF REACH 1

(TOTAL) FLOW-MGD.....:.022
TEMPERATURE.....:15
PH.....:7
DISSOLVED OXYGEN (MG/L)....:5.2
C-BOD5 (MG/L).....:22.9
NH3-N (MG/L).....:24.3
KC (1/DAY).....:1.5

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE: LAUREL FOUR.WQM6.3

REACH # 1
HEADWATERS AND TRIBUTARY DATA

NO. OF REACHES : 1

RH	Q7-10 (CFS)	T (C)	PH	DO (MG/L)	CBOD5 (MG/L)	NH3-N (MG/L)
HW	.022	5	7	10.79	2	.1
1	0					

DISCHARGER DATA
Q7-10 DESIGN CONDITIONS

RH	Q MGD	T (C)	PH	DO MG/L	CBOD5 MG/L	NH3-N MG/L	KC
1	.022	15	7	5.2	22.9	24.3	1.3

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE: LAUREL FOUR WINTER.WQM6.3

NH3-N DISCHARGE ALLOCATIONS AT Q30-10

DIS	Q (MGD)	IND. CONC. (MG/L)	ALL. CONC. (MG/L)	CRIT. RCH.	PCT. RED. (%)
1	.022	7.39	7.39	0	0

NH3-N DISCHARGE ALLOCATIONS AT Q1-10

DIS	Q (MGD)	IND. CONC. (MG/L)	ALL. CONC. (MG/L)	CRIT. RCH.	PCT. RED. (%)
1	.022	24.73	24.73	0	0

LAUREL HIGHLAND DISCHARGE TO FOURMILE RUN
FILE: LAUREL FOUR WINTER.WQM6.3

MULTIPLE DISCHARGE LIMITATIONS

(TOTAL) DISCHARGE = .022 MGD
TEMP = 11.1 PH = 7
CBOD-5= 14.69 NH3-N= 4.53 D.O. = 7.39
KC'= 1.224 KN= .6 D.O.GOAL = 5
KR= 20 (USR DEF.)
DIS. 1 RCH. 1 TRVL TIME:.206

TR.TM. (DAYS)	CBOD-5 (MG/L)	NH3-N (MG/L)	D.O. (MG/L)
.021	14.45	4.5	8.21
.041	14.21	4.47	8.75
.062	13.97	4.44	9.11
.083	13.74	4.41	9.36
.103	13.51	4.39	9.53
.124	13.29	4.36	9.65
.144	13.07	4.33	9.73
.165	12.85	4.31	9.79
.186	12.64	4.28	9.83
.206	12.43	4.25	9.87

D.O. ALLOCATIONS

DIS #	Q	---NH3-N---		----CBOD5-----		CRIT. RCH.	PCT. REM.
	(MGD)	IND. CONC. (MG/L)	CUM. CONC. (MG/L)	IND. CONC. (MG/L)	CUM. CONC. (MG/L)		(PCT)
1	.0220	7.400	7.400	22.90	22.9000		

$EL_2 - 7.4$
$EDC - 24.3$
$DC_1 - 25$

No reduction

$\frac{(7.4)(25)}{24.3} = 7.6$

Impose
25 mg/L CBOD
7.5 mg/L NH_3-N
5 mg/L D.O.

Low-Flow Statistics for Pennsylvania Streams

Developed by the U.S. Geological Survey for the Pennsylvania Department of Environmental Protection

Pennsylvania Low-Flow Statistics - Query Results

LOW-FLOW STATISTICS

[All flow statistics in cubic feet per second (ft^3/s)]

Mouse over or click on table headings to view definition of statistic

STREAM NAME: Loyalhanna Creek **GAGE OR BRIDGE SITE:** gage **REFERENCE GAGE:**[1] 03045000	**COUNTY:** Westmoreland **USGS QUAD:** Derry **STATION NAME:** Loyalhanna Creek at Kingston, PA near Latrobe Mun. Auth. Water Intake	**LATITUDE:** 401733 **LONGITUDE:** 792027 **DRAINAGE AREA (sq. mi.):** 172

Entire Period of Record [2]	$Q_{1,10}$	$Q_{7,10}$	$Q_{30,10}$	MEAN	MEDIAN	HARMONIC MEAN
1941-95	1.96	2.90	5.94	299	163	40.7

FLOW DURATION TABLE (Probability of Exceedance)										
P5	P10	P20	P30	P40	P50	P60	P70	P80	P90	P95
1060	712	442	310	224	163	113	72.3	43.0	21.1	12.2

[1] Reference Gage indicates which USGS gage was used in the computation of lowflow statistics for the specified locations
[2] Period of Record for climatic year, April 1 through March 31
[3] Period of record refers to pre-regulation conditions
[4] Period of record refers to post-regulation conditions
** Statistic not computed due to insufficient data

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Unnamed Dam, Fourmile, approx 2 miles downstream
Bulletin 5, Pg 93
Permit 65-124

Dam Storage Volume - 290 mg

<u>average flow</u>

D.A - 5.8 mi^2
Yield = 1.5 CFS/mi^2 (Rules & Regs 95.6c)

= (1.5)(5.8) = 8.7 CFS
5.65 mgd

Detention Time = Storage / Stream flow
= 290/5.65 = 51.3 day

51 days is greater than 14 days
Biologist should put on list to be studied.

April 2007 - See attached email from Abbey Falcone of our Watershed Mgmt. Bureau concerning putting this dam on list for future trophic survey to see if phosphorus limits may be required