pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0111970**
Facility Type	**Non-Municipal**	APS ID	**1027315**
Major / Minor	**Minor**	Authorization ID	**1334172**

Applicant and Facility Information

Applicant Name	**Springbrook Family Campground**	Facility Name	**Springbrook Family Campground**
Applicant Address	675 Numidia Drive Catawissa, PA 17820-8019	Facility Address	Route 42 South Catawissa, PA 17820
Applicant Contact	Shawn Bowers (alecengleman@phoenixwawo.com)	Facility Contact	Shawn Bowers
Applicant Phone	(570) 799-5118	Facility Phone	(570) 799-5118
Client ID	271684	Site ID	254830
Ch 94 Load Status	Not Overloaded	Municipality	Locust Township
Connection Status	No Limitations	County	Columbia
Date Application Received	November 17, 2020	EPA Waived?	Yes
Date Application Accepted	December 2, 2020	If No, Reason	

Purpose of Application: Renewal of an existing NPDES permit for the discharge of treated sewage.

Summary of Review

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.

Springbrook Family Campground is a seasonal campground, operating from May through September. The site has approximately 50 camp sites with 40 empty lots.

Approve	Deny	Signatures	Date
X		*Jonathan P. Peterman* Jonathan P. Peterman / Project Manager	October 5, 2021
X		*Nicholas W. Hartranft* Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	October 6, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0035
Latitude	40º 54' 39.77"	Longitude	-76º 25' 14.10"
Quad Name	Catawissa	Quad Code	1134
Wastewater Description:	Sewage Effluent		

Receiving Waters	Roaring Creek (TSF)	Stream Code	27450
NHD Com ID	65642047	RMI	12.13
Drainage Area	30.9	Yield (cfs/mi^2)	0.3346
Q_{7-10} Flow (cfs)	10.34	Q_{7-10} Basis	Gage #01468500
Elevation (ft)	731	Slope (ft/ft)	N/A
Watershed No.	5-E	Chapter 93 Class.	TSF
Existing Use	None	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	PATHOGENS		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Pending	Name	N/A

Nearest Downstream Public Water Supply Intake	Danville Municipal Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	1,219
PWS RMI	138.5	Distance from Outfall (mi)	15.9

Changes Since Last Permit Issuance: The updated Q_{7-10} data was obtained from the updated stream gage information obtained from *Stuckey, M.H., and Roland, M.A., 2011, Selected Streamflow Statistics for Streamgage Locations In and Near Pennsylvania*. A comparative stream analysis was conducted using a comparative stream gage based on basin characteristics. The Q_{7-10} calculations indicate that the Q_{7-10} is 10.34 cfs.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Springbrook Family Campground

WQM Permit No.	Issuance Date	Comments
1983402	8/12/1983	Original issuance.
1983402-T1	6/26/1990	Transfer from Dorothy Zuber to Bruce Rosenbaum.
1987409-T2	12/10/2003	Transfer to Atlantic Holding, LLC.
1987409-T3	6/6/2007	Transfer to Mount Zion Family Campground.
1987409-T4	11/5/2009	Transfer to Springbrook Family Campground.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.0035

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0035	--	Not Overloaded	Aerobic Digestion	Other WWTP

Treatment System Components for Outfall 001:
- One (1) Norweco CR-35 extended aeration package sewage treatment plant.
- One (1) Equalization Tank.
- One (1) Aeration Basin.
- One (1) Secondary Clarifier.
- One (1) Erosion chlorinator.
- One (1) Chlorine contact tank.
- One (1) Outfall 001

- One (1) Aerated Digester.

Sludge use and disposal description and location(s): Other WWTP. (BAJSA)

Changes Since Last Permit Issuance: None.
Other Comments: None.

Anti-Backsliding

In accordance with 40 CFR 122.44(l)(1) and (2), this permit does not contain effluent limitations, standards, or conditions that are less stringent than the previous permit.

Chesapeake Bay Requirements

Since this facility's annual average design flow is 0.0035 MGD, the permittee will be required to monitor and report TN and TP throughout the permit term at a frequency no less than annually in accordance with the Phase II WIP Chesapeake Bay Strategy for Phase V facilities (0.002 MGD to 0.2 MGD) unless 1) the facility has already conducted at least two years of nutrient monitoring and 2) a summary of the monitoring results are included in the next permit's fact sheet. The previous permit contained the results from the Chesapeake Bay Monitoring requirements and removed the monitoring requirements. The summarized results for this monitoring are contained below and the full data set is contained in Appendix D. Since the permittee conducted this monitoring in the previous permit term and the data is summarized in the fact sheet below, the conditions have been met and Chesapeake Bay monitoring will not be required.

Existing Effluent Limitations and Monitoring Requirements

Existing Limits – Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	XXX	Report	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000	XXX	10,000	1/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/year	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/year	Grab

*The existing effluent limits for Outfall 001 were based on a design flow of 0.0035 MGD.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0035
Latitude 40º 54' 39.70" **Longitude** -76º 25' 14.10"
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
To establish whether or not water-quality based effluent limitations (WQBELs) are required, the Department models in-stream conditions. In order to determine limitations for CBOD5, ammonia-N and dissolved oxygen, the Department utilizes the WQM 7.0 v1.0b model and in order to determine limitations for toxics, the Department utilizes the Toxics Management Spreadsheet. The Toxics Management Spreadsheet was not utilized in this review.

WQM 7.0 for Windows, Version 1.0b, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen
The previous model was run using the latest information on Q7-10 stream flow, background water quality, average annual design flow, and other discharge characteristics. There have been no changes to the watershed or discharge characteristics, therefore the previous modeling is still valid. The existing technology-based effluent limits for $CBOD_5$ (25 mg/l) and for NH3-N (25 mg/l) were used as inputs for the modeling. The DO minimum daily average criterion from §93.7 (5.0 mg/L for CWF) was used for the in-stream objective for the model. The summary of the output is as follows:

Parameter	Effluent Limit		
	30 Day Average	Maximum	Minimum
CBOD5	25	N/A	N/A
Ammonia-N	25	50	N/A
Dissolved Oxygen	N/A	N/A	3

The previous model did not recommend water-quality based effluent limitations with regards to CBOD5, ammonia-nitrogen, and dissolved oxygen. Refer to Appendix A for the WQM 7.0 inputs and results. The existing limits will remain.

Best Professional Judgment (BPJ) Limitations
See the Dissolved Oxygen section below.

Additional Considerations
None

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 the abovementioned 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) and/or BPJ.

Proposed Limits - 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	Daily Maximum	Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	XXX	Report	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000	XXX	10,000	1/month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	Grab
E. Coli	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

*The proposed effluent limits for Outfall 001 were based on a design flow of 0.0035 MGD.

Effluent Limit Determination for Outfall 001

General Information

All effluent limits were then rounded down in accordance with the rounding rules established in the *Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001)*, Chapter 5 - Specifying Effluent Limitations in NPDES Permits. The existing monitoring frequencies and sample types for these parameters generally correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

Flow

Reporting of the weekly maximum flow is consistent with monitoring requirements for other treatment plants and will remain.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

The results of the WQM 7.0 model show that the previously applied secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for $CBOD_5$ are protective of water quality and will remain.

Total Suspended Solids (TSS)
The previously applied technology based secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for TSS will remain as well.

pH
CFR Title 40 §133.102(c) and 25 PA Code §95.2(1) provide the basis of effluent limitations for pH.

Total Residual Chlorine (TRC)
In accordance with 25 Pa. Code 92a.48(b)(2), a best available technology (BAT) value of 0.5 mg/l was used in the TRC Spreadsheet. The attached TRC model indicates that the technology-based effluent limit of 0.5 mg/L (Average Monthly) and 1.6 mg/L (Instantaneous Maximum) are protective of water quality. The existing limits will remain.

Fecal Coliforms
The existing fecal coliform limits with I-max limits were previously updated from the previous Chapter 92 code to correspond with what is specified in the updated 25 PA Code § 92a.47 (a)(4)&(5). The existing effluent limits will remain.

Ammonia-Nitrogen (NH3-N)
The results of the WQM 7.0 model show that the existing monitoring requirement for ammonia-nitrogen is appropriate and will remain.

Dissolved Oxygen (DO)
25 PA Code §93.7 provides specific water quality criteria for DO and monitoring for this parameter will ensure that the facility is not creating or contributing to an in-stream excursion below these water quality standards. Additionally, the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) lists DO under the self-monitoring requirements for sewage discharges and monitoring of DO is consistent with other discharges of this size and type.

E. Coli
25 PA Code § 92a.61 provide the basis of monitoring requirements for E. Coli. Yearly monitoring will be required going forward.

Compliance History

Summary of Inspections -The most recent Clean Water Program onsite inspections for this facility were a Compliance Evaluation Inspection on 6/3/21. Effluent violations were noted in the inspection as well as several housekeeping items.

WMS Query Summary - A WMS Query was run at *Reports - Violations & Enforcements – Open Violations for Client Report* to determine whether there are any unresolved violations associated with the client that will affect issuance of the permit (per CSL Section 609). This query revealed no open violations.

eDMRs Summary - Upon review of the eDMR's, the facility has had numerous effluent limit violations which are listed below.

Compliance History

DMR Data for Outfall 001 (from March 1, 2020 to February 28, 2021)

Parameter	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20
Flow (MGD) Average Monthly					0.0005	0.0006	0.0008	0.0009	0.0008			
Flow (MGD) Daily Maximum					0.0005	0.0007	0.0009	0.001	0.0009			
pH (S.U.) Minimum					7.2	7.4	7.0	7.0	7.1			
pH (S.U.) Instantaneous Maximum					7.8	7.9	8.0	7.6	7.8			
DO (mg/L) Average Monthly					4.5	3.9	2.7	2.7	2.2			
TRC (mg/L) Average Monthly					0.1	0.2	0.12	0.1	0.2			
TRC (mg/L) Instantaneous Maximum					0.16	1.05	1.04	0.25	0.9			
CBOD5 (mg/L) Average Monthly					< 1.0	FF	< 0.1	< 1	245			
CBOD5 (mg/L) Instantaneous Maximum					< 1.0	FF	< 0.1	< 1	245			
TSS (mg/L) Average Monthly					< 1.0	FF	9.0	< 1	73			
TSS (mg/L) Instantaneous Maximum					< 1.0	FF	9.0	< 1	73			
Fecal Coliform (No./100 ml) Average Monthly					< 1.0							
Fecal Coliform (No./100 ml) Geometric Mean						FF	133.3	E	2420			
Fecal Coliform (No./100 ml) Instantaneous Maximum					< 1.0	FF	133.3	E	> 2419.6			

Total Nitrogen (mg/L) Average Monthly			99.3									
Ammonia (mg/L) Average Monthly			E			< 0.01			99.3			
Total Phosphorus (mg/L) Average Monthly			13.0									

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2020 To: February 28, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	06/30/20	Avg Mo	245	mg/L	25	mg/L
CBOD5	06/30/20	IMAX	245	mg/L	50	mg/L
TSS	06/30/20	Avg Mo	73	mg/L	30	mg/L
TSS	06/30/20	IMAX	73	mg/L	60	mg/L
Fecal Coliform	06/30/20	Geo Mean	2420	No./100 ml	200	No./100 ml
Fecal Coliform	06/30/20	IMAX	> 2419.6	No./100 ml	1000	No./100 ml

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **A**)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **B**)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☒	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☒	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

APPENDIX A

WQM 7.0 MODEL RESULTS

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
05E	27450	ROARING 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)
12.130	Springbrook	PA0111970	0.003	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

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
05E	27450	ROARING CREEK	12.130	731.00	30.90	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	0.100	0.00	10.34	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
Springbrook	PA0111970	0.0026	0.0026	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
05E	27450	ROARING CREEK	10.580	688.00	35.00	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	0.100	0.00	11.71	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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
05E	27450	ROARING 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												
12.130	10.34	0.00	10.34	.004	0.00525	.723	38.99	53.94	0.37	0.258	20.00	7.00
Q1-10 Flow												
12.130	6.62	0.00	6.62	.004	0.00525	NA	NA	NA	0.29	0.331	20.00	7.00
Q30-10 Flow												
12.130	14.06	0.00	14.06	.004	0.00525	NA	NA	NA	0.44	0.217	20.00	7.00

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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
05E	27450	ROARING 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
12.130	Springbrook	9.67	50	9.67	50	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
12.130	Springbrook	1.92	25	1.92	25	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)		
12.13	Springbrook	25	25	25	25	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
05E	27450	ROARING CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
12.130	0.003	20.002	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
38.993	0.723	53.941	0.367
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.006	0.01	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.241	13.158	Tsivoglou	5
Reach Travel Time (days)			
0.258			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.026	2.01	0.01	8.24
0.052	2.01	0.01	8.24
0.077	2.01	0.01	8.24
0.103	2.01	0.01	8.24
0.129	2.01	0.01	8.24
0.155	2.01	0.01	8.24
0.181	2.01	0.01	8.24
0.206	2.01	0.01	8.24
0.232	2.01	0.01	8.24
0.258	2.01	0.01	8.24

APPENDIX B

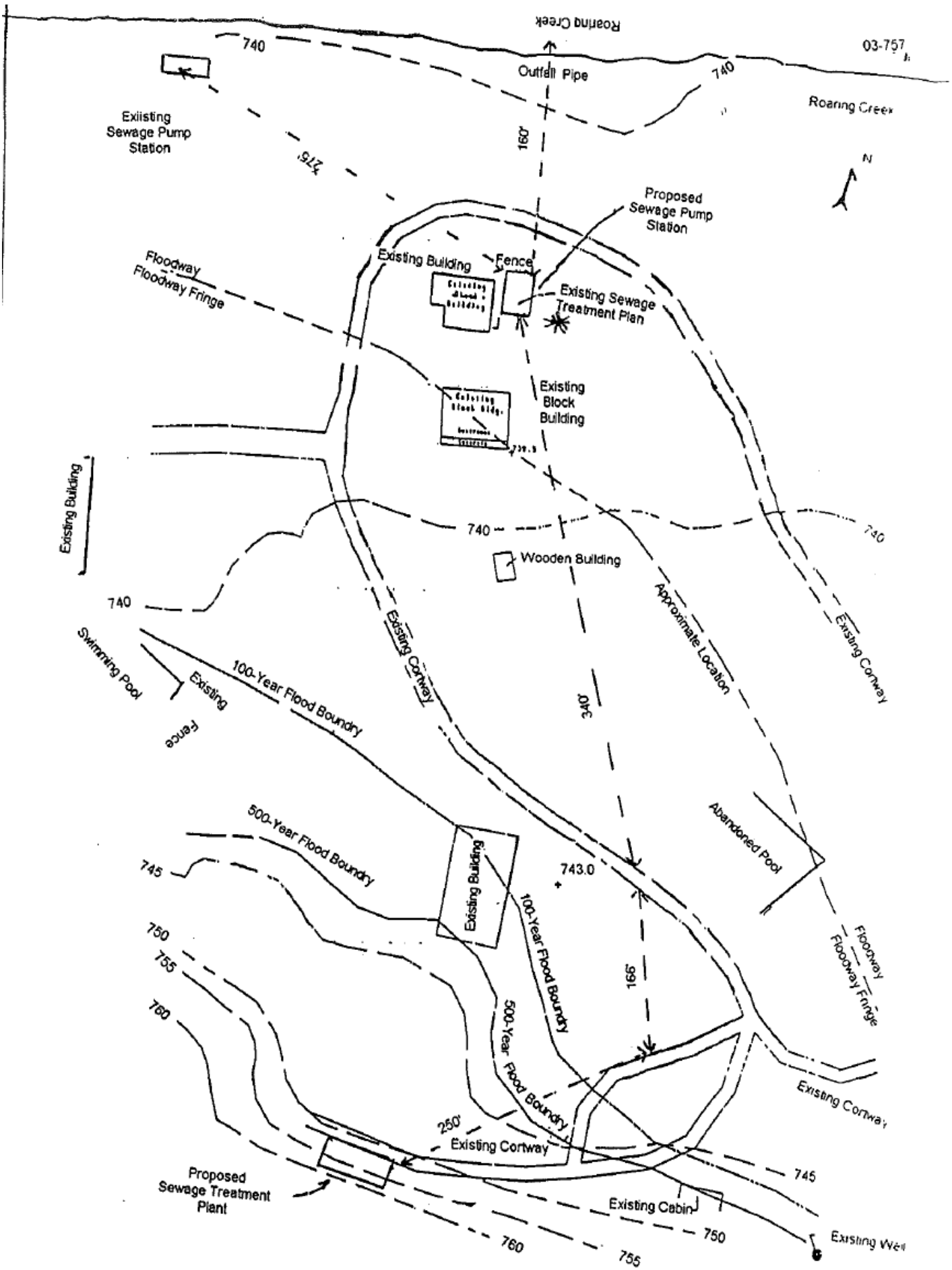
TRC ANALYSIS SPREADSHEET

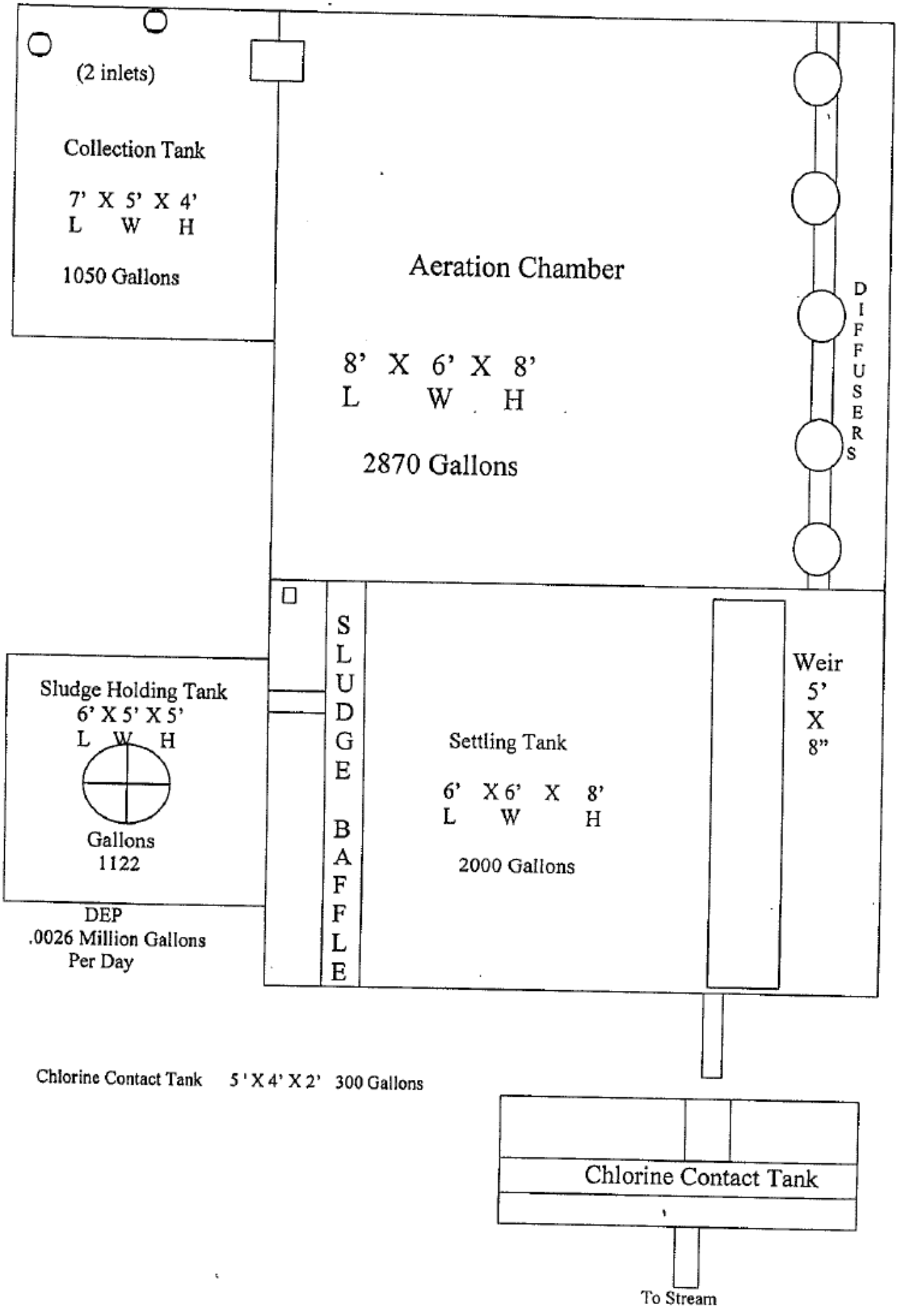
	B	C	D	E	F	G
1A						
2	**TRC EVALUATION**			**Springbrook Family Campground**		
3	Input appropriate values in B4:B8 and E4:E7					
4	10.34	**= Q stream (cfs)**		0.5	**= CV Daily**	
5	0.0035	**= Q discharge (MGD)**		0.5	**= CV Hourly**	
6	30	**= no. samples**		1	**= AFC_Partial Mix Factor**	
7	0.3	**= 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)**		0	**=Decay Coefficient (K)**	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	**1.3.2.iii**	WLA afc = 609.209		**1.3.2.iii**	WLA cfc = 593.924
12	PENTOXSD TRG	**5.1a**	LTAMULT afc = 0.373		**5.1c**	LTAMULT cfc = 0.581
13	PENTOXSD TRG	**5.1b**	LTA_afc= 227.006		**5.1d**	LTA_cfc = 345.279
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX 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)**

APPENDIX C

FACILITY MAP AND SCHEMATIC


Roaring Creek
740
03-757
Outfall Pipe
740
Roaring Creek
Existing Sewage Pump Station
715'
160'
N
Proposed Sewage Pump Station
Existing Building
Fence
Floodway
Floodway Fringe
Existing Sewage Treatment Plan
Existing Block Building
Existing Building
740
740
Wooden Building
740
Swimming Pool
Existing Fence
100-Year Flood Boundry
Existing Cortway
Approximate Location
340'
Existing Cortway
500-Year Flood Boundry
745
750
755
760
Existing Building
743.0
Abandoned Pool
100-Year Flood Boundry
165'
Floodway
Floodway Fringe
500-Year Flood Boundry
Existing Cortway
250'
Existing Cortway
Proposed Sewage Treatment Plant
745
Existing Cabin
750
760
755
Existing Well


(2 inlets)
Collection Tank
7' X 5' X 4'
L W H
1050 Gallons
Aeration Chamber
8' X 6' X 8'
L W H
2870 Gallons
DIFFUSERS
SLUDGE BAFFLE
Sludge Holding Tank
6' X 5' X 5'
L W H
Gallons
1122
DEP
.0026 Million Gallons
Per Day
Settling Tank
6' X 6' X 8'
L W H
2000 Gallons
Weir
5'
X
8"
Chlorine Contact Tank 5' X 4' X 2' 300 Gallons
Chlorine Contact Tank
To Stream

APPENDIX D

eDMR NUTRIENT DATA

PERMIT	PF NAME	PF ID	DMR RECEIVED DATE	PARAMETER	CONC UNITS	CONC 2 VALUE	CONC 2 LIMIT	CONC 2 SBC	SAMPLE FREQUENCY
PA0111970	SPRINGBROOK FAMILY CAMPGROUND	266536	10/08/2019	Total Nitrogen	mg/L	36.5	Monitor and Report	Average Monthly	1/year
PA0111970	SPRINGBROOK FAMILY CAMPGROUND	266536	09/29/2020	Total Nitrogen	mg/L	99.3	Monitor and Report	Average Monthly	1/year
PA0111970	SPRINGBROOK FAMILY CAMPGROUND	266536	10/08/2019	Total Phosphorus	mg/L	4.84	Monitor and Report	Average Monthly	1/year
PA0111970	SPRINGBROOK FAMILY CAMPGROUND	266536	09/29/2020	Total Phosphorus	mg/L	13.0	Monitor and Report	Average Monthly	1/year