Pennsylvania Department of Environmental Protection

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0209317**
Facility Type	**Non-Municipal**	APS ID	**1075968**
Major / Minor	**Minor**	Authorization ID	**1418073**

Applicant and Facility Information

Applicant Name	**Eagle Ridge Personal Care Home LLC**	Facility Name	**Eagle Ridge Personal Care Home**
Applicant Address	2997 Renovo Road	Facility Address	2997 Renovo Road
	Mill Hall, PA 17751-8537		Mill Hall, PA 17751-8537
Applicant Contact	Tyler Penland	Facility Contact	Tyler Penland
Applicant Phone	(814) 574-4686	Facility Phone	(814) 574-4686
Client ID	294667	Site ID	238401
Ch 94 Load Status	Not Overloaded	Municipality	Colebrook Township
Connection Status	No Limitations	County	Clinton
Date Application Received	November 14, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Application for the renewal of the existing individual NPDES permit.

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.

Approve	Deny	Signatures	Date
X		Jonathan P. Peterman / Project Manager	October 22, 2024
X		Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	October 23, 2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.005
Latitude	41º 10' 34.00"	Longitude	-77º 32' 59.00"
Quad Name	Farrandsville	Quad Code	0925
Wastewater Description:	Sewage Effluent		
Receiving Waters	Tangascootack Creek	Stream Code	23332
NHD Com ID	61116653	RMI	0.038
Drainage Area	36.701	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.54	Q_{7-10} Basis	Gage No. 1547700
Elevation (ft)	663	Slope (ft/ft)	
Watershed No.	9-B	Chapter 93 Class.	CWF
Existing Use	CWF	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, Metals		
Source(s) of Impairment	Abandoned Mine Drainage, Abandoned Mine Drainage		
TMDL Status	Final	Name	Tangascootack Creek Watershed
Nearest Downstream Public Water Supply Intake	PA American Water White Deer		
PWS Waters	West Branch of Susquehanna River	Flow at Intake (cfs)	682
PWS RMI	10.5	Distance from Outfall (mi)	72

Changes Since Last Permit Issuance: A Q_{7-10} analysis was previously conducted using a comparable stream gage (1547700) to approximate the Q_{7-10} stream flow at the discharge point. 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*. The Q_{7-10} calculations, which are attached in Appendix A, indicate that the Q_{7-10} is 0.54 cfs.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Eagle Ridge Personal Care Home

WQM Permit No.	Issuance Date	Notes:
1895405 T-1	10/3/16	Transfer from Oakridge PCA to Eagle Ridge PCA.
1895405	3/18/96	Original construction.

Waste Type	Degree of Treatment	Process Type	Disinfection	Design Flow (MGD)
Sewage	Primary	Septic Tank	Hypochlorite	0.005
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.005	--	Not Overloaded	None.	Other WWTP.

Treatment System Components for Outfall 001:
- Six (6) 1,500-gallon primary settling tanks.
- One (1) 1,000-gallon intermediate settling tank.
- One (1) dosing tank.
- Two (2) intermittent sand filters.
-An EES Tablet Feeder Model 100 Chlorination system is utilized for disinfection.
- One (1) chlorine contact tank.
- One (1) Outfall 001 to Tangascootack Creek.

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

Chesapeake Bay Requirements

Facilities that are designed based on a flow of less than 2,000 GPD are not a part of Pennsylvania's Chesapeake Bay Tributary Strategy. The permittee has certified, by letter with documentation, that the facility is routinely operating with a discharge below 2,000 gallons per day (0.002 MGD). However, the permitted annual average design flow was not amended in the WQM permit. Therefore, the permitted design flow remains 5,000 gpd. Previously, the permittee was required to monitor and report TN and TP throughout the permit term at a frequency no less than annually in accordance with the Phase III WIP Chesapeake Bay Strategy for Phase V facilities (0.002 MGD to 0.2 MGD) since it did not have at least two of years of monitoring completed. Monitoring for these parameters was conducted over the previous permit term and the yearly monitoring requirements for nutrients will be removed accordingly. No further monitoring is required at this time. The monitoring results are attached in the Appendix D.

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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	5/week	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report SEMI AVG	XXX	Report	1/6 months	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

*The existing effluent limits for Outfall 001 were based on a design flow of 0.005 MGD.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .005
Latitude 41º 10' 34.00" **Longitude** -77º 32' 59.00"
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

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 Toxic Management Spreadsheet

WQM 7.0 for Windows, Version 1.0b, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen
The model was run using the Q7-10 stream flow, background water quality, average annual design flow, and other discharge characteristics. The existing technology based effluent limit for $CBOD_5$ (25 mg/l) and 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 model did not recommend water-quality based effluent limitations with regards to CBOD5, ammonia-nitrogen, and dissolved oxygen. Refer to the Appendix for the previous WQM 7.0 inputs and results. The existing effluent limits will remain.

Best Professional Judgment (BPJ) Limitations

See NH_3-N and monitoring frequency sections below.
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.

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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	5/week	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report SEMI AVG	XXX	Report	1/6 months	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

*The proposed effluent limits for Outfall 001 were based on a design flow of 0.005 MGD.

Effluent Limit Determination for Outfall 001

General Information
All of the limits proposed above are consistent with other permits issued for major wastewater treatment plants in the region. The associated mass-based limits (lbs/day) for all parameters were based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34). 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.

Flow
Reporting of the average monthly flow and daily maximum is consistent with monitoring requirements for other treatment plants of this size.

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.

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. The existing limits will remain.

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

Dissolved Oxygen (DO)
Monitoring for Dissolved Oxygen will not be required for this anaerobic system with significant in-stream dilution (>100:1).

Ammonia-Nitrogen (NH3-N
The results of the WQM 7.0 model show that water quality based effluent limits for ammonia-nitrogen are not required. Based on BPJ, monitoring for NH3-N is proposed. However, since it is anticipated that the treatment method utilized at this facility will consistently meet the technology based effluent limits, a monitoring frequency of 1/ 6 months is adequate and will remain.

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

Monitoring Frequencies (TRC, pH, $CBOD_5$, TSS, and Fecal Coliforms)
Previous reviews established a monitoring frequency of 5/ Week for pH and TRC and 1/ Month for $CBOD_5$, TSS, and Fecal Coliforms. However, these monitoring frequencies do not correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 which calls for daily monitoring and 2/ month samples accordingly. Based on BPJ and given that there is no history of non-compliance with effluent limitations over the past two years of DMR data, the existing frequencies will be continued in the renewed permit. This facility routinely operates at an annual average flow of less than 2,000 gpd. Although a rerate of the WQM has not been conducted, the monitoring frequency of 1/ month corresponds with the guidance (Table 6-3) for facilities that discharge less than 2,000 gpd and is acceptable. Given that this facility utilizes a septic / sand filter system in lieu of a traditional aeration system, a 5/ week sampling frequency is acceptable. It is expected that the effluent quality would not differ drastically on days when monitoring is not conducted given that there is a lesser potential for a system malfunction with a sand filter system.

Compliance History

Summary of Inspections -The last inspection of the facilities was conducted by the Department on 7/23/24 which reveals the facility was operating normally. Two operational violations were noted.
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 two open violations in the SDW program. See below. These programs will be notified of the open violations.

CLIENT	PF STATUS	INSP PROGRAM	PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION	INSP REGION
EAGLE RIDGE PERSONAL CARE HOME LLC	Active	Water Planning and Conservation	100858-001	3652583	8166785	11/30/2023	110.301	Reporting for all water withdrawals and usage	NCRO
EAGLE RIDGE PERSONAL CARE HOME LLC	Active	Safe Drinking Water	4180071	3798001	8194568	07/18/2024	B6G	FAILURE TO MAINTAIN AN APPROPRIATELY CERTIFIED OPERATOR	NCRO

Compliance History

DMR Data for Outfall 001 (from September 1, 2023 to August 31, 2024)

Parameter	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23
Flow (MGD) Average Monthly							0.00156	0.0018	0.00143	0.00132	0.0014	0.00163
pH (S.U.) Instantaneous Minimum							6.85	6.76	6.67	6.52	6.64	6.67
pH (S.U.) Instantaneous Maximum							7.00	6.93	6.82	6.88	7.01	6.91
TRC (mg/L) Average Monthly							0.29	0.37	0.35	0.40	0.28	0.38
TRC (mg/L) Instantaneous Maximum							0.64	1.05	1.04	1.08	0.62	1.06
CBOD5 (mg/L) Average Monthly							6.39	10.34	9.215	< 8.05	< 4.63	< 5.32
CBOD5 (mg/L) Instantaneous Maximum							7.98	12.2	13.0	13.1	6.26	7.64
TSS (mg/L) Average Monthly							6.60	8.6	5.40	6.20	< 3.80	4.00
TSS (mg/L) Instantaneous Maximum							6.80	12.8	6.00	7.20	6.00	4.00
Fecal Coliform (No./100 ml) Geometric Mean							< 1.0	7.4	< 1.0	< 1.0	< 1.0	1.0
Fecal Coliform (No./100 ml) Instantaneous Maximum							< 1.0	7.4	< 1.0	< 1.0	< 1.0	1.0
Total Nitrogen (mg/L) Daily Maximum									31.11			
Ammonia (mg/L) Semi-Annual Average			0.8395						< 0.1000			
Ammonia (mg/L) Instantaneous Maximum			0.8395						< 0.1000			
Total Phosphorus (mg/L) Daily Maximum									1.45			

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **B**)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **C**)
☐	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, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☒	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

APPENDIX A

Q7-10 ANALYSIS AND STREAM DATA

Q_{7-10} Calculations

Comparative Analysis

Stream Name	Beech Creek
Reference Gage	1547950
Station Name	Beech Creek at Monument, PA
Gage Drainage Area (sq. mi.)	152
Q_{7-10} at gage (cfs)	15.9
Drainage Area at site (sq. mi.)	36.701
Q_{7-10} at discharge site (cfs)	3.8391
Q_{7-10} at discharge site (mgd)	2.4813

Low Flow Yield Ratio of 0.1 cfs/mi^2

Q_{7-10} at discharge site (cfs)	3.6701
Q_{7-10} at discharge site (mgd)	2.3720

Q_{7-10} Calculations

Comparative Analysis

Stream Name	Marsh Creek	
Reference Gage	1547700	
Station Name	Marsh Creek at Blanchard, PA	
Gage Drainage Area (sq. mi.)	44.1	
Q_{7-10} at gage (cfs)	0.63	
Drainage Area at site (sq. mi.)	36.701	
Q_{7-10} at discharge site (cfs)	0.5243	Use this flow. More represenative and conservative
Q_{7-10} at discharge site (mgd)	0.3389	

Low Flow Yield Ratio of 0.1 cfs/mi^2

Q_{7-10} at discharge site (cfs)	3.6701
Q_{7-10} at discharge site (mgd)	2.3720

Check Dilution Ratio		
	sf (cfs)	wf (cfs)
Dilution Ratio = sf/wf	0.5243	0.007736143
Dilution Ratio =	67.77279 to 1	

Basin Characteristics Report

Date: Thu Sep 29 2011 09:50:35 Mountain Daylight Time
NAD27 Latitude: 41.1760 (41 10 34)
NAD27 Longitude: -77.5502 (-77 33 01)
NAD83 Latitude: 41.1761 (41 10 34)
NAD83 Longitude: -77.5499 (-77 32 60)

Parameter	Value
Stream density (miles/square mile)	2.11
Depth to rock in feet	4.766
Percent of area covered by forest	89.0066
Total stream length in miles	77.3
Area in square miles	36.701
Unadjusted basin slope, in degrees	10.1664
Mean annual precipitation in inches	40.423
Percent of area covered by lakes, ponds, reservoirs and wetlands	0.0341
Percent of area covered by glacial activity	0.0000
Mean Basin Elevation in feet	1340
Percent of area covered by urban	0.0513
Percent of area covered by carbonate bedrock	0.0000
Adjusted basin slope, in degrees	9.93

APPENDIX B

PREVIOUS WQM 7.0 MODEL INPUT/OUTPUT

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
09B	23332	TANGASCOOTACK CREEK	**0.038**	663.00	36.70	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	0.52	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
Eagle Ridge PCH	PA0209317	0.0050	0.0050	0.0050	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
09B	23332	TANGASCOOTACK 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												
0.038	0.52	0.00	0.52	.0077	0.01495	.513	14.14	27.58	0.07	0.032	20.07	7.00
Q1-10 Flow												
0.038	0.50	0.00	0.50	.0077	0.01495	NA	NA	NA	0.07	0.032	20.08	7.00
Q30-10 Flow												
0.038	0.62	0.00	0.62	.0077	0.01495	NA	NA	NA	0.08	0.029	20.06	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	0.97	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.2	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
09B	23332	TANGASCOOTACK 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
0.038	Eagle Ridge PCH	16.66	50	16.66	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
0.038	Eagle Ridge PCH	1.88	25	1.88	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)		
0.04	Eagle Ridge PCH	25	25	25	25	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
09B	23332	TANGASCOOTACK CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.038	0.005	20.073	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
14.139	0.513	27.582	0.073
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.34	0.230	0.37	0.704
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.166	12.937	Owens	6
Reach Travel Time (days)			
0.032			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.003	2.34	0.37	8.20
0.006	2.33	0.36	8.23
0.010	2.33	0.36	8.23
0.013	2.33	0.36	8.23
0.016	2.33	0.36	8.23
0.019	2.33	0.36	8.23
0.022	2.33	0.36	8.23
0.026	2.32	0.36	8.23
0.029	2.32	0.36	8.23
0.032	2.32	0.36	8.23

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
09B	23332	TANGASCOOTACK 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)
0.038	Eagle Ridge PCH	PA0209317	0.005	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

APPENDIX C

TRC ANALYSIS

1A	B	C	D	E	F	G
2	**TRC EVALUATION**	Eagle Ridge PCA				
3	Input appropriate values in B4:B8 and E4:E7					
4	0.54	= Q stream (cfs)		0.5	= CV Daily	
5	0.005	= 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 = 22.289		1.3.2.iii	WLA cfc = 21.723
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc= 8.305		5.1d	LTA_cfc = 12.629
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 E

NITROGEN AND PHOSPHORUS SAMPLING RESULTS

PERMIT	PF NAME	MONITORING START DATE	OUTFALL	PARAMETER	CONC 3 VALUE	CONC 3 LIMIT	CONC 3 SBC	SAMPLE FREQUENCY	SAMPLE TYPE
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2019	001	Total Nitrogen	47.22	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2020	001	Total Nitrogen	52.20	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2021	001	Total Nitrogen	25.89	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2022	001	Total Nitrogen	< 87.61	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2023	001	Total Nitrogen	31.11	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2019	001	Total Phosphorus	3.69	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2020	001	Total Phosphorus	2.68	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2021	001	Total Phosphorus	2.66	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2022	001	Total Phosphorus	2.40	Monitor and Report	Daily Maximum	1/year	Grab
PA0209317	EAGLE RIDGE PERSONAL CARE HOME LLC	01/01/2023	001	Total Phosphorus	1.45	Monitor and Report	Daily Maximum	1/year	Grab