Pennsylvania Department of Environmental Protection

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0113140**
Facility Type	**Non-Municipal**	APS ID	**1126787**
Major / Minor	**Minor**	Authorization ID	**1508388**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Kress Holdings & Land Development, LLC**	Facility Name	**Hillside View MHP WWTP**
Applicant Address	356 Roscoe Drive	Facility Address	15540 Route 6
	Gillett, PA 16925-9700		Mansfield, PA 16933
Applicant Contact	Daniel Kress	Facility Contact	Daniel Kress
Applicant Phone	(607) 426-3130	Facility Phone	(607) 426-3130
Client ID	294707	Site ID	3060
Ch 94 Load Status	Not Overloaded	Municipality	Richmond Township
Connection Status	No Limitations	County	Tioga
Date Application Received	December 2, 2024	EPA Waived?	Yes
Date Application Accepted	December 4, 2024	If No, Reason	
Purpose of Application	Renewal of a NPDES Permit		

Summary of Review

The subject sewage treatment plant discharge serves Hillside View MHP in Richmond Township, Tioga County.

Sludge use and disposal description and location(s): The facility's wasted sludge is transferred to other WWTPs for further processing.

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
✓		Keith C. Allison Keith C. Allison / Project Manager	May 7, 2025
✓		N. W. H. Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	May 7, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.026
Latitude	41º 47' 5.10"	Longitude	-77º 8' 6.96"
Quad Name	Crooked Creek, PA	Quad Code	0428
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to North Elk Run (CWF, MF)	Stream Code	31365
NHD Com ID	57352117	RMI	1.12
Drainage Area	1.48 mi^2	Yield (cfs/mi^2)	0.0614
Q_{7-10} Flow (cfs)	0.091	Q_{7-10} Basis	Gage No. 1516350, Tioga River near Mansfield
Elevation (ft)	1414	Slope (ft/ft)	0.01693
Watershed No.	4-A	Chapter 93 Class.	CWF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake	PA-NY Border		
PWS Waters	Tioga River	Flow at Intake (cfs)	28.8
PWS RMI	13	Distance from Outfall (mi)	29.2

Changes Since Last Permit Issuance: None. The above stream and drainage characteristics from previous reviews remain appropriate.

Other Comments: The Department considers the PA-NY border as public water intake where there is no nearer intake. No downstream water supply is expected to be affected by the discharge with the limitations and monitoring proposed.

Treatment Facility Summary

Treatment Facility Name: Hillside View MHP

WQM Permit No.	Issuance Date	Permit Coverage:
5973404	9/28/1973	Original construction.
5973404 T-1	8/26/1986	Transfer
5973404 T-2	11/19/2008	Transfer
5973404 T-3	10/11/2016	Transfer from Hillside View, LLC to Kress Holdings & Land Development, LLC.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Hypochlorite	0.026

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.026	35.7	Not Overloaded	Holding Tank	Land Application

Changes Since Last Permit Issuance: None.

Other Comments: The treatment as permitted under WQM Permit 5973404 consists of comminutor, influent bar screen, one aeration tank, two sand filters, one clarifier, erosion chlorinator, chlorine contact tank, and sludge holding tank.

Compliance History

DMR Data for Outfall 001 (from April 1, 2024 to March 31, 2025)

Parameter	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24
Flow (MGD) Average Monthly	0.006	0.008	0.005	0.005	0.002	0.002	0.002	0.011	0.009	0.009	0.006	0.007
pH (S.U.) Instantaneous Minimum	7.5	7.6	7.6	7.6	7.5	7.7	7.6	7.0	7.6	7.5	7.6	7.3
pH (S.U.) Instantaneous Maximum	8.0	8.0	8.0	8.0	8.1	8.0	8.0	8.0	7.9	7.9	7.9	7.9
DO (mg/L) Minimum	7.4	7.6	6.8	6.8	6.8	8.2	6.7	7.4	6.9	6.2	6.0	6.1
TRC (mg/L) Average Monthly	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.30	0.3	0.2
TRC (mg/L) Instantaneous Maximum	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.38	0.3	0.3
CBOD5 (mg/L) Average Monthly	13.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 9.0	< 3.0	< 3.0	< 3.0
TSS (mg/L) Average Monthly	11.0	8.0	9.0	3.0	7.0	17.0	< 8.0	< 2.0	3.0	< 2.0	12.0	< 6.0
Fecal Coliform (No./100 ml) Geometric Mean	790	628	2	< 23	4	10	45	70	80	49	5	14
Fecal Coliform (No./100 ml) Instantaneous Maximum	2420	2420	3	517	4	16	1011	2419.6	579	1203	5	197
Ammonia (mg/L) Average Monthly	8.6	< 0.1	< 0.1	0.6	< 0.2	< 0.1	< 0.1	< 0.1325	< 0.3	< 0.3	0.3	1.3

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2024 to March 31, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	10/31/24	Avg Mo	31.6	mg/L	30.0	mg/L
Fecal Coliform	08/31/24	IMAX	2419.6	No./100 ml	1000	No./100 ml
Fecal Coliform	08/31/24	IMAX	2419.6	No./100 ml	1000	No./100 ml
Fecal Coliform	09/30/24	IMAX	1011	No./100 ml	1000	No./100 ml
Fecal Coliform	08/31/24	IMAX	2419.6	No./100 ml	1000	No./100 ml
Fecal Coliform	09/30/24	IMAX	1011	No./100 ml	1000	No./100 ml
Fecal Coliform	09/30/24	IMAX	1011	No./100 ml	1000	No./100 ml
Fecal Coliform	06/30/24	IMAX	1203	No./100 ml	1000	No./100 ml
Fecal Coliform	08/31/24	IMAX	2419.6	No./100 ml	1000	No./100 ml

Compliance History, Cont'd

Summary of Inspections:	The most recent inspection by the Department on May 3, 2024, noted no violations at the time of inspection. See Attachment B.
Other Comments:	A query in WMS found multiple open violations for Kress Holdings & Land Development, LLC in eFACTS as listed in the attached table.

Existing Effluent Limitations and Monitoring Requirements								
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	Weir
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	2/month	Grab
TRC	XXX	XXX	XXX	0.3	XXX	1.0	5/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	15.0	XXX	30	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.0	XXX	10	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.026
Latitude 41º 47' 5.06" **Longitude** -77º 8' 8.52"
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
CBOD5	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
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)

Comments: The above limitations are applicable and included in the existing permit except for a more stringent water quality-based limit for TRC as noted below.

Water Quality-Based Limitations

CBOD5, DO, and NH3-N

The WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD ($CBOD_5$), and ammonia nitrogen (NH_3-N) into free-flowing streams and rivers. To accomplish this the model simulates two basic processes: the mixing and degradation of NH_3-N in the stream and the mixing and consumption of DO in the stream due to the degradation of $CBOD_5$ and NH_3-N.

The discharge has existing water quality-based limits for NH3-N and DO as listed on the previous page.

WQM7.0 modeling was performed for the discharge to the Unnamed Tributary to North Elk Run and showed that the secondary treatment limits listed above for CBOD5 and the existing limits for NH3-N and DO are adequate to protect the receiving waters. See Attachment C.

TRC

The Department uses a modeling spreadsheet to determine necessary WQBELs for TRC toxicity based on instream dilution. The attached modeling results (See attachment D) show that the existing average monthly limit of 0.3 mg/l and a slightly more stringent Instantaneous Maximum limit of 0.9 mg/L are adequate to protect the receiving stream.

Toxics Management

No further “Reasonable Potential Analysis” was performed to determine additional toxic parameters as candidates for limitations for this 0.026 MGD sewage treatment facility receiving no industrial influent.

Chesapeake Bay Requirements

A portion of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the Water Pollution Control Act, 33 U.S.C. §1313(d). Total Nitrogen and Total Phosphorus cap loads have been established for significant dischargers in Pennsylvania to reduce the total nutrient load to the Bay and meet State of Maryland Water Quality Standards. The Hillside View MHP treatment plant is considered an existing Phase 5, insignificant Chesapeake Bay discharger per the Phase III Watershed Implementation Plan (WIP) and thus has not received Cap Loads. Monitoring under the current permit found the Total Nitrogen and Total Phosphorus to average <18.6 and 1.7 mg/L, respectively. Because the current nutrient load from the discharge has adequately been characterized no further nutrient monitoring will be required at this time.

e. Coli
Annual e. coli monitoring will be required at this time due to recent changes to Chapter 93 of the Departments regulations and Department policy.

Best Professional Judgment (BPJ) Limitations

No additional BPJ limits are needed beyond the water quality and technology-based limits noted above.

Anti-Backsliding

No water quality based or BPJ limits were made less stringent consistent with the anti-backsliding requirements of 40 CFR 122.44(l).

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" (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 Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/day	Weir
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.3	XXX	0.9	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
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
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	15.0	XXX	30	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.0	XXX	10	2/month	8-Hr Composite
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XX	1/year	Grab

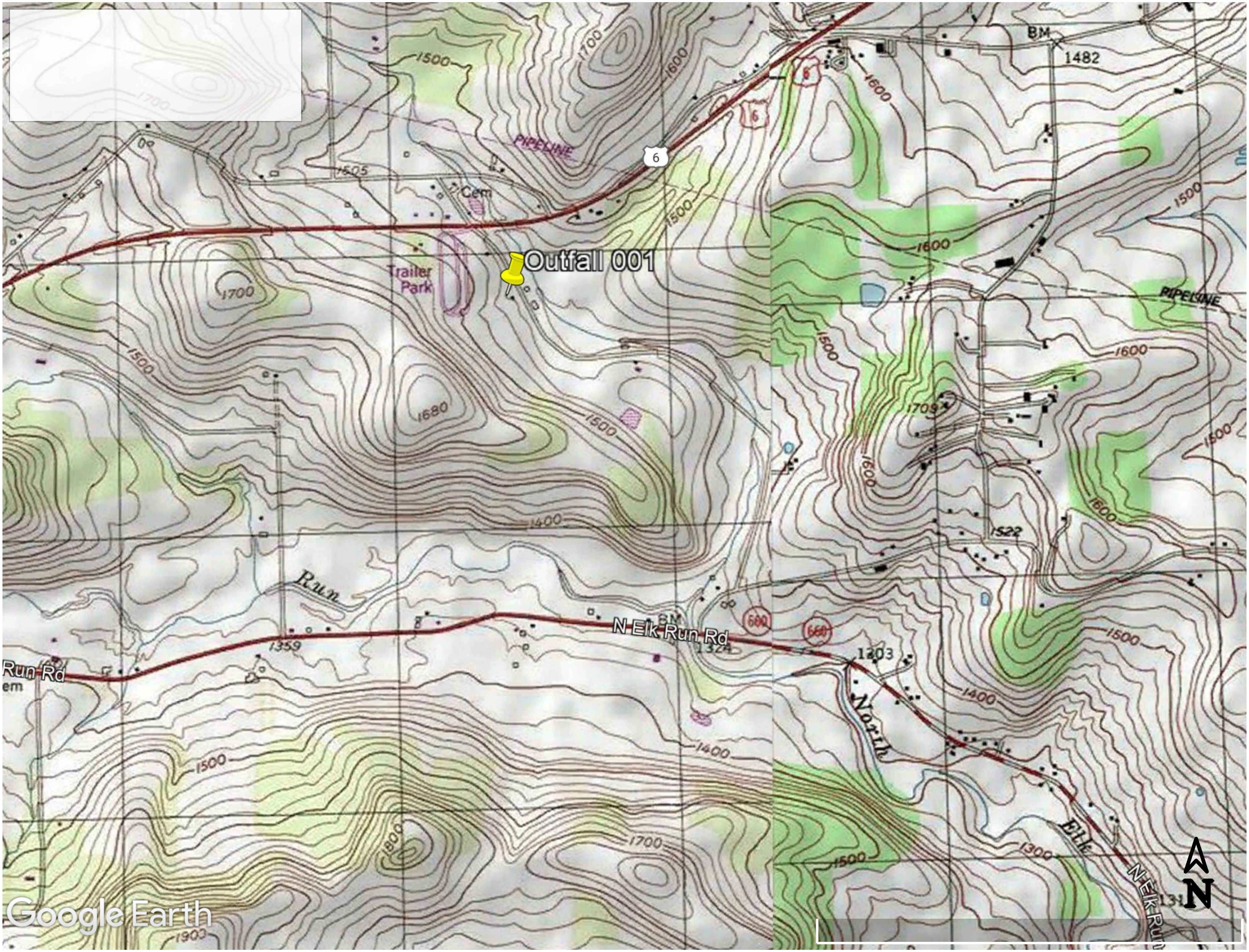
Compliance Sampling Location: Outfall 001

Other Comments: The TRC IMax has become more stringent from 1.0 to 0.9 mg/L and Total Nitrogen and Total Phosphorus have been removed as mentioned above. E. Coli monitoring is new as also mentioned above. Consistent with the recommendations of the NPDES Permit Writer's Manual the Monitoring frequencies for Flow, pH, DO, and TRC have increased to daily.

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **C**)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **D**)
☐	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:

Attachments:

A. Discharge Location Map
B. List of Open Violations for Kress Holdings & Land Development, LLC
C. WQM7.0 Model
D. TRC Model



Outfall 001
Trailer Park
Cem
PIPELINE
6
BM
1482
1500
1600
1700
1605
1680
1400
1300
1800
1900
1709
1522
1359
1324
1203
1313
660
Run
N Elk Run Rd
Run Rd
North
Elk
N
Google Earth

Open Violations for Kress Holdings & Land Development, LLC

FACILITY	PF KIND	INSP PROGRAM	PROGRAM SPECIFIC ID	VIOLATION DATE	VIOLATION	PF INSPECTOR
HILLSIDE VIEW MHP	Community	Safe Drinking Water	2590013	12/20/2021	FAILURE OF AN OWNER TO SUBMIT ANNUAL OPERATOR CERTIFICATION SYSTEM FEE	BLANEY,ROBERT
HILLSIDE VIEW MHP	Community	Safe Drinking Water	2590013	12/16/2022	FAILURE OF AN OWNER TO SUBMIT ANNUAL OPERATOR CERTIFICATION SYSTEM FEE	BLANEY,ROBERT
HILLSIDE VIEW MHP	Community	Safe Drinking Water	2590013	12/19/2023	FAILURE OF AN OWNER TO SUBMIT ANNUAL OPERATOR CERTIFICATION SYSTEM FEE	BLANEY,ROBERT
HILLSIDE VIEW MHP	Community	Safe Drinking Water	2590013	1/23/2025	FAILURE OF AN OWNER TO SUBMIT ANNUAL OPERATOR CERTIFICATION SYSTEM FEE	BLANEY,ROBERT
HILLSIDE VIEW MHP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0113140	3/26/2021	CERTIFICATION SYSTEM FEE	CROUTHAMEL,AUSTIN
HILLSIDE VIEW MHP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0113140	8/31/2021	NPDES - Failure to pay annual fee	CROUTHAMEL,AUSTIN
HILLSIDE VIEW MHP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0113140	6/7/2022	NPDES - Failure to pay annual fee	CROUTHAMEL,AUSTIN
HILLSIDE VIEW MHP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0113140	9/6/2023	NPDES - Failure to pay annual fee	CROUTHAMEL,AUSTIN
HILLSIDE VIEW MHP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0113140	9/5/2024	NPDES - Failure to pay annual fee	CROUTHAMEL,AUSTIN
HILLSIDE VIEW MHP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0113140	1/9/2025	Operator Certification - Failure to submit annual system fee	CROUTHAMEL,AUSTIN

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
04A	31365	Trib 31365 to North Elk Run	**1.120**	1420.00	1.49	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	0.061	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
Hillside View	PA0113140	0.0260	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	5.00	8.24	0.00	0.00
NH3-N	5.00	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
04A	31365	Trib 31365 to North Elk Run	**0.001**	1320.00	2.56	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	0.061	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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
04A	31365	Trib 31365 to North Elk Run

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 (ºC)	Analysis pH
Q7-10 Flow												
1.120	0.09	0.00	0.09	.0402	0.01693	.365	5.27	14.41	0.07	0.999	21.53	7.00
Q1-10 Flow												
1.120	0.06	0.00	0.06	.0402	0.01693	NA	NA	NA	0.06	1.174	22.04	7.00
Q30-10 Flow												
1.120	0.12	0.00	0.12	.0402	0.01693	NA	NA	NA	0.08	0.882	21.22	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	6		

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
04A	31365	Trib 31365 to North Elk Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.120	0.026	21.527	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
5.267	0.365	14.411	0.068
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
9.02	1.053	1.53	0.787
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.253	24.020	Owens	6
Reach Travel Time (days)			
0.999			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.100	8.06	1.41	8.01
0.200	7.20	1.30	8.01
0.300	6.43	1.21	8.01
0.400	5.75	1.11	8.01
0.500	5.13	1.03	8.01
0.600	4.58	0.95	8.01
0.700	4.09	0.88	8.01
0.799	3.66	0.81	8.01
0.899	3.27	0.75	8.01
0.999	2.92	0.70	8.01

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
04A	31365	Trib 31365 to North Elk Run

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
1.120	Hillside View	14.16	10	14.16	10	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
1.120	Hillside View	1.74	5	1.74	5	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)		
1.12	Hillside View	25	25	5	5	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
04A	31365	Trib 31365 to North Elk Run

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)
1.120	Hillside View	PA0113140	0.026	CBOD5	25		
				NH3-N	5	10	
				Dissolved Oxygen			5

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.091	= Q stream (cfs)	0.5	= CV Daily
0.026	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.3	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.741	1.3.2.iii	WLA cfc = 0.715
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.276	5.1d	LTA_cfc = 0.415

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.300	BAT/BPJ
		INST MAX LIMIT (mg/l) = 0.981	

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)