Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0095231**
Facility Type	**Industrial**	APS ID	**1086441**
Major / Minor	**Minor**	Authorization ID	**1436064**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Indiana County Municipal Service Authority**	Facility Name	**Indiana County Municipal Service Authority Arcadia**
Applicant Address	602 Kolter Drive Indiana, PA 15701-3570	Facility Address	1377 Cush Creek Road Arcadia, PA 15712
Applicant Contact	Tricia Lefko	Facility Contact	Derek Long
Applicant Phone	(724) 349-6640	Facility Phone	(724) 349-6640
Client ID	38534	Site ID	246884
SIC Code	4941	Municipality	Montgomery Township
SIC Description	Trans. & Utilities - Water Supply	County	Indiana
Date Application Received	March 31, 2023	EPA Waived?	No
Date Application Accepted	April 8, 2025	If No, Reason	DEP Discretion
Purpose of Application	This is an application for NPDES renewal.		

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Arcadia Water Treatment Plant (Indiana County Municipal Services) located at 1377 Cush Creek Road, Arcadia, PA 15712 in Indiana County, municipality of Montgomery Township. The existing permit became effective on October 1, 2018, and expired on September 30, 2023. The application for renewal was received by DEP Northwest Regional Office (NWRO) on March 31, 2023.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.001 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as an Industrial Waste (without ELG) due to the type of wastewater and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Indiana County Municipal Services Authority and Montgomery Township and the notice was received by the parties on March 13, 2023, and March 14, 2023.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Trib 27130 To Cush Creek. The sequence of receiving streams that the Trib 27130 To Cush Creek discharges into are Cush Creek, West

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	April 25, 2025
X		Adam Olesnanik, P.E. / Environmental Engineer Manager Adam Olesnanik	May 2, 2025

Summary of Review

Branch Susquehanna River, and the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for high-quality cold-water fishes (HQ-CWF) and migratory fishes (MF). The receiving stream is a Class A Wild Trout fishery. The presence of high quality and/or exceptional value surface waters triggers the need for an additional evaluation of anti-degradation requirements.

The Trib 27130 To Cush Creek is a Category 2 stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life and potable water supply. The tertiary receiving waters (West Branch Susquehanna River) is subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Effluent limits for aluminum have been lowered to 3.32 mg/l.**

Sludge use and disposal description and location(s): Wastewater originates from filter backwash. The facility did not report any biosolids in 2024.

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Northwest Regional Office (NWRO), 230 Chestnut Street, Meadville, PA 16335. To make an appointment for file review, contact the NWRO File Review Coordinator at (814) 332 6945.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Arcadia Water Treatment Plant (Indiana County Municipal Services Authority)
NPDES Permit #	PA0095231
Physical Address:	1377 Cush Creek Road Arcadia, PA 15712
Mailing Address:	602 Kolter Drive Indiana, PA 15701
Contact:	Tricia Lefko Compliance Superintendent (734) 349-6640 tlefko@icomsa.org Derek Long Operations Manager (734) 349-6640 dlong@icomsa.org
Consultant:	There was not a consultant utilized for this NPDES renewal.

1.2 Permit History

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 1377 Cush Creek Road, Arcadia, PA 15712. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

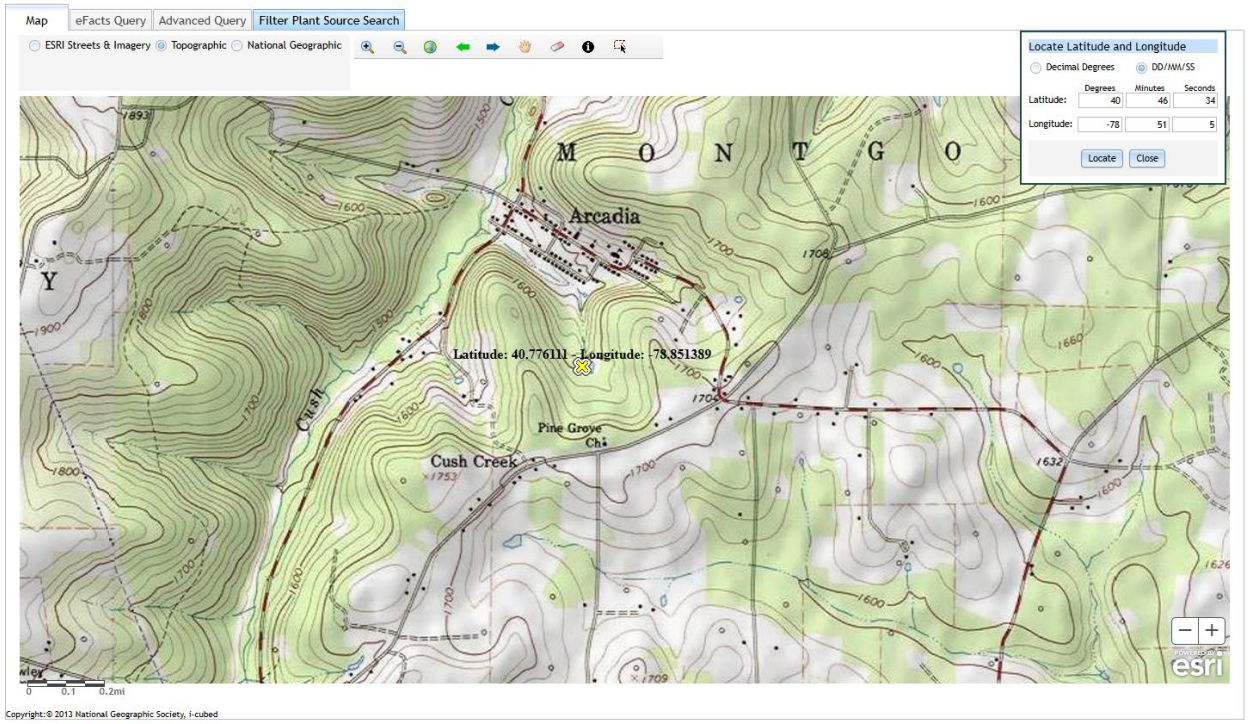
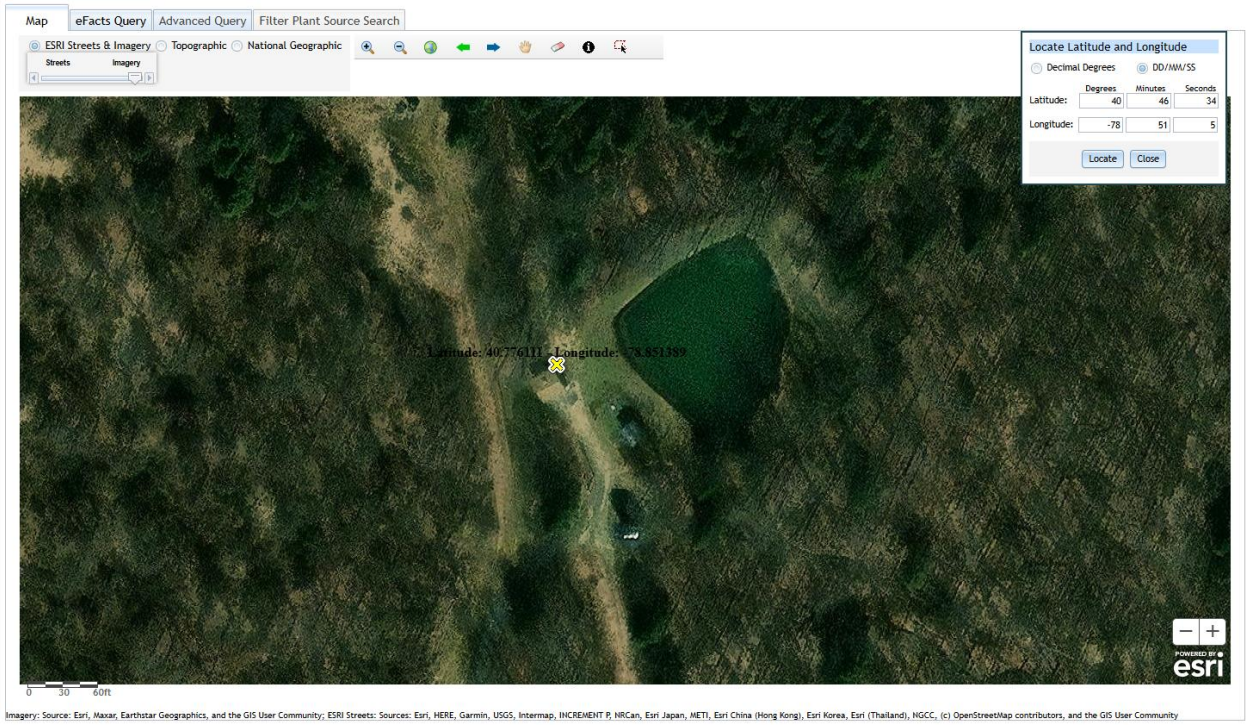


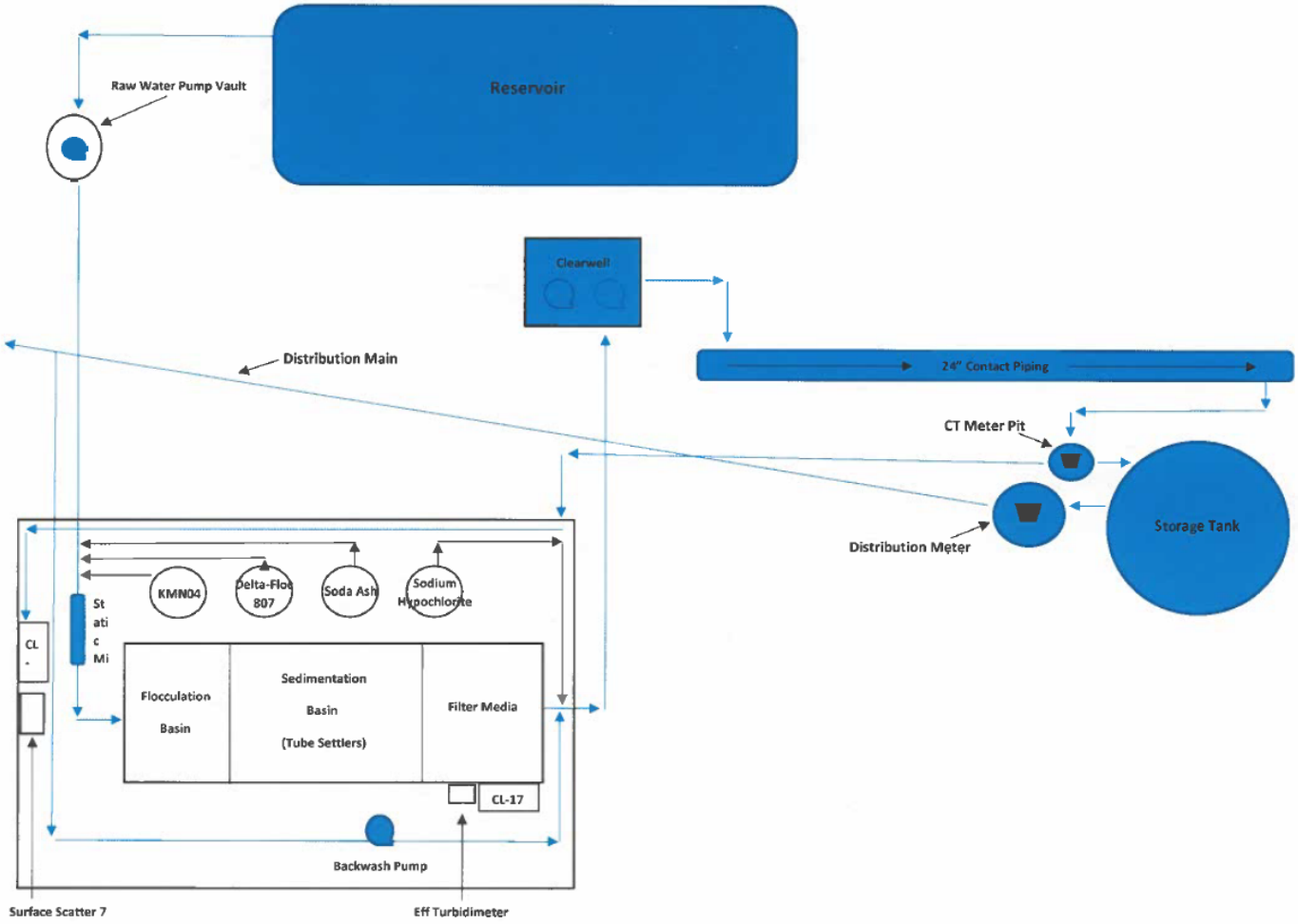
Figure 2: Aerial Photograph of the subject facility



2.2 Description of Wastewater Treatment Process

The subject facility is a 0.001 MGD design flow facility. The subject facility generates wastewater from water treatment backwash. The facility is being evaluated for flow, pH, TRC, total suspended solids, aluminum, iron, and manganese. The existing permits limits for the facility is summarized in Section 2.4.

A schematic of the process is depicted.



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.001
Latitude	40º 46' 34.00"	**Longitude**	-78º 51' 5.00"

Wastewater Description: IW Process Effluent without ELG

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- No chemicals are used at the facility for wastewater treatment

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40° 46' 34.00" , **Longitude** 78° 51' 5.00" , **River Mile Index** 0.51 , **Stream Code** 27130

Receiving Waters: Unnamed Tributary to Cush Creek

Type of Effluent: IW Process Effluent without ELG

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60	2/month	Grab
Aluminum, Total	0.03	XXX	XXX	4.0	XXX	8	2/month	Grab
Iron, Total	0.02	XXX	XXX	2.0	XXX	4	2/month	Grab
Manganese, Total	0.01	XXX	XXX	1.0	XXX	2	2/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001 (prior to mixing with any other waters)

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

10/06/2020:

- Production of finished product water includes the use of Delpac, Soda Ash, and Cl2. Because the water supply is surface water production is dependent upon water quality.
- Backwash treatment consists of settling in a concrete subsurface basin and discharge to a UNT of Cush Creek.
- Sludge was hauled out last year via a honey dipper

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility at the design capacity of the treatment system. From March 2024 to February 2025, the maximum average flow data for the DMR reviewed was 0.001 MGD. The design capacity of the treatment system is 0.001 MGD. DEP suspects that the data entry into Greenport for flowrate was rounded to 0.001 MGD.

The off-site laboratory used for the analysis of the parameters was Fairway Laboratories located at 2019 9th Avenue, Altoona, PA 16601.

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Flow (MGD) Daily Maximum	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
pH (S.U.) Daily Minimum	7.11	7.41	6.97	7.24	7.17	7.2	7.19	6.9	7.0	7.1	7.10	7.10
pH (S.U.) Daily Maximum	7.31	7.51	7.21	7.41	7.41	7.41	7.56	7.1	7.1	7.1	7.20	7.20
TRC (mg/L) Average Monthly	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.03	< 0.05
TSS (mg/L) Average Monthly	< 1.8	< 1.8	8.6	3.2	3.0	6.0	< 1.60	< 2.00	2.2	7.6	< 16.8	< 1.60
Total Aluminum (lbs/day) Average Monthly	0.005	0.004	0.02	0.006	< 0.002	0.01	0.003	0.002	0.005	0.02	0.008	0.005
Total Aluminum (mg/L) Average Monthly	0.6	0.4	2.4	0.7	< 0.3	1.4	0.4	0.2	0.6	1.9	1.0	0.6
Total Iron (lbs/day) Average Monthly	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.009	< 0.002
Total Iron (mg/L) Average Monthly	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 1.0	< 0.2
Total Manganese (lbs/day) Average Monthly	0.0006	0.0008	0.001	0.0005	0.001	0.0009	0.002	0.0006	0.0005	0.001	0.0008	0.0006
Total Manganese (mg/L) Average Monthly	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.01	0.1	0.1

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in October 1, 2018 to April 12, 2025, the following table summarizes observed effluent non-compliances.

Summary of Non-Compliance w/ NPDES Effluent Limits
Beginning October 1, 2018 and Ending April 12, 2025

NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT_OF_MEASURE	STAT_BASE_CODE
9/7/2023	Violation of permit condition	Manganese, Total	0.02	>	.01	lbs/day	Average Monthly
9/7/2023	Violation of permit condition	Manganese, Total	2.1	>	1.0	mg/L	Average Monthly
1/12/2024	Violation of permit condition	Aluminum, Total	0.04	>	.03	lbs/day	Average Monthly
1/12/2024	Violation of permit condition	Aluminum, Total	5.0	>	4.0	mg/L	Average Monthly

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in October 1, 2018 to April 12, 2025, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

Wastewater originates from filter backwash. The facility did not report any biosolids in 2024.

3.5 Open Violations

As of April 2025, open violations existed for the Rossiter facility. The violations are open in the Safe Drinking Water program. The violations were not related to the Arcadia facility. The final executed NPDES renewal may be withheld until the open violations are addressed.

Summary of Open Violations for Client

VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION
8211474	12/20/2024	C3D	FAILURE TO FILTER-TO-WASTE AS REQUIRED
986037	02/24/2023	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
993371	05/02/2023	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8153400	07/27/2023	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8163008	10/25/2023	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8176947	02/26/2024	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8189212	06/03/2024	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8199291	08/28/2024	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8209200	11/26/2024	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL
8215348	01/30/2025	02	EXCEEDED THE CHEMICAL AVERAGE MAXIMUM CONTAMINANT LEVEL

Notes:
The open violations in the table are for the Rossiter facility. The violations exist in the Safe Drinking Water Program

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Trib 27130 To Cush Creek. The sequence of receiving streams that the Trib 27130 To Cush Creek discharges into are Cush Creek, West Branch Susquehanna River, and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Shawville Power Plant (PWS ID #6170333) located approximately 60 miles downstream of the subject facility on the West Branch Susquehanna. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that the facility will discharge to Class A Wild Trout Fishery waters.

The Fact Sheet will be submitted to Fish and Boat for their review.

4.4 2024 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 waterbody. The surface waters is an attaining stream that supports aquatic life and potable water supply. The designated use has been classified as protected waters for high-quality cold-water fishes (HQ-CWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the West Branch Susquehanna River (WQN406). This WQN station is located approximately 20 miles downstream of the subject facility.

The closest gauge station to the subject facility is the West Branch Susquehanna River at Bower, PA (USGS station number 1541000). This gauge station is located approximately 20 miles downstream of the subject facility.

For WQM modeling, pH data from the water quality network station was used. The median pH for the months of July to September was estimated to be 7.9.

The hardness of the stream was estimated from the water quality network. The historical median hardness is 153 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated as shown below.

Gauge Station Data			
USGS Station Number	1541000		
Station Name	West Branch Susquehanna River at Bower, PA		
Q710	27.9	ft^3/sec	
Drainage Area (DA)	315	mi^2	
Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(27.9 ft^3/sec / 315 mi^2)		
LFY =	0.0886	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		0.0915	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.0886 $ft^3/sec/mi^2$)(0.0915 mi^2)			
Q710 =	0.008	ft^3/sec	

StreamStats was used to estimate drainage area and Q710 for the subject facility.

The low flow yield based upon the gauge station was 0.0886 $ft^3/sec/mi^2$.

Since StreamStats interpolated the drainage area of the subject facility with caution, the DEP default value for low flow yield of 0.1 $ft^3/sec/mi^2$ was used.

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.001
Latitude	40º 46' 34.92"	Longitude	-78º 51' 3.50"
Quad Name		Quad Code	
Wastewater Description:	IW Process Effluent without ELG		

Receiving Waters	Trib 27130 To Cush Creek	Stream Code	27130
NHD Com ID	61835549	RMI	0.50
Drainage Area	0.0915	Yield (cfs/mi^2)	Used default 0.1 for modeling
Q_{7-10} Flow (cfs)	0.008	Q_{7-10} Basis	Streamstats
Elevation (ft)	1590	Slope (ft/ft)	
Watershed No.	8-B	Chapter 93 Class.	HQ-CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) supports aquatic life and potable water supply		
Cause(s) of Impairment	Not applicable		
Source(s) of Impairment	Not applicable		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	7.9	WQN0406; median July to Sept 1999- 2016
Temperature (°C)		
Hardness (mg/L)	153	WQN0406; historical median 1998-2017
Other:		

Nearest Downstream Public Water Supply Intake		Shawville Power Plant	
PWS Waters	West Branch Susquehanna	Flow at Intake (cfs)	
PWS RMI	165	Distance from Outfall (mi)	60

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Permit limits for water treatment plant wastes are subject to handling and disposal of water treatment plant (WTP) using Best Practicable Control Technology (BPCT) currently available. Waste water from treatment of WTP sludges and filter backwash shall have the following permit limits.

Parameter	Monthly Average	Daily Max
	mg/l	mg/l
Suspended Solids	30	60
Iron (total)	2	4
Aluminum (total)	4	8
Manganese (total)	1	2
pH	6 - 9	-----
TRC	0.5	1

Notes:
Source: TECHNOLOGY-BASED CONTROL REQUIREMENTS FOR WATER TREATMENT PLANT WASTES

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

General Data 1	***(Modeling Point #1)***	***(Modeling Point #2)***	***Units***
Stream Code	27130	27130	
River Mile Index	0.5	0	miles
Elevation	1590	1441	feet
Latitude	40.775833	40.78139	
Longitude	-78.851389	-78.856389	
Drainage Area	0.0915	3.59	sq miles
Low Flow Yield	0.10	0.10	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

The facility is a water treatment plant discharging filter backwash. No reasonable potential for CBOD or ammonia is suspected. The facility is not subject to water quality modeling.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow,

Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the pollutants in Groups 1 and 2.

The NPDES application collected three (3) samples.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
(b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
(c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility discharges into the Trib 27130 to Cush Creek. This receiving waters then flows into Cush Creek and then West Branch Susquehanna River. Trib 27130 to Cush Creek and the segment near the confluence of Trib 27130 to Cush Creek and Cush Creek are not 303(d) listed. The West Branch Susquehanna River is subject to a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

For non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring. Monitoring for facilities with other discharges will generally conform to the following minimum sampling frequencies, with the permit writer having final discretion:

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis), will be classified as Significant IW dischargers and receive Cap Loads in their permits based on existing performance (existing TN/TP concentrations at current average annual flow).

In general, for new non-significant IW discharges (including existing facilities discharging without a permit), DEP will issue permits containing Cap Loads of "0" and these facilities will be expected to purchase credits and/or apply offsets to achieve compliance.

This facility is not suspected of discharging nitrogen and phosphorus. This facility is not subject to Sector C monitoring requirements.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a special protection waters. The permit conditions are imposed to protect existing instream water quality and uses. HQ waters or EV waters should not be impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection and (b) Toxics

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Arcadia WTP, PA0095231

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
TSS	TBEL; DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The average monthly limit should not exceed 30 mg/l as an average monthly and 60 mg/l as a daily maximum.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by the DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
TRC	TBEL	Monitoring:	The monitoring frequency shall be on 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The average monthly limit should not exceed 0.5 mg/l and/or 1.6 mg/l as an instantaneous maximum.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)	
Notes:			

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.001 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.3 Toxics

The previous Fact Sheet modelled using Cush Creek. This Fact Sheet was prepared using UNT of Cush Creek. The facility confirmed that the facility discharges to UNT of Cush Creek.

Using Toxics Management Spreadsheet (TMS), two modeling runs was conducted.

Modeling Run #1 utilized the monitoring data submitted on the Pollutant Groups for the NPDES renewal. Aluminum showed reasonable potential. The monitoring data submitted with the NPDES application was 1.72 mg/l.

Modeling Run #2 examined DMR data for aluminum. The maximum aluminum concentration observed for the data set from December 2022 to March 2025 was 5 mg/l. The data is available in the Attachments.

Both modeling runs yielded a recommended aluminum effluent limit of 3.32 mg/l.

The DMR data from December 2022 to March 2025 showed that the facility should be capable of meeting the reduced limit. There was the single occurrence of 5 mg/l in December 2023. The results would be in violation of the technology based effluent limit in the Water Treatment Plant Wastes guidance document and would be in violation of the proposed new effluent limit.

The facility is a water treatment plant. The facility will not be subjected to monitoring for PFOS parameters for their wastewater discharge.

Summary of Proposed NPDES Parameter Details for Toxics

Arcadia WTP, PA0095231

Parameter	Permit Limitation Required by[1]:	Recommendation	
Aluminum	WQBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 0.03 lbs/day and 3.32 mg/l as a monthly average.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash. WQBEL recommended effluent more stringent than TBEL.
Iron	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 0.02 lbs/day and 2 mg/l as a monthly average.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
Manganese	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 0.01 lbs/day and 1 mg/l as a monthly average.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.001 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- Effluent limits for aluminum have been lowered to 3.32 mg/l.

6.3.1 Summary of Proposed NPDES Effluent Limits

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.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40º 46' 34.00" , **Longitude** 78º 51' 5.00" , **River Mile Index** 0.51 , **Stream Code** 27130

Receiving Waters: Unnamed Tributary to South Branch Cush Creek (CWF)

Type of Effluent: IW Process Effluent without ELG

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.0	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Aluminum, Total	0.03	XXX	XXX	3.32	XXX	8.0	2/month	Grab
Iron, Total	0.02	XXX	XXX	2.0	XXX	4.0	2/month	Grab
Manganese, Total	0.01	XXX	XXX	1.0	XXX	2.0	2/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization

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

Attachment A

Stream Stats/Gauge Data

StreamStats Report

Region ID: PA
Workspace ID: PA20250413123105957000
Clicked Point (Latitude, Longitude): 40.77731, -78.85122
Time: 2025-04-13 08:31:34 -0400

Arcadia WTP PA0095231 Modeling Point #1 April 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0915	square miles
ELEV	Mean Basin Elevation	1664	feet
PRECIP	Mean Annual Precipitation	47	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0915	square miles	2.33	1720
ELEV	Mean Basin Elevation	1664	feet	898	2700
PRECIP	Mean Annual Precipitation	47	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0113	ft^3/s
30 Day 2 Year Low Flow	0.0179	ft^3/s

Statistic	Value	Unit
7 Day 10 Year Low Flow	0.0044	ft^3/s
30 Day 10 Year Low Flow	0.00652	ft^3/s
90 Day 10 Year Low Flow	0.00989	ft^3/s

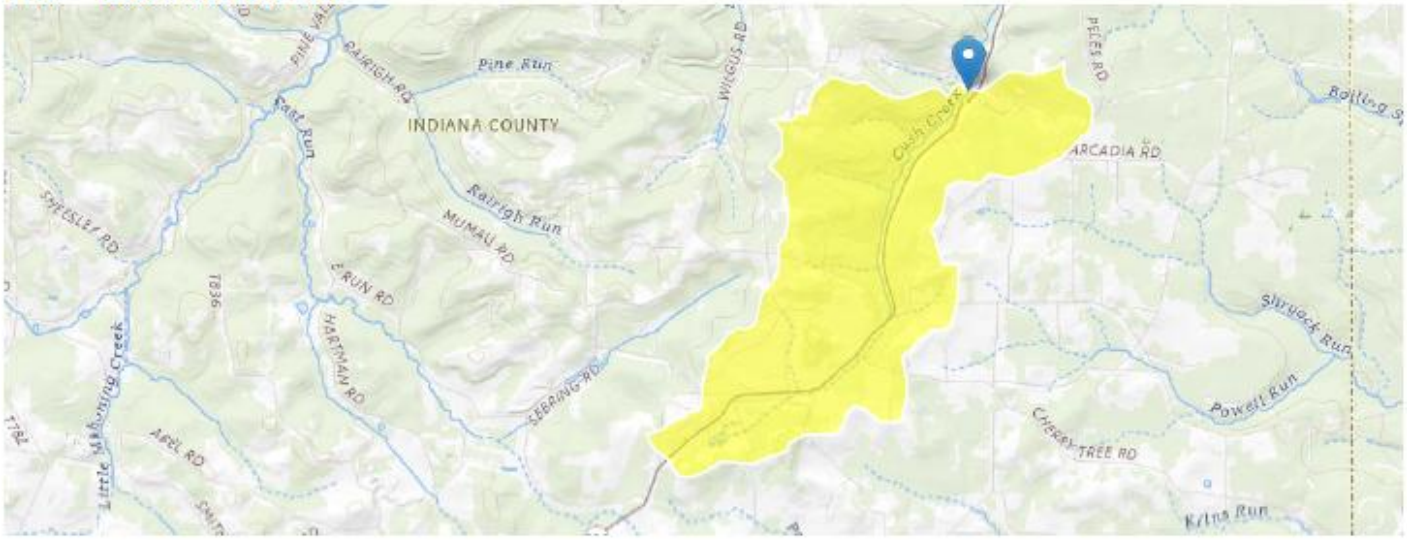
Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20250413123411751000
Clicked Point (Latitude, Longitude): 40.78163, -78.85634
Time: 2025-04-13 08:34:40 -0400



Arcadia WTP PA0095231 Modeling Point #2 April 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	3.59	square miles
ELEV	Mean Basin Elevation	1686	feet
PRECIP	Mean Annual Precipitation	47	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.59	square miles	2.33	1720
ELEV	Mean Basin Elevation	1686	feet	898	2700
PRECIP	Mean Annual Precipitation	47	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.484	ft^3/s	43	43
30 Day 2 Year Low Flow	0.716	ft^3/s	38	38
7 Day 10 Year Low Flow	0.229	ft^3/s	54	54
30 Day 10 Year Low Flow	0.314	ft^3/s	49	49

Statistic	Value	Unit	SE	ASEp
90 Day 10 Year Low Flow	0.457	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01508803	West Branch Tioughnioga River at Homer, N.Y.	42.638	-76.176	71.5	N
01509000	Tioughnioga River at Cortland, N.Y.	42.603	-76.159	292	N
01510000	Otselic River at Cincinnatus, N.Y.	42.541	-75.900	147	N
01512500	Chenango River near Chenango Forks, N.Y.	42.218	-75.848	1,483	N
01515000	Susquehanna River near Waverly, N.Y.	41.985	-76.501	4,773	N
01516350	Tioga River near Mansfield, Pa.	41.797	-77.080	153	N
01516500	Corey Creek near Mainesburg, Pa.	41.791	-77.015	12.2	N
01518000	Tioga River at Tioga, Pa.	41.908	-77.129	282	Y
01518700	Tioga River at Tioga Junction, Pa.	41.953	-77.115	446	Y
01518862	Cowanesque River at Westfield, Pa.	41.923	-77.532	90.6	N
01520000	Cowanesque River near Lawrenceville, Pa.	41.997	-77.140	298	Y
01520500	Tioga River at Lindley, N.Y.	42.029	-77.132	771	Y
01521500	Canisteo River at Arkport, N.Y.	42.396	-77.711	30.6	Y
01523500	Canacadea Creek near Hornell, N.Y.	42.335	-77.683	57.9	Y
01524500	Canisteo River below Canacadea Creek at Hornell, N.Y.	42.314	-77.651	158	Y
01526500	Tioga River near Erwins, N.Y.	42.121	-77.129	1,377	Y
01527000	Cohocton River at Cohocton, N.Y.	42.500	-77.500	52.2	N
01527500	Cohocton River at Avoca, N.Y.	42.398	-77.417	152	N
01528000	Fivemile Creek near Kanona, N.Y.	42.388	-77.358	66.8	N
01529000	Mud Creek near Savona, N.Y.	42.308	-77.197	76.6	Y
01529500	Cohocton River near Campbell, N.Y.	42.253	-77.217	470	N
01529950	Chemung River at Corning, N.Y.	42.146	-77.057	2,006	Y
01530332	Chemung River at Elmira, N.Y.	42.086	-76.801	2,162	Y
01530500	Newtown Creek at Elmira, N.Y.	42.105	-76.798	77.5	Y
01531000	Chemung River at Chemung, N.Y.	42.002	-76.635	2,506	Y
01531500	Susquehanna River at Towanda, Pa.	41.765	-76.441	7,797	Y
01532000	Towanda Creek near Monroeton, Pa.	41.707	-76.485	215	N
01532850	MB Wyalusing Creek near Birchardville, Pa.	41.863	-76.007	5.67	N
01533400	Susquehanna River at Meshoppen, Pa.	41.607	-76.050	8,720	Y
01533500	North Branch Mehoopany Creek near Lovelton, Pa.	41.531	-76.156	35.2	N
01533950	SB Tunkhannock Creek near Montdale, Pa.	41.575	-75.642	12.6	N
01534000	Tunkhannock Creek near Tunkhannock, Pa.	41.558	-75.895	383	N
01534300	Lackawanna River near Forest City, Pa.	41.680	-75.472	38.8	Y
01534500	Lackawanna River at Archbald, Pa.	41.505	-75.542	108	Y
01536000	Lackawanna River at Old Forge, Pa.	41.359	-75.744	332	Y
01536500	Susquehanna River at Wilkes-Barre, Pa.	41.251	-75.881	9,960	Y
01537000	Toby Creek at Luzerne, Pa.	41.281	-75.896	32.4	Y
01537500	Solomon Creek at Wilkes-Barre, Pa.	41.228	-75.904	15.7	N
01538000	Wapwallopen Creek near Wapwallopen, Pa.	41.059	-76.094	43.8	N
01539000	Fishing Creek near Bloomsburg, Pa.	41.078	-76.431	274	N
01539500	Little Fishing Creek at Eyers Grove, Pa.	41.080	-76.511	56.5	N
01540200	Trexler Run near Ringtown, Pa.	40.853	-76.280	1.77	N
01540500	Susquehanna River at Danville, Pa.	40.958	-76.619	11,220	Y
01541000	West Branch Susquehanna River at Bower, Pa.	40.897	-78.677	315	N
01541200	West Branch Susquehanna River near Curwensville, Pa.	40.961	-78.519	367	Y

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01530500	1940–2008	69	5.0	6.1	11.0	7.6	13	9.0
01531000	[2]1981–2008	28	138	147	237	169	296	203
01531000	[3]1905–1979	68	86.3	97.0	175	116	219	161
01531500	[2]1981–2008	28	550	592	1,030	733	1,340	952
01531500	[3]1915–1979	65	539	571	990	675	1,230	928
01532000	1915–2008	94	2.2	2.8	9.7	4.6	14.4	9.4
01532850	1967–1979	13	.1	.2	.4	.3	.8	.7
01533400	[2]1981–2008	28	602	648	1,110	790	1,430	1,060
01533500	1942–1958	17	.4	.6	1.5	.8	2.0	1.7
01533950	1962–1978	17	.2	.3	1.0	.6	1.4	1.0
01534000	1915–2008	94	15.2	17.3	35.9	24.2	51.0	38.7
01534300	1960–2008	49	1.1	1.7	5.1	2.8	7.6	4.8
01534500	[2]1961–2008	48	16.7	18.8	29.2	21.9	35.8	27.6
01534500	[3]1941–1959	19	18.8	23.0	33.3	25.6	39.2	34.9
01536000	[2]1961–2008	48	28.7	32.7	51.7	40.8	68.1	54.3
01536000	[3]1940–1959	20	77.8	93.9	119	105	138	124
01536500	[2]1981–2008	28	828	872	1,450	1,030	1,830	1,350
01536500	[3]1901–1979	79	778	811	1,350	927	1,640	1,260
01537000	1943–1993	51	1.3	2.0	4.9	3.1	6.4	4.7
01537500	1941–1990	50	.2	.3	1.9	.5	3.1	1.6
01538000	1921–2008	88	3.1	3.6	7.1	5.0	9.3	7.5
01539000	1940–2008	69	15.4	16.8	36.8	21.1	51.1	36.8
01539500	1942–1958	17	.1	.3	1.4	1.0	3.3	2.3
01540200	1965–1981	17	0	0	.3	.1	.3	.1
01540500	[2]1981–2008	28	1,080	1,120	1,870	1,320	2,330	1,690
01540500	[3]1906–1979	74	927	978	1,660	1,160	2,050	1,590
01541000	1915–2008	94	25.3	27.9	50.7	35.3	66.6	49.6
01541200	[2]1967–2008	40	34.6	45.2	66.0	63.1	100	92.4
01541200	[3]1957–1965	9	22.9	24.7	44.7	27.7	58.2	36.4
01541303	1980–2008	29	53.4	58.5	94.0	74.4	123	102
01541308	1969–1979	11	1.3	1.3	1.9	1.6	2.4	2.1
01541500	[2]1962–2008	47	39.0	41.9	66.5	51.9	86.3	70.6
01541500	[3]1915–1960	46	14.9	21.3	41.9	28.5	55.0	42.9
01542000	1942–1993	52	8.1	9.1	14.8	11.3	17.8	14.6
01542500	[2]1967–2008	33	216	235	326	285	435	402
01542500	[3]1941–1965	20	—	131	189	152	243	221
01542810	1966–2008	43	.1	.1	.3	.2	.5	.3
01543000	1915–2008	94	2.9	4.2	16.0	9.6	27.4	19.2
01543500	1940–2008	69	10.7	14.5	44.9	26.6	74.9	50.5
01544000	[2]1957–2008	52	3.3	6.9	19.0	11.2	31.1	19.0
01544500	1942–2008	67	4.2	4.9	12.5	7.5	17.4	11.7
01545000	[2]1964–2008	45	6.8	8.2	21.2	12.0	32.7	20.7
01545500	[2]1963–2008	46	217	238	446	306	629	428
01545500	[3]1909–1961	53	125	141	278	190	387	296
01545600	1966–2008	43	1.2	1.5	4.4	2.4	6.7	4.2

Attachment B

Toxics Management Spreadsheet

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Toxics Management Spreadsheet
Version 1.4, May 2023

RUN #1

Discharge Information

Instructions | Discharge | Stream

Facility: **Arcadia Water Treatment Plant** NPDES Permit No.: **PA0095231** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **Water plant backwash**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.001	18.3	7.2						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		64									
	Chloride (PWS)	mg/L		12									
	Bromide	mg/L	<	0.036									
	Sulfate (PWS)	mg/L		12.3									
	Fluoride (PWS)	mg/L	<	1									
Group 2	Total Aluminum	µg/L		1720									
	Total Antimony	µg/L	<	0.348									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		55.7									
	Total Beryllium	µg/L	<	0.676									
	Total Boron	µg/L	<	56.5									
	Total Cadmium	µg/L	<	0.123									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		0.257									
	Total Copper	µg/L		3.5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		6									
	Dissolved Iron	µg/L		30.2									
	Total Iron	µg/L		548									
	Total Lead	µg/L	<	0.172									
	Total Manganese	µg/L		126									
	Total Mercury	µg/L	<	0.104									
	Total Nickel	µg/L		2.2									
	Total Phenols (Phenolics) (PWS)	µg/L	<	4									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	1.37									
	Total Thallium	µg/L	<	0.068									
	Total Zinc	µg/L		30.8									
	Total Molybdenum	µg/L	<	0.2									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Arcadia Water Treatment Plant, NPDES Permit No. PA0095231, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Trib 27130 To Cush Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	027130	0.5	1590	0.0915			Yes
End of Reach 1	027130	0	1441	3.59			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.5	0.1										153	7.9		
End of Reach 1	0	0.1										153	7.9		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.5														
End of Reach 1	0														

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Model Results

Arcadia Water Treatment Plant, NPDES Permit No. PA0095231, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.045 PMF: 1 Analysis Hardness (mg/l): 133.52 Analysis pH: 7.70

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	5,186	
Total Antimony	0	0		0	1,100	1,100	7,606	
Total Arsenic	0	0		0	340	340	2,351	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	145,208	
Total Boron	0	0		0	8,100	8,100	56,009	
Total Cadmium	0	0		0	2.667	2.86	19.8	Chem Translator of 0.932 applied
Total Chromium (III)	0	0		0	721.965	2,285	15,798	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	113	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	657	
Total Copper	0	0		0	17.647	18.4	127	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	88.341	118	816	Chem Translator of 0.749 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	11.4	Chem Translator of 0.85 applied
Total Nickel	0	0		0	597.965	599	4,143	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	5.289	6.22	43.0	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	449	
Total Zinc	0	0		0	149.703	153	1,058	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.045 PMF: 1 Analysis Hardness (mg/l): 133.52 Analysis pH: 7.70

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,521	
Total Arsenic	0	0		0	150	150	1,037	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	28,350	
Total Boron	0	0		0	1,600	1,600	11,063	
Total Cadmium	0	0		0	0.301	0.34	2.32	Chem Translator of 0.897 applied
Total Chromium (III)	0	0		0	93.913	109	755	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	71.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	131	
Total Copper	0	0		0	11.465	11.9	82.6	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	10,372	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	3.443	4.6	31.8	Chem Translator of 0.749 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	6.26	Chem Translator of 0.85 applied
Total Nickel	0	0		0	66.415	66.6	461	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	34.5	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	89.9	
Total Zinc	0	0		0	150.927	153	1,058	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.045 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	38.7	
Total Arsenic	0	0		0	10	10.0	69.1	
Total Barium	0	0		0	2,400	2,400	16,595	
Total Boron	0	0		0	3,100	3,100	21,435	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	2,074	
Total Iron	0	0		0	N/A	N/A	N/A	

Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	6,915	
Total Mercury	0	0		0	0.050	0.05	0.35	
Total Nickel	0	0		0	610	610	4,218	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.66	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.012 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	0.028	0.043	3,324	5,186	8,310	µg/L	3,324	AFC	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	16,595	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	11,063	µg/L	Discharge Conc < TQL
Total Cadmium	2.32	µg/L	Discharge Conc < TQL
Total Chromium (III)	755	µg/L	Discharge Conc < TQL
Hexavalent Chromium	71.9	µg/L	Discharge Conc < TQL
Total Cobalt	131	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	81.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	2,074	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	10,372	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	31.8	µg/L	Discharge Conc < TQL
Total Manganese	6,915	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.35	µg/L	Discharge Conc < TQL
Total Nickel	461	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	34.5	µg/L	Discharge Conc < TQL
Total Silver	27.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	1.66	µg/L	Discharge Conc < TQL
Total Zinc	678	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

RUN #2

Discharge Information

Instructions | Discharge | Stream

Facility: **Arcadia Water Treatment Plant** NPDES Permit No.: **PA0095231** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Water plant backwash**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.001	18.3	7.2						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		64									
	Chloride (PWS)	mg/L		12									
	Bromide	mg/L	<	0.036									
	Sulfate (PWS)	mg/L		12.3									
	Fluoride (PWS)	mg/L	<	1									
Group 2	Total Aluminum	µg/L		5000									
	Total Antimony	µg/L	<	0.348									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		55.7									
	Total Beryllium	µg/L	<	0.676									
	Total Boron	µg/L	<	56.5									
	Total Cadmium	µg/L	<	0.123									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		0.257									
	Total Copper	µg/L		3.5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		6									
	Dissolved Iron	µg/L		30.2									
	Total Iron	µg/L		548									
	Total Lead	µg/L	<	0.172									
	Total Manganese	µg/L		126									
	Total Mercury	µg/L	<	0.104									
	Total Nickel	µg/L		2.2									
	Total Phenols (Phenolics) (PWS)	µg/L	<	4									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	1.37									
	Total Thallium	µg/L	<	0.068									
	Total Zinc	µg/L		30.8									
	Total Molybdenum	µg/L	<	0.2									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Arcadia Water Treatment Plant, NPDES Permit No. PA0095231, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Trib 27130 To Cush Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	027130	0.5	1590	0.0915			Yes
End of Reach 1	027130	0	1441	3.59			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.5	0.1										153	7.9		
End of Reach 1	0	0.1										153	7.9		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.5														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Arcadia Water Treatment Plant, NPDES Permit No. PA0095231, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.045 PMF: 1 Analysis Hardness (mg/l): 133.52 Analysis pH: 7.70

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	5,186	
Total Antimony	0	0		0	1,100	1,100	7,606	
Total Arsenic	0	0		0	340	340	2,351	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	145,208	
Total Boron	0	0		0	8,100	8,100	56,009	
Total Cadmium	0	0		0	2.667	2.86	19.8	Chem Translator of 0.932 applied
Total Chromium (III)	0	0		0	721.965	2,285	15,798	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	113	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	657	
Total Copper	0	0		0	17.647	18.4	127	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	88.341	118	816	Chem Translator of 0.749 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	11.4	Chem Translator of 0.85 applied
Total Nickel	0	0		0	597.965	599	4,143	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	5.289	6.22	43.0	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	449	
Total Zinc	0	0		0	149.703	153	1,058	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.045 PMF: 1 Analysis Hardness (mg/l): 133.52 Analysis pH: 7.70

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,521	
Total Arsenic	0	0		0	150	150	1,037	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	28,350	
Total Boron	0	0		0	1,600	1,600	11,063	
Total Cadmium	0	0		0	0.301	0.34	2.32	Chem Translator of 0.897 applied
Total Chromium (III)	0	0		0	93.913	109	755	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	71.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	131	
Total Copper	0	0		0	11.465	11.9	82.6	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	10,372	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	3.443	4.6	31.8	Chem Translator of 0.749 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	6.26	Chem Translator of 0.85 applied
Total Nickel	0	0		0	66.415	66.6	461	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	34.5	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	89.9	
Total Zinc	0	0		0	150.927	153	1,058	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.045 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	38.7	
Total Arsenic	0	0		0	10	10.0	69.1	
Total Barium	0	0		0	2,400	2,400	16,595	
Total Boron	0	0		0	3,100	3,100	21,435	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	2,074	
Total Iron	0	0		0	N/A	N/A	N/A	

Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	6,915	
Total Mercury	0	0		0	0.050	0.05	0.35	
Total Nickel	0	0		0	610	610	4,218	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.66	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.012 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	0.028	0.043	3,324	5,186	8,310	µg/L	3,324	AFC	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	16,595	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	11,063	µg/L	Discharge Conc < TQL
Total Cadmium	2.32	µg/L	Discharge Conc < TQL
Total Chromium (III)	755	µg/L	Discharge Conc < TQL
Hexavalent Chromium	71.9	µg/L	Discharge Conc < TQL
Total Cobalt	131	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	81.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	2,074	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	10,372	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	31.8	µg/L	Discharge Conc < TQL
Total Manganese	6,915	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.35	µg/L	Discharge Conc < TQL
Total Nickel	461	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	34.5	µg/L	Discharge Conc < TQL
Total Silver	27.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	1.66	µg/L	Discharge Conc < TQL
Total Zinc	678	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment C

TRC Evaluation

Arcadia WTP
PA0095231

April 2025

TRC EVALUATION

Input appropriate values in B4:B8 and E4:E7

0.00915	= Q stream (cfs)	0.5	= CV Daily
0.001	= 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)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 1.906	1.3.2.iii	WLA cfc = 1.850
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.710	5.1d	LTA_cfc = 1.076

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		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)**

Attachment D

DMR Data - Aluminum

Summary of DMR Data - Aluminum							
Beginning December 2022 to March 2025							
Monitoring Period Begin Date	**Monitoring Period End Date**	**DMR Received Date**	**DMR Value**		**Permit Limit**	**Units**	**Statistical Base Code**
12/01/2022	12/31/2022	01/11/2023	<	0.6	4	mg/L	Average Monthly
01/01/2023	01/31/2023	02/09/2023		0.5	4	mg/L	Average Monthly
02/01/2023	02/28/2023	03/08/2023		1.2	4	mg/L	Average Monthly
03/01/2023	03/31/2023	04/12/2023		0.8	4	mg/L	Average Monthly
04/01/2023	04/30/2023	05/08/2023		0.2	4	mg/L	Average Monthly
05/01/2023	05/31/2023	06/13/2023		0.3	4	mg/L	Average Monthly
06/01/2023	06/30/2023	07/11/2023		0.4	4	mg/L	Average Monthly
07/01/2023	07/31/2023	08/07/2023		0.6	4	mg/L	Average Monthly
08/01/2023	08/31/2023	09/07/2023		1	4	mg/L	Average Monthly
09/01/2023	09/30/2023	10/09/2023		0.7	4	mg/L	Average Monthly
10/01/2023	10/31/2023	11/01/2023		0.7	4	mg/L	Average Monthly
11/01/2023	11/30/2023	12/13/2023		1.2	4	mg/L	Average Monthly
12/01/2023	12/31/2023	01/12/2024		5	4	mg/L	Average Monthly
01/01/2024	01/31/2024	02/05/2024		1.1	4	mg/L	Average Monthly
02/01/2024	02/29/2024	03/06/2024		0.6	4	mg/L	Average Monthly
03/01/2024	03/31/2024	04/11/2024		0.6	4	mg/L	Average Monthly
04/01/2024	04/30/2024	05/10/2024		1	4	mg/L	Average Monthly
05/01/2024	05/31/2024	06/07/2024		1.9	4	mg/L	Average Monthly
06/01/2024	06/30/2024	07/11/2024		0.6	4	mg/L	Average Monthly
07/01/2024	07/31/2024	08/09/2024		0.2	4	mg/L	Average Monthly
08/01/2024	08/31/2024	09/09/2024		0.4	4	mg/L	Average Monthly
09/01/2024	09/30/2024	10/15/2024		1.4	4	mg/L	Average Monthly
10/01/2024	10/31/2024	11/13/2024	<	0.3	4	mg/L	Average Monthly
11/01/2024	11/30/2024	12/11/2024		0.7	4	mg/L	Average Monthly
12/01/2024	12/31/2024	01/13/2025		2.4	4	mg/L	Average Monthly
01/01/2025	01/31/2025	02/10/2025		0.4	4	mg/L	Average Monthly
02/01/2025	02/28/2025	03/07/2025		0.6	4	mg/L	Average Monthly
03/01/2025	03/31/2025	04/09/2025		1.1	4	mg/L	Average Monthly
			Maximum	5			