Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0219037**
Facility Type	**Industrial**	APS ID	**962012**
Major / Minor	**Minor**	Authorization ID	**1494610**

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

Applicant and Facility Information

Applicant Name	**Greater Johnstown Water Authority**	Facility Name	**Saltlick Water Treatment Plant**
Applicant Address	PO Box 1407 640 Franklin Street	Facility Address	Mineral Pt Road
	Johnstown, PA 15907-1407		Mineral Point, PA 15904
Applicant Contact	Michael Kerr	Facility Contact	Thomas Brown
Applicant Phone	(814) 533-4300	Facility Phone	(814) 533-4300
Applicant email	mkerr@rdm-gjwa.com	Facility email	tbrown@rdm-gjwa.com
Client ID	26159	Site ID	550875
SIC Code	4941	Municipality	East Taylor Township
SIC Description	Trans. & Utilities - Water Supply	County	Cambria
Date Application Received	August 2, 2024	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal NPDES Permit Coverage

Summary of Review

On August 2, 2024, Greater Johnstown Water Authority submitted an application to renew the NPDES Permit PA0219037 for their water treatment plant located in East Taylor Township, Cambria County. The Facility has a SIC Code of 4941 (Water Supply) and a NAICS code of 221310 (Water supply and irrigation systems).

Saltlick water treatment plant obtains raw water from the Saltlick Reservoir and incorporates chemical treatment, microfiltration, and disinfection to produce drinking water. The filters are backwashed one at a time, using 1000 gallons of water. The backwash water is discharged into two settling lagoons. The discharge from the settling lagoons enters a pipe that combines with AMD water from a mining pond. The receiving stream is Saltlick Run.

The facility's most recent inspection was conducted by Lisa Milsop on December 13, 2022. One violation was noted and resolved on December 15, 2022. Additionally, the inspection recommended developing a Preparedness, Prevention, and Contingency (PPC) Plan, which was submitted on April 30, 2025.

The facility has no open violations.

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*,

Approve	Deny	Signatures	Date
X		Angela Rohrer / Environmental Engineering Specialist	May 4, 2025
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	May 6, 2025

Summary of Review
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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.164
Latitude	40º 22' 51"	Longitude	-78º 50' 10"
Quad Name	Nanty Glo	Quad Code	1515
Wastewater Description:	Settled filter backwash water		
Receiving Waters	Saltlick Run (HQ-CWF)	Stream Code	45830
NHD Com ID	123721086	RMI	0.1
Drainage Area	11.8 square miles	Yield (cfs/mi^2)	0.079
Q_{7-10} Flow (cfs)	0.938	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1,376	Slope (ft/ft)	
Watershed No.	18-E	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Metals		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL
Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority Freeport (1.25 MGD)		
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,390
PWS RMI	29.47	Distance from Outfall (mi)	60.78

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 22' 55.92"	Longitude	-78º 50' 16.62"
Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 22' 55"	Longitude	-78º 50' 21.6"
Outfall No.	004	Design Flow (MGD)	0
Latitude	40º 22' 55.01"	Longitude	-78º 50' 18.54"
Quad Name	Nanty Glo	Quad Code	1515
Wastewater Description:	Stormwater		
Receiving Waters	Saltlick Run (HQ-CWF)	Stream Code	45830
NHD Com ID	123721086	RMI	0.12
Drainage Area	11.8 square miles	Yield (cfs/mi^2)	0.079
Q_{7-10} Flow (cfs)	0.938	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1,376	Slope (ft/ft)	0.031
Watershed No.	18-E	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Metals		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL
Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority Freeport (1.25 MGD)		
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,390
PWS RMI	29.47	Distance from Outfall (mi)	60.78

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.164
Latitude	40º 22' 51"	**Longitude**	-78º 50' 10"
Wastewater Description:	Settled filter backwash water		

Technology-Based Effluent limitations:

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) which is displayed in Table 5 below.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code §§ 95.2(1) which is displayed in Table 1 below.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation which is displayed in Table 5 below.

Table 1: Regulatory Effluent Standards

Parameter	Monthly Avg	Daily Max	IMAX
Flow MGD	Monitor	Monitor	----
pH (S.U)	6.0 – 9.0 at all times		----
TRC (mg/L)	0.5	----	1.6

Best Practicable Control Technology Currently Achievable (BPT)

BPT for wastewater from treatment of WTP sludges and filter backwash is found in DEPs Technology-Based Control Requirements for Water Treatment Plant Wastes document which falls under Best Professional Judgement under 40 CFR § 125.3 and the limits imposed are displayed in Table 2 below.

Table 2: BPT Limits for WTP sludge and filter backwash wastewater

Parameter	Monthly Avg (mg/l)	Daily Max (mg/l)
Suspended solids	30.0	60.0
Iron (total)	2.0	4.0
Aluminum (total)	4.0	8.0
Manganese (total)	1.0	2.0
Flow	Monitor	----
pH	6.0 – 9.0 at all times	
Total Residual Chlorine	0.5	1.0

Water Quality-Based Effluent limitations:

Total Maximum Daily Load (TMDL)

Wastewater discharges from the facility are located within the Kiskiminetas-Conemaugh River Watersheds for which the Department has developed a TMDL. The TMDL was finalized on January 29, 2010, to address impairments resulting from metals, pH, and total suspended solids (TSS). A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). Stream reaches within the Kiskiminetas-Conemaugh River Watersheds are included in the state's 2008 Section 303(d) list because of various impairments, including metals, pH and sediment. The TMDL includes consideration for each river and tributary within the target watershed and its impairment sources. Stream data is then used to calculate minimum pollutant reductions that are necessary to attain water quality

criteria levels. Target concentrations published in the TMDL were based on established water quality criteria of 0.750 $^{mg}/_{L}$ total recoverable aluminum, 1.5 $^{mg}/_{L}$ total recoverable iron based on a 30-day average and 1.0 $^{mg}/_{L}$ total recoverable manganese. The reduction needed to meet the minimum water quality standards is then divided between each known point and non-point pollutant source in the form of a watershed allocation. TMDLs prescribe allocations that minimally achieve water quality criteria (i.e., 100 percent use of a stream's assimilative capacity). Calculations used in the development of water quality based effluent limitations are provided below:

Aluminum: The specific water quality criterion for aluminum is expressed as an acute or maximum daily in 25 Pa. Code Chapter 93. Discharges of aluminum may only be authorized to the extent that they will not cause or contribute to any violation of the water quality standards. Therefore, the water quality criterion for aluminum (0.75 mg/L) is imposed as a maximum daily effluent limit (MDL). Whenever the most stringent criterion is selected for the MDL, the Department should also impose an average monthly limit (AML) and instantaneous maximum limit (IMAX) if applicable. The imposition of an AML that is more stringent than the MDL is typically not appropriate because the water quality concerns have already been fully addressed by setting the MDL equal to the most stringent applicable criterion. Therefore, where the MDL is set at the value of the most stringent applicable criterion, the AML should be set equal to the MDL. Accordingly, TMDL aluminum limits are proposed for Outfall 001.

Table 3: TMDL Limits for Outfall 001

Parameter	Discharge Concentrations	TMDL Limits		Units
	Outfall 001	Average Monthly	Daily Maximum	
Aluminum, total	2.7	0.75	0.75	mg/L

Anti-Degradation

The Department's regulations at 25 PA Code Chapters 96.3 and 93.4 require that any new, additional or increased discharger to High Quality or Exceptional Value waters shall evaluate non-discharge alternatives to the proposed discharge and use an alternative that is environmentally sound and cost-effective when compared with the cost of the proposed discharge. During the technical review in 2018, the applicant was required to complete a supplemental "Module 4, Anti-Degradation". In review of this application with Department management, it seemed unreasonable to impose anti-degradation limits on SWTP given the plant discharges to a pipeline carrying mostly AMD from a bypassed BAMR project. Since AMD represents the majority of flow in the transit pipeline discharging to the pond, and subsequently to the dam spillway only a short distance from the Little Conemaugh River (WWF), no anti-degradation limits were imposed in the prior renewal.

The Department has reviewed the current NPDES permit renewal application and has determined that this is not a new, additional, or increased discharge. Therefore, the requirements of 25 PA Code 93.4 pertaining to discharges to high quality waters are satisfied.

Toxics Management Spread Sheet

The Department of Environmental Protection (DEP) has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The Toxics Management Spreadsheet is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The Toxics Management Spread Sheet is a single discharge, mass-balance water quality calculation spread sheet that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more

stringent. Based on this evaluation, the Toxics Management Spread sheet recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the Toxics Management Spread Sheet. All 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 considered to be pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 4. For IW discharges, the design flow used in modeling is the average flow during production or operation taken from the permit application. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL. The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are displayed in the Toxics Management Spread Sheet in Attachment C of this Fact Sheet. The Toxics Management Spreadsheet did recommend WQBELS at Outfall 001.

Table 4: TMS Inputs for Outfall 002

Parameter	**Value**
River Mile Index	0.1
Discharge Flow (MGD)	0.164
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	11.8
Q_{7-10} (cfs)	0.938
Low-flow yield (cfs/mi^2)	0.079
Elevation (ft)	1376
Slope	0.031

The WQBELs and monitoring requirements, as recommended by the Toxics Management Spreadsheet, are presented in Table 5.

Table 5. Water Quality Based Effluent Limitation (WQBELs) and monitoring requirements at Outfall 001

Parameter	Mass Limits		Concentration Limits			Discharge Concentrations (µg/L)	Target QLs (µg/L)
	Average Monthly (lb/day)	Maximum Daily (lb/day)	Average Monthly (µg/L)	Maximum Daily (µg/L)	IMAX (µg/L)		
Total Aluminum	3.09	4.82	2,258	3,523	5,645	2,700	10.0
Total Arsenic	Report	Report	Report	Report	Report	<10.0	3.0
Total Copper	Report	Report	Report	Report	Report	<5.0	4.0
Dissolved Iron	Report	Report	Report	Report	Report	232	20
Total Selenium	0.032	0.05	23.4	36.6	58.6	<20.0	5.0
Total Silver	Report	Report	Report	Report	Report	<5.0	0.4
Total Thallium	0.002	0.002	1.13	1.76	2.82	<10.0	2.0

- **Total Aluminum:** The water quality criterion for aluminum (0.75 mg/L) is more stringent than the WQBEL recommended by the Toxic Management Spreadsheet, therefore, limits will be imposed as follows: an average monthly limit of 0.75 mg/L and a daily maximum limit of 0.75 mg/L.

- Outfall 001 received effluent limitations for **Total Selenium and Total Thallium**, and monitoring requirements for **Total Arsenic**. Although these pollutants were not detected, the analytical methods used exceeded the Department's minimum quantitation limits, making it uncertain whether these compounds are present in the discharge at concentrations that would require WQBELs.

- Additionally, Outfall 001 received monitoring requirements for **Total Copper and Total Silver**. The analytical methods used also exceeded the Department's minimum quantitation limit. However, the facility is already required to monitor and report these parameters. Therefore, previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l).

During the 30-days comment period, the Department will allow Greater Johnstown Water Authority to resample the discharge, for Total Selenium, Total Thallium and Total Arsenic using a quantitation limit (QL) that is not greater than the Target QLs identified in the NPDES permit application. DEP will re-evaluate the need for WQBELs and reporting requirements for these parameters based on any new analytical results.

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment D, indicate that no WQBELs are required for TRC.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The previous limitations for Outfall 001 are displayed below in Table 6.

According to DEP's previous determination, effluent limitations were established to meet the TMDL requirements and were set consistent with the TMDL criteria.

Previously, Total Residual Chlorine (TRC) limitations were based on an evaluation using TRC_CALC. eDMR values indicated a higher discharge rate. Consequently, effluent limitations for Outfall 001 were determined using a rate of 0.342 MGD. However, eDMR data from the last three years shows the facility hasn't discharged at this rate. Therefore, BPT Limits for WTP sludge and filter backwash wastewater will be imposed for TRC.

Table 6: Current Effluent Limitation at Outfall 001

Parameters	Mass (lb/day)		Concentration (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.375	0.750	0.877	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX	2/month	Grab
Aluminum, Total	XXX	XXX	XXX	0.75	0.75	XXX	2/month	Grab
Cadmium, Total (ug/L)	XXX	XXX	XXX	XXX	Report	XXX	2/month	Grab
Copper, Total (ug/L)	XXX	XXX	XXX	XXX	Report	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Lead, Total (ug/L)	XXX	XXX	XXX	XXX	Report	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.0	2.0	XXX	2/month	Grab
Mercury, Total (ug/L)	XXX	XXX	XXX	XXX	Report	XXX	2/month	Grab
Silver, Total (ug/L)	XXX	XXX	XXX	XXX	Report	XXX	2/month	Grab
Zinc, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab

Proposed Effluent Limitations and Monitoring Requirements

The proposed interim effluent monitoring requirements and proposed final effluent limitations and monitoring requirements for Outfall 001 are displayed in Tables 7 and 8 below. They are the most stringent values from the above effluent limitation development.

It should be noted that if during the 30-day comment period, the facility resamples the discharge using analytical methods with quantitation limits (QLs) at or below those outlined in Table 5, and DEP determines WQBELs for Total Thallium, Total Selenium and Total Arsenic are not necessary after reevaluation, these parameters may be removed from the final permit and the compliance schedule will be voided.

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of water quality-based effluent limitations on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. Any compliance schedule contained in an NPDES permit must be an "enforceable sequence of actions or operations leading to compliance with the water quality-based effluent limitations ("WQBELs"). In accordance with 40 CFR 122.47(a)(3) and PA Code, Chapter 92a.51, compliance schedules that are longer than one year in duration must set forth interim requirements and dates for their achievement. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet, that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible".

In this case, Saltlick Water Treatment Plant may be unable to meet the proposed effluent limits at Outfall 001 for Total Thallium based on the current discharge concentration of this pollutant. Monitoring for Total Thallium will be imposed for the first three years of coverage. After three years following the permit effective date, the final permit limits will take effect.

Since current Total Selenium concentrations already meet the proposed limits, the selenium effluent limitation will take effect on the permit's effective date.

Table 7: Proposed Interim Effluent Limitation at Outfall 001

Parameters	Mass (lb/day)		Concentration (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	1.0	XXX	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX	2/month	Grab
Aluminum, Total	XXX	XXX	XXX	0.75	0.75	XXX	2/month	Grab
Cadmium, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Copper, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Lead, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.0	2.0	XXX	2/month	Grab
Mercury, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Silver, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Zinc, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Arsenic (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Selenium (ug/L)	XXX	XXX	XXX	23.4	36.6	XXX	2/month	Grab
Total Thallium (ug/L)	XXX	XXX	XXX	XXX	XXX	XXX	2/month	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab

Table 8: Proposed Final Effluent Limitation at Outfall 001

Parameters	Mass (lb/day)		Concentration (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	1.0	XXX	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX	2/month	Grab
Aluminum, Total	XXX	XXX	XXX	0.75	0.75	XXX	2/month	Grab
Cadmium, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Copper, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Lead, Total (ug/L)	XXX	XXX	XXX	XXX	Report	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.0	2.0	XXX	2/month	Grab
Mercury, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Silver, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Zinc, Total (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Arsenic (ug/L)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Selenium (ug/L)	XXX	XXX	XXX	23.4	36.6	58.6	2/month	Grab
Total Thallium (ug/L)	XXX	XXX	XXX	1.13	1.76	2.82	2/month	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0.0 (varied)
Latitude 40° 22’ 55.92” **Longitude** -78° 50’ 16.62”
Wastewater Description: Stormwater

Outfall No. 003 **Design Flow (MGD)** 0.0 (varied)
Latitude 40° 22’ 55” **Longitude** -78° 50’ 21.6”
Wastewater Description: Stormwater

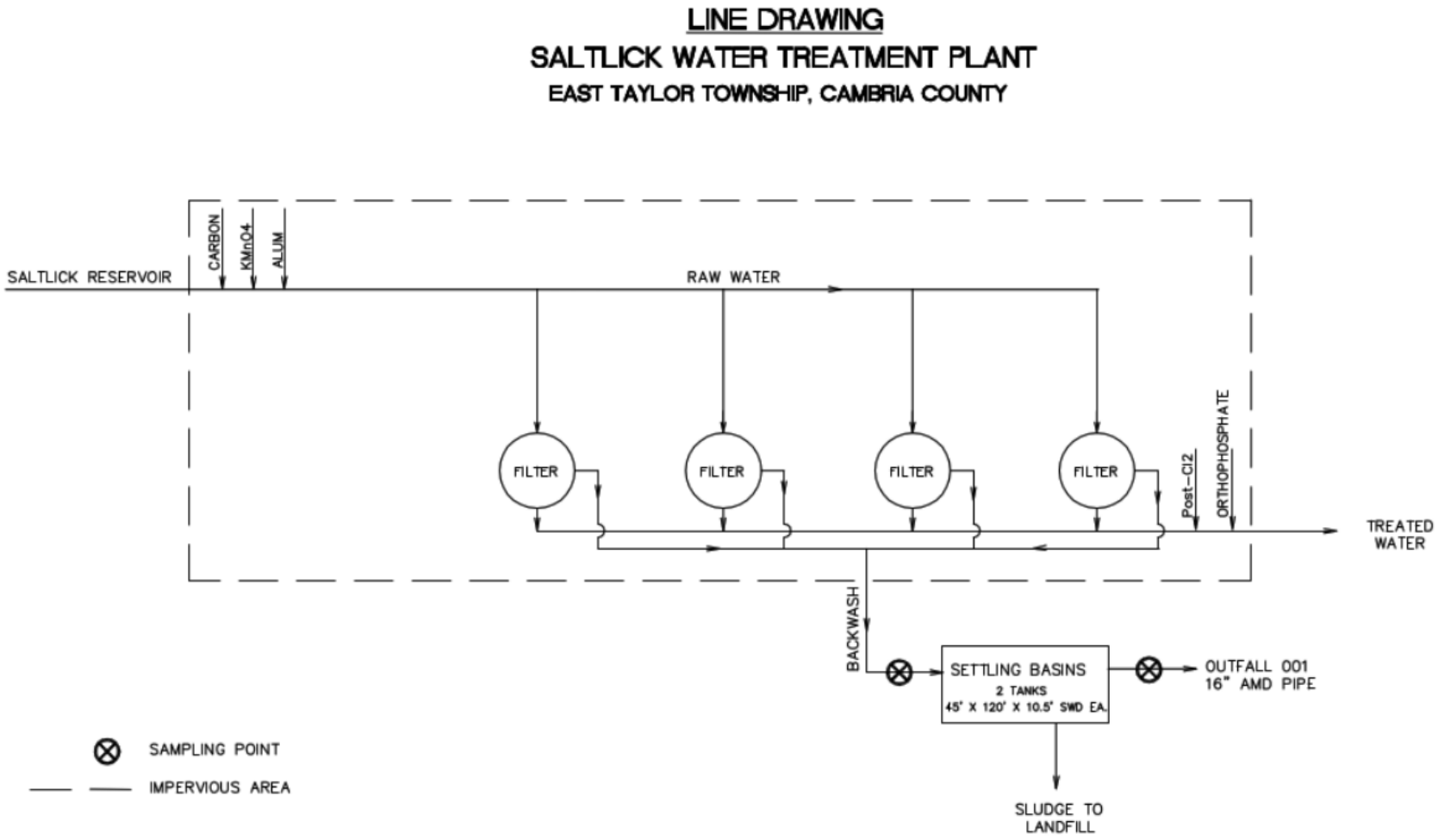
Outfall No. 004 **Design Flow (MGD)** 0.0 (varied)
Latitude 40° 22’ 55.01” **Longitude** -79° 50’ 18.54”
Wastewater Description: Stormwater

The SIC code for the site is 4941 and the corresponding appendix that would apply to the facility is Appendix J of the PAG-03. Outfalls 002, 003 and 004 have traditionally been exempt from monitoring requirements. During the current review, the facility was asked to complete Module 1 of the individual permit application for industrial wastewater discharge and collect a sample from these Outfalls. Considering that no industrial activities are conducted within the drainage area of these outfalls, and the sample data reported concentrations below the benchmark values established for a No Exposure facility, the exemption from monitoring requirements for these outfalls will be retained in the permit.

Pollutant	Concentration (mg/L)			No Exposure Benchmark Value (mg/L)
	Outfall 002	Outfall 003	Outfall 004	
Oil and Grease	<5.0	<5.0	<5.0	≤5.0
BOD_5	<2.0	5.14	<2.0	≤10.0
COD	16.0	<15.0	<15.0	≤30.0
Total Suspended Solids	23.0	5.0	<5.0	≤30.0
Total Nitrogen	<0.729	<0.729	<0.729	≤2.0
Total Phosphorus	0.338	<0.150	<0.150	≤1.0
pH (S.U)	No reported	No reported	No reported	6.0 to 9.0

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

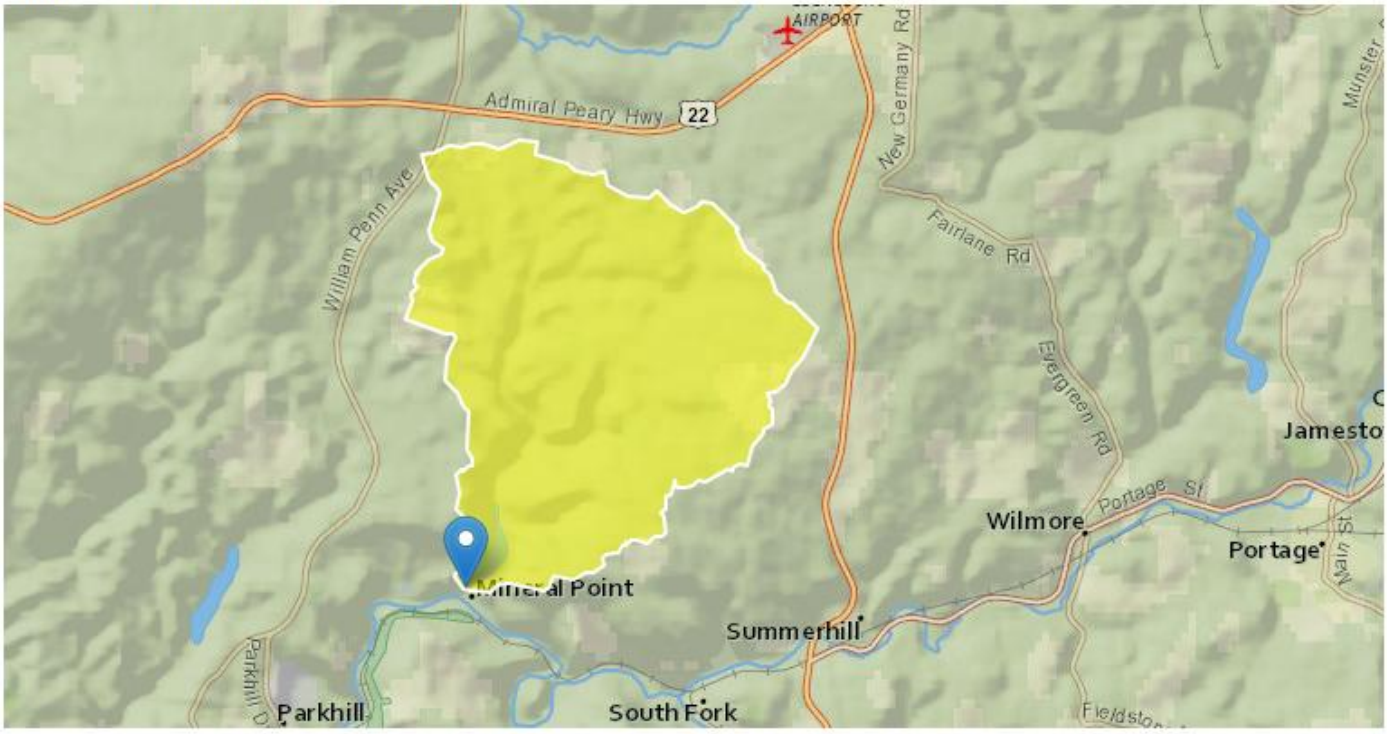
ATTACHMENT A.
LINE DRAWING



Attachment B.
StreamStats Report

PA0219037- Saltick Water Treatment Plant - StreamStats Report

Region ID: PA
Workspace ID: PA20250404103109912000
Clicked Point (Latitude, Longitude): 40.38049, -78.83645
Time: 2025-04-04 06:31:32 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	11.8	square miles
ELEV	Mean Basin Elevation	1972	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	11.8	square miles	2.33	1720
ELEV	Mean Basin Elevation	1972	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	1.84	ft^3/s	43	43
30 Day 2 Year Low Flow	2.63	ft^3/s	38	38
7 Day 10 Year Low Flow	0.938	ft^3/s	54	54
30 Day 10 Year Low Flow	1.22	ft^3/s	49	49
90 Day 10 Year Low Flow	1.75	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: 4.28.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment C
Toxic Management Spreadsheet for Outfall 001

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Saltlick Water Treatment Plant** NPDES Permit No.: **PA0219037** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Stteled filter backwash water**

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
0.164	98.4	7.25						

					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		91									
	Chloride (PWS)	mg/L		20.2									
	Bromide	mg/L	<	0.07									
	Sulfate (PWS)	mg/L		78.5									
	Fluoride (PWS)	mg/L		0.153									
Group 2	Total Aluminum	µg/L		2700									
	Total Antimony	µg/L	<	0.3									
	Total Arsenic	µg/L	<	10									
	Total Barium	µg/L		55									
	Total Beryllium	µg/L		0.1									
	Total Boron	µg/L	<	250									
	Total Cadmium	µg/L		0.1									
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L		0.23									
	Total Cobalt	µg/L		1									
	Total Copper	µg/L	<	5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	5									
	Dissolved Iron	µg/L		232									
	Total Iron	µg/L		165									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		428									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	5									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	20									
	Total Silver	µg/L	<	5									
	Total Thallium	µg/L	<	10									
	Total Zinc	µg/L		13.6									
	Total Molybdenum	µg/L		9									
	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	<										

Group 3	Chloroform	µg/L	<										
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L	<										
	Vinyl Chloride	µg/L	<										
Group 4	2-Chlorophenol	µg/L	<										
	2,4-Dichlorophenol	µg/L	<										
	2,4-Dimethylphenol	µg/L	<										
	4,6-Dinitro-o-Cresol	µg/L	<										
	2,4-Dinitrophenol	µg/L	<										
	2-Nitrophenol	µg/L	<										
	4-Nitrophenol	µg/L	<										
	p-Chloro-m-Cresol	µg/L	<										
	Pentachlorophenol	µg/L	<										
	Phenol	µg/L	<										
	2,4,6-Trichlorophenol	µg/L	<										
Group 5	Acenaphthene	µg/L	<										
	Acenaphthylene	µg/L	<										
	Anthracene	µg/L	<										
	Benzidine	µg/L	<										
	Benzo(a)Anthracene	µg/L	<										
	Benzo(a)Pyrene	µg/L	<										
	3,4-Benzofluoranthene	µg/L	<										
	Benzo(ghi)Perylene	µg/L	<										
	Benzo(k)Fluoranthene	µg/L	<										
	Bis(2-Chloroethoxy)Methane	µg/L	<										
	Bis(2-Chloroethyl)Ether	µg/L	<										
	Bis(2-Chloroisopropyl)Ether	µg/L	<										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<										
	4-Bromophenyl Phenyl Ether	µg/L	<										
	Butyl Benzyl Phthalate	µg/L	<										
	2-Chloronaphthalene	µg/L	<										
	4-Chlorophenyl Phenyl Ether	µg/L	<										
	Chrysene	µg/L	<										
	Dibenzo(a,h)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										
	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										

	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Saltlick Water Treatment Plant, NPDES Permit No. PA0219037, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Saltick Run**

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	045830	0.1	1376	11.8			Yes
End of Reach 1	045830	0.02	1363	11.9			Yes

$Q_{7\text{-}10}$

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	0.1	0.079	0.938									100	7		
End of Reach 1	0.02	0.079	0.938												

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	0.1														
End of Reach 1	0.02														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Saltlick Water Treatment Plant, NPDES Permit No. PA0219037, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 2.010 PMF: 1 Analysis Hardness (mg/l): 99.659 Analysis pH: 7.04

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	750	750	3,523	
Total Antimony	0	0		0	1,100	1,100	5,167	
Total Arsenic	0	0		0	340	340	1,597	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	98,640	
Total Boron	0	0		0	8,100	8,100	38,047	
Total Cadmium	0	0		0	2.007	2.13	9.99	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	568.173	1,798	8,446	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	76.5	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	446	
Total Copper	0	0		0	13.396	14.0	65.5	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	64.342	81.3	382	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	7.74	Chem Translator of 0.85 applied
Total Nickel	0	0		0	466.886	468	2,197	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	3.198	3.76	17.7	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	305	
Total Zinc	0	0		0	116.842	119	561	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 2.010 PMF: 1 Analysis Hardness (mg/l): 99.659 Analysis pH: 7.04

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	1,033	
Total Arsenic	0	0		0	150	150	705	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	19,258	
Total Boron	0	0		0	1,600	1,600	7,515	
Total Cadmium	0	0		0	0.245	0.27	1.27	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	73.908	85.9	404	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	48.8	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	89.2	
Total Copper	0	0		0	8.930	9.3	43.7	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	7,046	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.507	3.17	14.9	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	4.26	Chem Translator of 0.85 applied
Total Nickel	0	0		0	51.857	52.0	244	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	23.4	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	61.1	
Total Zinc	0	0		0	117.798	119	561	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 2.010 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	26.3	
Total Arsenic	0	0		0	10	10.0	47.0	
Total Barium	0	0		0	2,400	2,400	11,273	
Total Boron	0	0		0	3,100	3,100	14,561	
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	1,409	
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	4,697	
Total Mercury	0	0		0	0.050	0.05	0.23	
Total Nickel	0	0		0	610	610	2,865	
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	1.13	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.916 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

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Aluminum	3.09	4.82	2,258	3,523	5,645	µg/L	2,258	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Arsenic	Report	Report	Report	Report	Report	µg/L	47.0	THH	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	42.0	AFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	1,409	THH	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	0.032	0.05	23.4	36.6	58.6	µg/L	23.4	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	11.3	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	0.002	0.002	1.13	1.76	2.82	µg/L	1.13	THH	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 Barium	11,273	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	7,515	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	1.27	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	404	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	48.8	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	89.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Iron	7,046	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	14.9	µg/L	Discharge Conc < TQL
Total Manganese	4,697	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.23	µg/L	Discharge Conc < TQL
Total Nickel	244	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Zinc	360	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment D: TRC Modeling Results for Outfall 002

TRC EVALUATION - Outfall 001

0.938	= Q stream (cfs)	0.5	= CV Daily
0.164	= Q discharge (MGD)	0.5	= CV Hourly
4	= 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)
	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	1.198	1.3.2.iii	WLA cfc =	1.161
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.447	5.1d	LTA_cfc =	0.675

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.170	

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)**