pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0020168**
Facility Type	**Municipal**	APS ID	**787214**
Major / Minor	**Major**	Authorization ID	**1460946**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**East Stroudsburg Borough Monroe County**	Facility Name	**East Stroudsburg Borough WWTP**
Applicant Address	PO Box 303, 24 Analomink Street	Facility Address	101 Forge Road
	East Stroudsburg, PA 18301-2801		East Stroudsburg, PA 18301-2962
Applicant Contact	Jayme Naberezny	Facility Contact	Guy Brink
Applicant Phone	(570) 421-8300	Facility Phone	(570) 421-0248
Client ID	71386	Site ID	305
Ch 94 Load Status	Not Overloaded	Municipality	East Stroudsburg Borough
Connection Status	No Limitations	County	Monroe
Date Application Received	November 3, 2023	EPA Waived?	No
Date Application Accepted	December 18, 2023	If No, Reason	Major Facility; Antibacksliding exception
Purpose of Application	Renewal and Amendment of NPDES Permit		

Summary of Review

This is a 2.25 MGD Major STP NPDES permit renewal and major amendment (request for relaxation of assorted metals existing limits subject to the antibacksliding prohibition) discharging to Brodhead Creek (CWF existing use, TSF designated use, MF). Incorporating IW Stormwater permitting requirements into this permit cycle. **NOTE**: The Borough operates a separate Water Treatment Plant (NPDES Permit No. PA0034517) elsewhere.

- **Antibacksliding Exception Request for relief from existing Permit Limits and Monitoring Requirements (Toxic Pollutants)**: The application contained a request for relief from permit limits for Antimony, Lead, Silver, and Thallium that went into effect on March 1, 2022 and relief from monitoring for other parameters (Arsenic, Selenium, Zinc, and 1,4-Dioxane) on the basis of new monitoring data. The narrative referenced the CWA Section 402(o)(2)(B)(i) (Antibacksliding Exceptions): "information is available which was not available at the time of permit issuance and which would have justified the application of a less stringent limitation at the time of permit issuance". **See Effluent Limits Section for Antibacksliding Analysis and updated Reasonable Potential Analysis.**
  Background:
  - Per Previous 12/13/2018 NPDES Revised Permit Fact Sheet (underlining added): The Department's Toxics Screening Spreadsheet was used to identify potential toxic pollutants of concern. Our PENTOXSD model was then run to determine if there was a Reasonable Potential for the identified toxic pollutants to cause an excursion above water quality standards. This analysis resulted in numeric effluent limitations for the following parameters: Total Antimony, Total Copper, Total Lead, Total Silver and Total Thallium. These new limits will become effective 1 year after permit issuance. **(Note: the new limits will become effective beginning in year 4 as shown in the revised Draft Permit)** A few attempts with the Borough were made to explain the target Quantitation Limits (QLs) were not met when sampling the treatment plant's effluent. It was suggested that additional sampling by a laboratory that can achieve the QLs may be needed to verify if the above pollutants are, in fact, new parameters of concern. However, we never receive a response so the maximum effluent sample concentrations reported in the original permit application were input into the

Approve	Deny	Signatures	Date
X		James D. Berger (signed) James D. Berger, P.E. / Environmental Engineer	9/23/2024
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Acting Engineer Manager	9-30-24

Summary of Review

PENTOXSD model. (See the attached modeling results). Total Arsenic, Total Selenium and Total Zinc are parameters of concern that have effluent concentrations between 10% and 50% of the WQBELs so Monitoring and Reporting will be required. Finally, 1,4-Dioxane has also been tagged as a parameter of concern based on guidance from our Central Office support staff. The guidance states that if the concentration of 1,4-Dioxane exceeds 10 ug/L and the discharge flow exceeds 0.1 MGD, then Monitoring and Reporting will be required.

Parameter	Minimum	Average Monthly	Daily Maximum	IMAX
Ammonia-Nitrogen (mg/L) May 1 – Oct 31	XXX	9.5	XXX	XXX
Ammonia-Nitrogen (mg/L) * Nov 1 – Apr 30	XXX	20	XXX	XXX
Total Dissolved Solids (mg/L) *	XXX	XXX	Report Quarterly Avg	XXX
Total Antimony (mg/L)	XXX	0.07	0.11	XXX
Total Arsenic (mg/L)	XXX	Report	Report	XXX
Total Copper (mg/L)	XXX	0.03	0.05	XXX
Total Lead (mg/L)	XXX	0.04	0.06	XXX
Total Selenium (mg/L)	XXX	Report	Report	XXX
Total Silver (mg/L)	XXX	0.01	0.015	XXX
Total Thallium (mg/L)	XXX	0.003	0.004	XXX
Total Zinc (mg/L)	XXX	Report	Report	XXX
1,4-Dioxane (mg/L)	XXX	Report	Report	XXX

- Previous NPDES Permit Application Information for the Toxic Pollutant Permit Limits: The 2018 Toxic Screening Spreadsheet (incorporated into the previous Fact Sheet and used with the PENTOXSD water quality modeling) identified the input values in the Reasonable Potential Analysis/PENTOXSD water quality modeling. The input values below were based on insensitive ND concentrations not meeting DEP TQLs (subject to the EPA Sufficiently Sensitive Rule):
  - Total Antimony: 100 ug/l
  - Total Arsenic: 50 ug/l
  - Total Copper: 50 ug/l
  - Total Lead: 50 ug/l
  - Total Selenium: 10 ug/l
  - Total Silver: 50 ug/l
  - Total Thallium: 100 ug/l
  - Total Zinc: 100 ug/l
  - 1,4-Dioxane: 400 ug/l
- Arsenic, Selenium, Zinc, and 1,4-Dioxane: The Antibacksliding Prohibition does not apply to monitoring requirements placed into a previous permit to gather information. The new data was incorporated into an updated Reasonable Potential Analysis to determine if permit limits or monitoring requirements pertain.
- Total Copper: Total Copper was not part of the antibacksliding request. See Effluent Limits Section for the updated Reasonable Potential Analysis and limits. The permittee is conducting a pilot study on meeting Total Copper limits long-term (via pH adjustment by caustic soda). To date, East Stroudsburg University and Notre Dame High School have been identified as potential sources for copper based on sampling results. The Borough is evaluating the need for reduced discharge limits for copper for its industrial users (including the University and High School). See Communications Log (below) for related information on the TRE and Pilot Study.

- **Flows**:
  - AADF Flows: 1.002 MGD (2022), 1.141 MGD (2021), 0.920 MGD (2020)
  - Peak Flows: 1.616 MGD peak monthly average flow (April 2022); 2.464 MGD peak instantaneous flow
  - Effluent Flows: The facility discharge has a continuous trickling filter treatment train discharge and a batch SBR discharge train flow with 1500 GPM decant rate (2.16 MGD). The discharge streams combine prior to discharge at Outfall No. 001.
- **Application Submittals**:
  - **On-Base No. 128686**: Initial Renewal Application.

Summary of Review

- **On-Base No. 132517**: Supplemental information received 12/13/2023, but missing copper pilot study info (TRE info) and failure to provide updated pollutant group table circling either BOD5 or CBOD5 per form instructions.
- **On-Base No. 133294**: Supplemental Copper pilot study information for TRE.
- **On-Base No. 133675**: Revised Application (resubmitted after being returned by On-Base due to missing TRE info). **NOTE**: Permittee had problem uploading the revised application, but succeeded by 12/18.
- **TRE Phase I Report (dated 9/1/2020)**: E-mailed Copy provided by Authority attorney (not found in available DEP files or in revised NPDES Permit Application).
- **On-Base No. 142529**: Revised permit application (response to 3/8/2024 Tech Def Letter)

- **Stormwater and Historic Outfalls**: As a major STP, the facility is subject to IW Stormwater NPDES permitting requirements, but with no IW stormwater outfalls in previous NPDES Permit (with E-facts listing several inactive outfalls). See Effluent Section for details.
- **DRBC Docket**: 6/9/2021 DRBC Docket No. D-1987-015 CP-4 applies.

Sludge use and disposal description and location(s): 95.7 dry tons was disposed at Keystone Sanitary Landfill.

Permit Conditions:

Part A.1 Additional Requirements: The WQM Permits indicate STP had a 2.1 MGD design capacity (WQM Permit No. 4588409) and 3,825 lbs BOD5/day organic capacity (WQM Permit No. 4517402) for the 2.25 NPDES permit-basis flow facility. This section has been updated accordingly. At present, the facility is discharging at must lower rates/loadings. The facility would require a WQM Permit for rerating the as-built WWTP's hydraulic or organic design capacities.

Part C Special Conditions: Changes bolded.

- Part C.I.A, B, C: Existing standard conditions for stormwater prohibition, necessary property rights, residuals management.
- Part C.I.D: Existing Chlorine Minimization condition
- **Part C.I.E: New SBR batch discharge condition because batched discharges (higher intensity) can negatively impact the receiving stream.**
- **Part C.II: New standard Solids Management Conditions including annual Sewage Sludge Management Inventory requirement, apparently omitted by accident in previous NPDES Permit. An additional requirement for a sludge drying bed total volumes/remaining capacity added due to permitted sludge drying beds in event of future usage.**
- **Part C.III: New WQBELs for Toxic Pollutants condition (revised Total Copper limits, Benzo(a)Anthracene and 3,4-Benzofluoranthene) with three-year Schedule of Compliance. Copper included in case they need to further upgrade the Treatment Plant to meet the more stringent future limits than the existing Total Copper Limit. The facility is still conducting a pilot project to determine what is needed to meet the existing Total Copper Permit Limits, but has done a partial TRE for Total Copper already.**
- Part C.IV: **Updated** Whole Effluent Toxicity (WET) conditions **with revised dilution ratios**.
- **Part C.V: New WQBELs below Quantitation Limits (Benzo(a)Anthracene; 3,4-Benzofluoranthene) condition because constituent detected below DEP TQL. See Chapter 93 for the applicable Water Quality Standards**
- **Part C.VI: New IW Stormwater Permit Conditions for a Major STP (subject to IW Stormwater permitting requirements) including benchmark values and Annual IW Stormwater Report submittal requirements.**

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001 (sewage effluent) 005 (stormwater only)	Design Flow (MGD)	2.25 (001) 0 (005)
Latitude	40º 59' 3.62" (001) 40º 59' 4.30" (005) 40º 59' 3.67" (006) 40º 59' 4.596" (007) 40º 59' 3.6672" (008)	Longitude	-75º 10' 48.15" (001) -75º 10' 45.69" (005) -75º 10' 48.08" (006) -75º 10' 45.696" (007) -75º 10' 48.0828" (008)
Quad Name	Stroudsburg	Quad Code	1144 (5.23.4)
Wastewater Description:	Sewage Effluent (001) Stormwater (005, 006, 007, and 008)		
Receiving Waters	Brodhead Creek (CWF (existing use))	Stream Code	4750
NHD Com ID	26175222	RMI	3.5 (per DRBC Docket)
Drainage Area	259 mi^2	Yield (cfs/mi^2)	0.1181 (calculated)
Q_{7-10} Flow (cfs)	30.6	Q_{7-10} Basis	USGS PA Streamstats
Elevation (ft)	375	Slope (ft/ft)	-
Watershed No.	1-E	Chapter 93 Class.	TSF, MF
Existing Use	**CWF (COLD WATER FISHES)**	Existing Use Qualifier	Use Attainability Analysis
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	PATHOGENS		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	**-**	Name	**-**
Background/Ambient Data: None available		Data Source	
pH (SU)	-	-	
Temperature (°F)	-	-	
Hardness (mg/L)	53.5	NPDES Application	
Other:	-	-	
Nearest Downstream Public Water Supply Intake		City of Easton WTP	
PWS Waters	Delaware River	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	~30

Changes Since Last Permit Issuance:

- Brodhead Creek has been designated a Trout Natural Reproduction stream (subject to non-summer DO WQS).

Other Comments:

DEP has evaluated information indicating that the existing use (CWF) of the receiving waters is different than the designated use under 25 Pa. Code § 93.9 (TSF). In developing the draft NPDES permit, DEP is proposing to protect the existing use of the receiving waters. Following DEP's notice of the receipt of the application and the draft permit in the Pennsylvania Bulletin, DEP will accept written comments during the public comment period regarding DEP's tentative determination to protect the existing use. DEP will make a final determination on existing use protection for the receiving waters as part of the final permit action.

Q7-10 Low Flow: USGS PA Streamstats was used as best information as it incorporates available gage data and site-specific factors (geology, terrain, etc.) in its determination of Q7-10 low flow conditions.

Stormwater Drainage Areas:

- See Effluent section for breakdown of existing site stormwater drainage areas and outfalls.
- East Stroudsburg Borough MS4 NPDES Permit No. PAG132318 has a stormwater outfall 022 in the area.
- A number of other historic outfalls onsite are inactive and unpermitted (002, 003, 004, 100).
- The separate (on same property parcel) Twin Borough Recycling Facility stormwater discharges are not covered under this NPDES Permit.

Treatment Facility Summary

Treatment Facility Name: East Stroudsburg Borough WWTP

WQM Permit No.	Issuance Date	Scope
4517402	12/6/2017	The project was for the replacement of raw wastewater pumps, grit removal equipment, and other associated appurtenances at the wastewater treatment plant. No change to the permitted hydraulic capacity or organic capacity of the facility.
4588409	11/1/1988	Expansion to **2.1 MGD hydraulic design capacity**, with construction of screening device, grit chamber, comminutor, two (2) SBRs, two (2) chlorine contact tanks, and two (2) aerobic digesters. WQM Permit No. 4586405 remained in effect for ongoing construction. The NPDES Permit was noted to have a greater NPDES Permit-basis flow of 2.25 MGD.
4586405	1/30/1987	Expansion from 1.3 MGD to 2.25 MGD. Trickling Filter media replacement. Three bar screens, grit chamber, two (2) primary setting tanks, two (2) final settling tanks, two (2) sludge thickening tanks, and two (2) aerobic digestor tanks, and a belt filter press to be installed.
P7451	10/3/1950	Original STP including Trickling filters, chlorine contact tank, and sludge drying beds.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Dual treatment processes consisting of a Trickling Filter and Sequencing Batch Reactor	Gas Chlorine	2.25 (NPDES Permit-basis flow)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
2.1 (as-built per WQM permits)	3,825 (as-built per WQM permits)	Not Overloaded	Aerobic digesters and belt filter press; sludge drying beds available but not in current usage	Landfilled

Changes Since Last Permit Issuance: De-chlorination added.

Other Comments:

The existing WWTP facilities consist of an influent pump station, bar screen and comminutor, a grit screen, and a distribution box for dividing influent flows between the two (2) treatment trains, the SBR treatment train, and the dual stage trickling filter train after which the two treatment flows recombine prior to Outfall No. 001.

- The 1/23/2019 Inspection Report indicated the facility thought the inoperative comminutor unneeded after installing new raw influent pumps. The same inspection report noted 12 drying beds then in operation. 1/23/2019 and 11/16/2023 Inspection Reports did not list the comminutor or sludge drying bed units among WWTP units. The Revised Application indicated: The former sludge drying beds are no longer in use. The building structure has not been demolished or converted. Currently, the sludge is dewatered with a belt press in the Sludge Dewatering Building and stored in a covered and lined container until it is hauled offsite for disposal by a licensed hauler.
- The 1.0 MGD SBR treatment train consists of two (2) 500,000 gallon per day (gpd) SBR units, two (2) chlorine contact tanks, a de-chlorination system (added to address NPDES Permit limits), and two (2) aerobic digesters. 2023 Inspection Report noted that SBR No. 2 has been offline as an operational decision, but will be placed back into service in the future.

- The 1,25 dual stage trickling filter treatment train consists of two (2) primary settling tanks, a primary trickling filter, a secondary trickling filter, two (2) final settling ranks, a chlorine contact tank, a de-chlorination system (added to address NPDES Permit limits), and an anaerobic digester.
- 2019-2020 Inspection Reports had noted some consideration was being given to replacing the Trickling Filters with additional SBRs and possibly an offsite septage unloading station, but no upgrade was proposed in the NPDES Permit Application for the next 5 years.
- The 9/1/2020 TRE Phase I Report showed "BFP/Sandbeds" that indicates that former sludge drying beds remained in use for biosolids/sewage sludge storage at that time, but application indicates no current usage.
- As-built De-chlorination System: Per Application: We contacted the previous Engineer who designed the de-chlorination system. They confirmed that based on past discussions with the Department a WQM permit was not required for the de-chlorination system. This permit determination was confirmed via email from Philip J. Amico, P.E. – PADEP NERO dated November 9, 2018. Subsequent site inspections by the Department confirmed the system was installed and operational.

2022 and 2023 Chapter 94 Reports:

Items 1, 2, 3, and 9 (Hydraulic and Organic Loading): No existing or projected organic or hydraulic overloading, but referenced incorrect numbers. The DEP Spreadsheet did not include precipitation data.

- 2022 Max 3-month average was 1.297 MGD (compared to claimed 2.25 MGD hydraulic capacity and as-built 2.1 MGD hydraulic design capacity) and 1,126 lbs BOD5/day highest organic monthly average load (compared to claimed 4,796 lbs BOD5 organic design capacity and as-built 3,825 lbs BOD5/day capacity).
- 2023 Max 3-month average was 1.176 MGD. Max month organic loading was 2,016 lb BOD5/day.
- **The WQM Permits indicate STP has an as-built 2.1 MGD design capacity (WQM Permit No. 4588409) and as-built 3,825 lbs BOD5/day organic capacity (WQM Permit No. 4517402) for the 2.25 NPDES permit-basis flow facility**. The 2017 IRR indicated no change to the permitted hydraulic capacity or organic capacity of the facility. **The next NPDES Permit Renewal will correct inaccurate hydraulic/organic design capacities in the Part A.I Additional Requirements**.
- The 2022 Chapter 94 Report indicated 5,569 EDUs (at 2.42 persons/EDU), 179.2 GPD flow/EDU, 74.1 GPD/capita (on the low side but Stroud Township indicated it had a LPS sewer system for example). The organic load was estimated at 0.170 lb/capita. They projected 62 new EDUs (2023), 84 (2024), 40 (2025), 60 (2026), and 72 (2027). They did not complete the DEP Spreadsheet monthly precipitation table.
- The 2023 Chapter 94 Report indicated 5,700 EDUs (at 2.42 persons/EDU), 188.4 GPD flow/EDU, 77.9 GPD/capita. They project 34 new EDUs in 2024, 47 new EDUs in 2025, 40 new EDUs in 2026, 60 new EDUs in 2027, and 72 new EDUs in 2028. The maximum month organic load was 2,016 lbs BOD5/day (November 2023). The organic load was estimated at 0.082 lbs BOD5/capita. At the standard DWFM defaults (2.5 persons/EDU; 100 GPCD; and 0.17 lbs BOD5/person), 5,700 EDUs would be equivalent to:
    - 1.425 MGD dry weather flow
    - 2,422.5 lbs organic loadings.
- The NPDES Application Form indicated that the Borough of East Stroudsburg had 11,802 population (86.4% of service area), Stroud Township had 242 persons (1.8% of service area) and Smithfield Township had 1583 persons (11.8% of service area).
    - This equates to a total population of 13,627 persons that would be expected to generate 1.363 MGD (at 100 GPCD) and 2316.6 lbs BOD5/day at standard DWFM defaults (100 GPCD; 0.17 lbs BOD5/day).

Item 4 (Sewer Extensions): A number of sewer extension projects were listed in the 2022 and 2023 Chapter 94 Reports. The Tributary Chapter 94 Reports listed some additional projects. The 2023 Chapter 94 Reported indicated:

- East Stroudsburg has six (6) projects in mind over the 2024 – 2026 time-frames.
- Smithfield Township Sewer Authority has 773 EDUs. Two future projects were indicated to have a total of 207 EDUs (over the next 5 years).
- Stroud Township Sewer Authority has 202 EDUs, with an agreement with East Stroudsburg for up to 62,000 GPD (248 EDUs per STSA standards). No new extensions were anticipated for 2023.

Item 5 (Sewer System Monitoring, Maintenance, repair and rehab): Borough noted it uses its own equipment or contractors for maintenance, cleaning, and televising of portions of the sewer system, with repairs scheduled as needed. Some cleaned sewer segments are identified. A PennDOT I-80 Exit 208 project was noted as expected to replace 2,050 LF vitrified pipe segments in the 2022/2023 Chapter 94 Reports. Assorted maintenance work was listed in 2023.

Item 6 (Capacity-related bypassing, SSOs or discharging):

- 2022 Chapter 94 Report noted an SSO occurred in Dansbury Park. PennDOT was also indicated to beginning an I-80 Exit 208 project that will involve replacement of 2,050 LF of vitrified clay pipes.
- 2023 Chapter 94 Report included noncompliance reporting forms for seven (7) SSO events (and plant overflows) at (but not at recurring locations in 2023):
    - Victoria Heights
    - 45 Spangenberg Ave
    - Plant headworks
    - 415 William Street
    - 4 S. Kistler St.
    - MH# 600 along Route 80
    - Miller Park MH# 351

Item 7 (Pump Stations): The Borough has one (1) pump station (on Lincoln Avenue). 2022 Chapter 94 Report indicated 1,425 GPM for each of two pumps. The 2023 Chapter 94 Report estimated maximum monthly flow at 226 GPM, and indicated no issues experienced in 2023. The 2023 Chapter 94 Report noted that the Smithfield Township and Stroud Township tributary areas flow by gravity to the WWTP.

Item 8 (IW Report):

- The NPDES Renewal Application indicates only sanitary sewage is being received from the identified Industrial Users. However, the section was not correctly completed (citing incorrect CFR citations for pretreatment standards, listing SIC Codes instead of applicable 40 CFR Subparts, etc. The Borough may need to re-evaluate whether IUs are sending wastewater requiring pretreatment to the POTW. If so, NPDES Permit Part B.I.C.4.b reporting requirements may apply.
- Pretreatment ordinance No. 966 included in the 2022/2023 Chapter 94 Reports.
- "Under the conditions of the Borough's NPDES Discharge Permit, and in accordance with the Toxics Reduction Evaluation (TRE), the Borough is required to monitor for 9 Compounds in the WWTP effluent, which could potentially be contributed by industrial discharges to the sewer collection system. The analytical results for these 9 Compounds were reported on the Discharge Monitoring Reports submitted by the Borough throughout 2022. To date, the monitoring results indicate that the concentrations of these 9 Compounds in the discharge are negligible or extremely low, with the exception of occasional elevated levels of Copper".
- "While there may be an industrial discharge component contributing to Copper in the waste stream, it is believed that corrosion of domestic plumbing in the residential and small commercial customer connections are likely to be a more significant factor. The Borough has taken measures to investigate and address effluent Copper concentrations, including implementing a pilot study for pH adjustment of the influent to the WWTP, and will continue to evaluate other measures, for treatment of water delivered to the Public Water System and treatment of wastewater at the WWTP, to maintain Copper concentrations within NPDES discharge limits".

Item 10 (Sewage Sludge Management Inventory): Left blank. Current permit omitted standard Part C solids conditions requiring submittal of Inventory.

Item 11 (Calibration Reports): The 2023 Chapter 94 Report included:

- Influent: Eastech Badger Ultrasonic Vantage 2220 meter and recorder were calibrated only for 1.000 MGD range for a 2.25 MGD NPDES Permit-basis Treatment Plant, with higher max daily influent flows during wet weather. This might negatively impact flow-proportional influent sampling results.
- Effluent: The effluent meter and recorder were calibrated for a range of 7 MGD.
- Pumping Station: Flow data was provided.

2023 Tributary Reports:

- Smithfield Sewer Authority: Two (2) pump stations identified. No identified hydraulic loading issue.
- Stroud Township Sewer Authority: LPS sewer system is maintained in excellent condition per Report.

Compliance History

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

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
Flow (MGD) Average Monthly	**0.745**	**0.81**	**0.932**	**1.537**	**1.502**	**1.158**	**1.865**	**1.612**	**0.939**	**0.977**	**1.087**	**1.033**
Flow (MGD) Daily Maximum	1.087	1.08	1.239	2.979	2.28	1.926	3.466	2.467	1.495	1.258	2.008	1.573
pH (S.U.) Minimum	**6.84**	**6.88**	**6.9**	**7.03**	**7.2**	**7.17**	**7.09**	**7.01**	**6.88**	**6.88**	**7.06**	**6.9**
pH (S.U.) Instantaneous Maximum	**7.15**	**7.37**	**7.28**	**7.3**	**7.4**	**7.37**	**7.48**	**7.36**	**7.22**	**7.26**	**7.26**	**7.23**
DO (mg/L) Minimum	8.17	8.06	8.1	8.01	8.09	7.65	7.77	7.95	7.65	8.16	7.99	7.45
TRC (mg/L) Average Monthly	0.3	0.3	0.3	0.3	0.3	0.3	< 0.3	0.3	0.4	0.3	0.3	0.3
TRC (mg/L) Instantaneous Maximum	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4
CBOD5 (lbs/day) Average Monthly	< 42	< 71	87	< 117	< 90	168	< 131	< 109	< 57	< 54	< 59	< 57
CBOD5 (lbs/day) Weekly Average	< 45	92	116	196	111	188	< 200	153	< 69	< 72	< 85	< 61
CBOD5 (mg/L) Average Monthly	< 7	< 10	11	< 9	< 7.0	18	< 9	< 8	< 7	< 6	< 6	< 7
CBOD5 (mg/L) Weekly Average	7	14	16	13	10.0	23	12	9	8	< 7	< 6	8
BOD5 (lbs/day) Influent Average Monthly	671	< 580	658	1354	1098	1867	< 1287	1964	2016	1163	1063	854
BOD5 (lbs/day) Influent Weekly Average	1196	860	1335	2342	1657	1689	1948	3968	3108	2314	1298	1299
BOD5 (mg/L) Influent Average Monthly	109.3	< 83.3	82.5	110.8	84.5	178.8	< 89.5	134.5	225	138.6	113.8	100.5
TSS (lbs/day) Average Monthly	94	138	189	264	211	151	219	286	109	120	97	102

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
TSS (lbs/day) Influent Average Monthly	926	617	1036	944	1273	888	927	3913	4064	1195	1053	1021
TSS (lbs/day) Influent Weekly Average	1445	1174	1643	1417	1687	1256	2214	11171	7375	1605	1917	1947
TSS (lbs/day) Weekly Average	118	212	307	456	260	190	381	358	132	141	110	137
TSS (mg/L) Average Monthly	14	20	23	22	17	16	15	19	13	15	11	11
TSS (mg/L) Influent Average Monthly	142	89	128	78	101	91	63	248	441	147	112	122
TSS (mg/L) Weekly Average	19	32	31	30	20	20	21	22	18	17	14	15
Total Dissolved Solids (mg/L) Average Quarterly		365			408.7			426			502.7	
Fecal Coliform (No./100 ml) Geometric Mean	51	15	< 11	30	46	< 10	15	< 30	39	49	< 38	36
Fecal Coliform (No./100 ml) Instantaneous Maximum	**2419.6**	34.5	70.6	142.1	93.4	98.8	79.8	90.6	98.5	151.5	185	135.4
Nitrate-Nitrite (lbs/day) Average Monthly	96	95	103	120	113	87	124	118	135	119	109	115
Nitrate-Nitrite (mg/L) Average Monthly	15.3	14.31	13.02	10.814	9.16	9.07	8.69	8.33	16.44	14.29	11.95	13.15
Total Nitrogen (lbs/day) Average Monthly	119	132	159	204	168	179	183	172	161	145	134	142
Total Nitrogen (mg/L) Average Monthly	18.82	19.75	20.34	17.61	13.86	19.03	13.01	12.22	19.46	17.36	14.84	16.25
Ammonia (lbs/day) Average Monthly	< 7	< 10	< 23	< 53	< 23	63	< 25	< 21	< 7	< 12	33	< 14
Ammonia (mg/L) Average Monthly	< 1.0	< 1.5	< 3.1	< 4.4	< 2.1	6.9	< 2.1	< 1.7	< 0.8	1.4	4.0	< 1.7
TKN (lbs/day) Average Monthly	24	37	57	87	56	< 94	< 62	55	27	27	< 26	27
TKN (mg/L) Average Monthly	3.58	5.55	7.51	7.08	4.77	< 10.03	< 4.45	3.98	3.11	3.16	< 3	3.18

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
Total Phosphorus (lbs/day) Average Monthly	24	26	25	32	26	23	20	24	24	27	21	35
Total Phosphorus (mg/L) Average Monthly	3.8	3.9	3.2	2.64	2.11	2.76	1.488	1.81	3.01	3.22	2.31	3.91
Total Antimony (lbs/day) Average Monthly	< 0.004	< 0.004	< 0.005	< 0.01	< 0.01	< 0.003	< 0.005	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Antimony (lbs/day) Daily Maximum	0.005	0.005	0.01	0.03	0.04	0.004	0.007	< 0.04	0.04	< 0.02	< 0.04	< 0.02
Total Antimony (mg/L) Average Monthly	< 0.0007	< 0.0005	< 0.0005	< 0.001	< 0.001	< 0.0004	< 0.0004	< 0.002	< 0.003	< 0.002	< 0.002	< 0.002
Total Antimony (mg/L) Daily Maximum	0.0009	< 0.000302	0.00106	0.00315	0.00335	0.00054	0.000603	< 0.00193	0.00318	< 0.00218	< 0.00218	< 0.00218
Total Arsenic (lbs/day) Average Monthly	< 0.003	< 0.004	< 0.004	< 0.006	< 0.007	< 0.004	< 0.007	< 0.007	< 0.004	< 0.005	0.005	< 0.005
Total Arsenic (lbs/day) Daily Maximum	< 0.004	< 0.005	< 0.006	< 0.007	< 0.01	< 0.006	< 0.01	0.01	0.006	0.006	< 0.009	< 0.009
Total Arsenic (mg/L) Average Monthly	< 0.000499	< 0.000517	< 0.000548	< 0.000512	< 0.000548	< 0.000504	< 0.000518	< 0.000502	< 0.00056	< 0.000559	< 0.000504	0.000599
Total Arsenic (mg/L) Daily Maximum	< 0.000548	< 0.00041	< 0.000548	< 0.000548	< 0.000548	< 0.000548	< 0.000548	0.0006	0.00089	0.00073	< 0.000548	< 0.001
Total Copper (lbs/day) Average Monthly	0.20	0.30	0.20	0.40	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Total Copper (lbs/day) Daily Maximum	0.30	0.50	0.30	0.60	0.30	0.20	0.20	0.20	0.20	0.20	0.40	0.30
Total Copper (mg/L) Average Monthly	**0.03**	**0.04**	**0.03**	**0.03**	**0.02**	**0.02**	**0.01**	**0.01**	**0.02**	**0.02**	**0.03**	**0.02**
Total Copper (mg/L) Daily Maximum	**0.04**	**0.07**	**0.03**	**0.05**	**0.02**	**0.02**	**0.02**	**0.02**	**0.03**	**0.02**	**0.05**	**0.03**
Total Lead (lbs/day) Average Monthly	0.006	0.01	0.007	0.02	0.01	0.007	0.01	0.01	< 0.007	0.006	0.01	0.01
Total Lead (lbs/day) Daily Maximum	0.008	0.02	0.01	0.03	0.02	0.008	0.02	0.01	0.01	0.008	0.03	0.02
Total Lead (mg/L) Average Monthly	0.001	0.002	0.0009	0.001	0.0009	0.0009	0.0007	0.0007	< 0.009	0.0008	0.001	0.001
Total Lead (mg/L) Daily Maximum	0.0013	0.00351	0.00149	0.00196	0.00131	0.00097	0.00109	0.00094	0.00199	0.00096	0.00334	0.0022

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
Total Selenium (lbs/day) Average Monthly	< 0.005	< 0.006	< 0.008	< 0.009	< 0.008	< 0.005	< 0.01	< 0.01	< 0.009	< 0.006	< 0.006	< 0.008
Total Selenium (lbs/day) Daily Maximum	0.009	0.008	0.02	0.02	< 0.01	< 0.007	< 0.01	0.02	0.01	0.008	< 0.01	0.02
Total Selenium (mg/L) Average Monthly	< 0.000842	< 0.000767	< 0.000961	< 0.000858	< 0.000632	< 0.000632	< 0.000705	< 0.000881	< 0.001031	< 0.000724	< 0.000632	< 0.000838
Total Selenium (mg/L) Daily Maximum	0.00168	0.00117	0.00155	0.00176	< 0.000632	< 0.000632	0.000995	0.00126	0.00175	0.00109	< 0.000632	0.00166
Total Silver (lbs/day) Average Monthly	< 0.0008	< 0.005	< 0.001	< 0.001	< 0.002	< 0.001	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001
Total Silver (lbs/day) Daily Maximum	< 0.0008	0.02	< 0.001	< 0.002	< 0.002	< 0.001	< 0.003	< 0.003	< 0.002	< 0.001	< 0.002	< 0.001
Total Silver (mg/L) Average Monthly	< 0.0001	< 0.0006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Total Silver (mg/L) Daily Maximum	0.000132	0.00181	< 0.000132	< 0.000132	< 0.000132	< 0.000132	< 0.000132	< 0.000132	< 0.000132	< 0.000132	< 0.000132	< 0.000132
Total Thallium (lbs/day) Average Monthly	< 0.002	< 0.002	< 0.002	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.002	< 0.002	< 0.002	< 0.002
Total Thallium (lbs/day) Daily Maximum	0.004	< 0.002	< 0.002	< 0.004	< 0.004	< 0.003	< 0.004	< 0.004	< 0.003	< 0.002	< 0.004	< 0.002
Total Thallium (mg/L) Average Monthly	< 0.0003	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total Thallium (mg/L) Daily Maximum	0.00068	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233	< 0.000233
Total Zinc (lbs/day) Average Monthly	0.2	0.06	0.4	0.5	0.40	0.4	0.5	0.03	0.4	0.40	0.3	0.4
Total Zinc (lbs/day) Daily Maximum	0.3	1.0	0.5	0.8	0.40	0.4	0.6	0.5	0.5	0.40	0.4	0.4
Total Zinc (mg/L) Average Monthly	0.0426	0.0868	0.0486	0.0442	0.0316	0.0422	0.0351	0.02061	0.0554	0.0412	0.04	0.0425
Total Zinc (mg/L) Daily Maximum	0.062	0.152	0.0611	0.0524	0.041	0.0473	0.0468	0.0304	0.067	0.0445	0.05	0.0489
1,4-Dioxane (lbs/day) Average Monthly	< 0.0006	< 0.0009	< 0.0008	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.0009	< 0.01	< 0.01	< 0.009

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
1,4-Dioxane (lbs/day) Daily Maximum	< 0.0007	0.001	< 0.001	< 0.001	< 0.002	0.003	< 0.002	< 0.002	< 0.001	0.01	< 0.01	< 0.01
1,4-Dioxane (mg/L) Average Monthly	< 0.0001	< 0.00013	< 0.0001	< 0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0012	< 0.001	< 0.001
1,4-Dioxane (mg/L) Daily Maximum	< 0.0001	0.00023	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	0.0015	< 0.001	< 0.001

DMR Data for Outfall 001 (from October 1, 2022 to September 30, 2023)

Parameter	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22
Flow (MGD) Average Monthly	**1.087**	**1.033**	**1.018**	**0.735**	**1.129**	**0.927**	**1.148**	**1.057**	**1221**	**1.288**	**0.82**	**0.881**
Flow (MGD) Daily Maximum	2.008	1.573	1.502	1.281	2.464	1.439	1.743	1.418	1894	2.104	1.105	1.522
pH (S.U.) Minimum	**7.06**	**6.9**	**7.03**	**7.05**	**7.24**	**6.9**	**7.02**	**7.08**	**7.22**	**7.09**	**7.15**	**7.18**
pH (S.U.) Instantaneous Maximum	**7.26**	**7.23**	**7.35**	**7.43**	**7.58**	**7.3**	**7.26**	**7.33**	**7.62**	**7.61**	**7.54**	**7.59**
DO (mg/L) Minimum	7.99	7.45	7.27	6.9	7.43	7.25	7.83	7.58	7.64	8.92	7.5	7.51
TRC (mg/L) Average Monthly	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.48
TRC (mg/L) Instantaneous Maximum	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.4
CBOD5 (lbs/day) Average Monthly	< 59	< 57	53	< 48	< 59	< 53	73	75	< 81	62	57	55
CBOD5 (lbs/day) Weekly Average	< 85	< 61	64	< 61	< 108	67	126	93	119	64	69	61
CBOD5 (mg/L) Average Monthly	< 6	< 7	6	< 7	< 6	< 7	< 8	8	< 8	< 7	9	8
CBOD5 (mg/L) Weekly Average	< 6	8	7	9	< 6	8	16	10	10	8	11	10
BOD5 (lbs/day) Influent Average Monthly	1063	854	725	1079	742	847	863	959	865	1039	796	1009

Parameter	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22
BOD5 (lbs/day) Influent Weekly Average	1298	1299	830	1551	1045	1317	1007	1715	1329	1141	940	1391
BOD5 (mg/L) Influent Average Monthly	113.8	100.5	91.9	167.6	88.8	109.6	95.5	104.8	84.9	123.6	120	128.6
TSS (lbs/day) Average Monthly	97	102	91	92	150	151	183	165	161	123	99	121
TSS (lbs/day) Influent Average Monthly	1053	1021	627	1088	771	594	1265	992	899	891	711	1041
TSS (lbs/day) Influent Weekly Average	1917	1947	1641	2396	1099	891	2469	1692	1473	1344	1017	1722
TSS (lbs/day) Weekly Average	110	137	104	161	235	215	387	277	229	143	117	146
TSS (mg/L) Average Monthly	11	11	11	14	16	20	21	18	16	14	15	17
TSS (mg/L) Influent Average Monthly	112	122	72	155	94	78	130	110	94	106	106	138
TSS (mg/L) Weekly Average	14	15	12	16	27	27	50	29	18	15	18	20
Total Dissolved Solids (mg/L) Average Quarterly	502.7			459			471			522.33		
Fecal Coliform (No./100 ml) Geometric Mean	< 38	36	47	< 9	< 15	19	< 19	25	< 20	< 44	45	28
Fecal Coliform (No./100 ml) Instantaneous Maximum	185	135.4	93.4	172.2	65.7	59.4	117.8	53.8	69.7	128.1	128.1	137.4
Nitrate-Nitrite (lbs/day) Average Monthly	109	115	104	125	96	128	117	112	97	102	116	144
Nitrate-Nitrite (mg/L) Average Monthly	11.95	13.15	12.4	20.07	11.92	16.88	12.94	12.35	9.79	12	17.405	20.58
Total Nitrogen (lbs/day) Average Monthly	134	142	127	125	125	161	156	161	143	141	149	184
Total Nitrogen (mg/L) Average Monthly	14.84	16.25	15.23	20.07	14.84	21.16	17.21	17.59	14.28	16.59	22.22	25.93

Parameter	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22
Ammonia (lbs/day) Average Monthly	33	< 14	< 8	< 6	< 10	17	< 9	19	21	15	14	9
Ammonia (mg/L) Average Monthly	4.0	< 1.7	< 0.9	< 1.0	< 1.1	2.1	< 0.9	2.1	2.1	1.9	2.1	1.3
TKN (lbs/day) Average Monthly	< 26	27	24	21	< 29	32	39	48	46	39	33	42
TKN (mg/L) Average Monthly	< 3	3.18	2.93	3.44	< 2.96	4.24	4.27	5.24	4.48	4.6	4.82	5.79
Total Phosphorus (lbs/day) Average Monthly	21	35	22	22	22	< 30	27	53	44	21	24	28
Total Phosphorus (mg/L) Average Monthly	2.31	3.91	2.75	3.5	2.937	< 4.03	3	5.66	4.4	2.54	3.64	4.01
Total Antimony (lbs/day) Average Monthly	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.004	< 0.005	0.005	0.003	0.009
Total Antimony (lbs/day) Daily Maximum	< 0.04	< 0.02	0.03	< 0.03	< 0.04	< 0.02	0.04	0.006	0.007	0.008	0.003	0.03
Total Antimony (mg/L) Average Monthly	< 0.002	< 0.002	< 0.002	< 0.003	< 0.002	< 0.002	< 0.002	< 0.0005	< 0.0005	0.0006	0.0004	0.001
Total Antimony (mg/L) Daily Maximum	< 0.00218	< 0.00218	0.00323	< 0.005	< 0.00218	< 0.00218	0.004	0.00075	0.00057	0.0009	0.000388	0.00456
Total Arsenic (lbs/day) Average Monthly	0.005	< 0.005	< 0.005	0.004	< 0.005	< 0.004	< 0.005	< 0.1	< 0.006	< 0.005	0.004	0.004
Total Arsenic (lbs/day) Daily Maximum	< 0.009	< 0.009	< 0.006	0.007	< 0.01	0.005	0.007	< 0.006	< 0.007	0.006	0.004	0.006
Total Arsenic (mg/L) Average Monthly	< 0.000504	0.000599	< 0.000548	0.000549	0.00056	< 0.000564	< 0.000566	< 0.000548	< 0.000558	< 0.000548	0.000548	0.000606
Total Arsenic (mg/L) Daily Maximum	< 0.000548	< 0.001	< 0.000548	0.00064	0.00061	0.00061	0.00062	< 0.000548	0.0006	< 0.000548	0.000548	0.00078
Total Copper (lbs/day) Average Monthly	0.20	0.20	0.20	0.20	0.20	0.02	0.20	0.30	0.20	0.20	0.02	0.30
Total Copper (lbs/day) Daily Maximum	0.40	0.30	0.20	0.20	0.20	0.02	0.30	0.60	0.40	0.20	0.02	0.30
Total Copper (mg/L) Average Monthly	**0.03**	**0.02**	**0.02**	**0.03**	**0.02**	**0.03**	**0.02**	**0.03**	**0.02**	**0.02**	**0.03**	**0.04**
Total Copper (mg/L) Daily Maximum	**0.05**	**0.03**	**0.02**	**0.03**	**0.03**	**0.03**	**0.03**	**0.05**	**0.03**	**0.022**	**0.0351**	**0.04**

Parameter	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22
Total Lead (lbs/day) Average Monthly	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.04	0.004	0.004	0.006
Total Lead (lbs/day) Daily Maximum	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.07	0.09	0.005	0.01	0.007
Total Lead (mg/L) Average Monthly	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.0005	0.0007	0.0009
Total Lead (mg/L) Daily Maximum	0.00334	0.0022	0.00165	0.00198	0.0025	0.00249	0.002	0.006	0.007	0.0006	0.00163	0.00103
Total Selenium (lbs/day) Average Monthly	< 0.006	< 0.008	< 0.006	< 0.01	< 0.006	< 0.005	< 0.01	< 0.006	< 0.01	0.006	0.004	0.004
Total Selenium (lbs/day) Daily Maximum	< 0.01	0.02	< 0.007	< 0.03	< 0.01	< 0.005	0.02	< 0.007	0.03	0.007	0.005	0.005
Total Selenium (mg/L) Average Monthly	< 0.000632	< 0.000838	< 0.000632	< 0.001724	< 0.000632	< 0.000632	< 0.001	< 0.0006	< 0.001	< 0.000682	0.000632	0.000632
Total Selenium (mg/L) Daily Maximum	< 0.000632	0.00166	< 0.000632	< 0.005	< 0.000632	< 0.000632	0.002	< 0.0006	0.002	0.00083	0.000632	0.000632
Total Silver (lbs/day) Average Monthly	< 0.001	< 0.001	< 0.001	< 0.007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	0.0009	0.0009
Total Silver (lbs/day) Daily Maximum	< 0.002	< 0.001	< 0.001	< 0.03	< 0.003	< 0.001	0.002	< 0.001	0.004	< 0.001	0.001	0.001
Total Silver (mg/L) Average Monthly	< 0.0001	< 0.0001	< 0.0001	< 0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002	< 0.0001	0.0001	0.0001
Total Silver (mg/L) Daily Maximum	< 0.000132	< 0.000132	< 0.000132	< 0.005	< 0.000132	< 0.000132	0.00018	0.0001	0.0003	< 0.000132	0.000132	0.000132
Total Thallium (lbs/day) Average Monthly	< 0.002	< 0.002	< 0.002	< 0.003	< 0.002	< 0.002	< 0.003	< 0.002	< 0.003	< 0.002	0.002	0.002
Total Thallium (lbs/day) Daily Maximum	< 0.004	< 0.002	< 0.003	< 0.005	< 0.005	< 0.002	0.006	< 0.003	0.009	< 0.002	0.002	0.002
Total Thallium (mg/L) Average Monthly	< 0.0002	< 0.0002	< 0.0002	< 0.0004	< 0.0002	< 0.002	< 0.0003	< 0.0002	< 0.0003	< 0.0002	0.0002	0.0002
Total Thallium (mg/L) Daily Maximum	< 0.000233	< 0.000233	< 0.000233	< 0.001	< 0.000233	< 0.000233	0.000606	< 0.0002	0.0007	< 0.000233	0.000233	0.000233
Total Zinc (lbs/day) Average Monthly	0.3	0.4	0.30	0.4	0.40	0.05	0.4	1.0	0.4	0.3	0.2	0.3

Parameter	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22
Total Zinc (lbs/day) Daily Maximum	0.4	0.4	0.40	0.5	0.50	0.05	0.5	4.0	0.6	0.4	0.3	0.4
Total Zinc (mg/L) Average Monthly	0.04	0.0425	0.0382	0.0598	0.0495	0.0618	0.0438	0.175	0.0417	0.0393	0.036	0.0464
Total Zinc (mg/L) Daily Maximum	0.05	0.0489	0.0424	0.0788	0.0685	0.0656	0.0523	0.528	0.049	0.0452	0.0394	0.0509
1,4-Dioxane (lbs/day) Average Monthly	< 0.01	< 0.009	< 0.009	< 0.007	< 0.01	< 0.008	< 0.0009	< 0.0008	< 0.001	< 0.0009	0.007	0.9
1,4-Dioxane (lbs/day) Daily Maximum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.008	< 0.001	< 0.0009	< 0.001	< 0.001	0.008	1
1,4-Dioxane (mg/L) Average Monthly	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.001	0.1
1,4-Dioxane (mg/L) Daily Maximum	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.001	0.1

Compliance History

Effluent Violations for Outfall 001, from: November 1, 2022 To: July 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Copper	06/30/24	Avg Mo	0.04	mg/L	.03	mg/L
Total Copper	06/30/24	Daily Max	0.07	mg/L	.05	mg/L
TSS	03/31/23	Wkly Avg	50	mg/L	45	mg/L

Summary of Inspections:

FACILITY NAME	INSP PROGRAM	INSP ID	INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	# OF VIOLATIONS
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3079299	12/18/2023	Compliance Evaluation	Violation(s) Noted	1
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3665725	11/16/2023	Administrative/File Review	Violation(s) Noted	1

EAST STROUDSBURG BOROUGH WWTP	WPCNP	3484635	01/26/2023	Administrative/File Review	Viol(s) Noted & Immediately Corrected	1
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3496172	01/05/2023	Administrative/File Review	Viol(s) Noted & Immediately Corrected	1
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3021827	11/29/2022	Administrative/File Review	No Violations Noted	0
EAST STROUDSBURG BOROUGH WWTP	WPCNP	2837212	06/30/2022	Compliance Evaluation	No Violations Noted	0
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3662022	05/24/2021	Compliance Evaluation	Violation(s) Noted	2
EAST STROUDSBURG BOROUGH WWTP	WPCNP	2966378	01/14/2021	Administrative/File Review	Violation(s) Noted	4
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3013971	09/03/2020	Administrative/File Review	No Violations Noted	0
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3387265	04/20/2020	Compliance Evaluation	No Violations Noted	0
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3135028	03/23/2020	Complaint Inspection	No Violations Noted	0
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3464749	12/03/2019	Administrative/File Review	Viol(s) Noted & Immediately Corrected	1
EAST STROUDSBURG BOROUGH WWTP	WPCNP	3197315	05/02/2019	Compliance Evaluation	No Violations Noted	0
EAST STROUDSBURG BOROUGH WWTP	WPCNP	2876398	01/23/2019	Administrative/File Review	Violation(s) Noted	1

Other Comments:

- There have been SSOs in the collection system. Application table did not identify any recurring SSO locations.
- 12/3/2019 NOV cited sampling issues. 2-18-2019 exceedances (CBOD5 and Fecal Coliform), DMR reporting issues, and SSOs.
- There were Total Copper and fecal coliform exceedances in 2022.
- 9/23/2024 Compliance Query (open violations by client number):

FACILITY	INSP PROGRAM	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION
EAST STROUDSBURG BOROUGH WWTP	WPC NPDES	3662022	8168827	11/16/2023	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 2.25
Latitude 40º 59' 3.00" **Longitude** -75º 10' 48.00"
Wastewater Description: Sewage Effluent

Permit Limits and/or Monitoring: Changes bolded

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
BOD5 Raw Sewage Influent	Report Lbs/d Report Lbs/d Report **Report**	Monthly Average Weekly Average Monthly Average **Daily Max**	Existing M&R requirement. **Daily Max reporting added.** BOD5 Application data: 344 mg/l max and 160.3 mg/l max average monthly and 118.4 mg/l LTA (114 samples).
TSS Raw Sewage Influent	Report Lbs/d Report Lbs/d Report **Report**	Monthly Average Weekly Average Monthly Average **Daily Max**	Existing M&R Requirement. **Daily Max concentration reporting added.** Application data: 564 mg/l max, 276.5 mg/l max average monthly, and 136.1 mg/l LTA (114 samples).
CBOD5 Minimum Monthly Average Reduction	**85%**	**Minimum monthly average**	**New reporting requirement for existing regulatory and NPDES Permit Part A.I Additional Requirements Item 2 requirement.**
TSS Minimum Monthly Average Reduction	**85%**	**Minimum monthly average**	**New reporting requirement for existing regulatory and NPDES Permit Part A.I Additional Requirements Item 2 requirement.**
CBOD5	469 Lbs/d 751 Lbs/d 25**.0** 40**.0** 50**.0**	Monthly Average Weekly Average Monthly Average Weekly Average IMAX	Existing Technology limit (Chapter 92a.47). **Significant digit added.** Application data: 16.3 mg/l max, <8.671 max monthly average and <7.625 mg/l LTA average (115 samples).
TSS	400 Lbs/d 600 Lbs/d 30**.0** 45**.0** 60**.0**	Monthly Average Weekly Average Monthly Average Weekly Average IMAX	Existing Technology limit (Chapter 92a.47). **Significant digit added.** Application data: 50 mg/l max, 20.556 max monthly average and 15.076 mg/l LTA average (115 samples).
pH	6.0 – 9.0 SU	**Inst.** Min - IMAX	Existing Technology limit (Chapter 92a.47). Application data: 6.90 – 7.62 SU (401 samples)
Dissolved Oxygen (DO)	5.0	**Inst.** Minimum	Existing WQBEL Application data: 6.89 mg/l min (401 samples).
Fecal Coliform (5/1 – 9/30)	200/100 ml 1,000/100 ml	Geo Mean IMAX	Existing Technology limit (Chapter 92a.47).

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
			Application data: 2419.6/100 ml max and 281.29/100 ml max monthly average and 82.592/100 ml (115 samples).
Fecal Coliform (10/1 – 4/30)	2,000/100 ml 10,000 ml/100 ml	Geo Mean IMAX	See above.
E Coli	**Report #/100 ml**	**IMAX**	**New standard monitoring requirement due to Chapter 93 WQS.**
Total Residual Chlorine	**0.43** **1.43**	Monthly Average IMAX	**New WQBEL due to updated TRC Spreadsheet incorporating AFC Partial Mix Factor. New limit effective immediately as Application data indicates new limits are being met. Significant digit added.** Application data: 0.5 mg/l max,0.342 mg/l monthly maximum, <0.35 mg/l, and 0.287 mg/l LTA (401 samples).
Ammonia-Nitrogen (May 1 – Oct 1)	178 Lbs/d **Report Lbs/d** 9.5 **19.0** **19.0**	Monthly Average **Daily Max** Monthly Average **Daily Max** IMAX	Existing WQBEL. **IMAX value added via standard multiplier** Application data: 6.66 mg/l max, 2.289 mg/l max monthly, and <1/523 mg/l LTA (117 samples).
Ammonia-Nitrogen (Nov 1 – Apr 30)	375 Lbs/d **Report Lbs/d** 20.0 **40.0** 40.0	Monthly Average **Daily Max** Monthly Average **Daily Max** IMAX	Existing WQBEL. **IMAX value added via standard multiplier.**
Total Phosphorus	Report Lbs **Report Lbs/d** Report **Report**	Monthly Average **Daily Max** Monthly Average **Daily Max**	Existing M&R requirement. **Additional reporting added in this cycle.** Application data: 10.8 mg/l max, 5.658 max monthly, and <3.803 mg/l average (116 samples).
Total Nitrogen (TN = Nitrate- Nitrite-N + TKN measured in same sample)	Report Lbs/d **Report Lb/d** Report **Report**	Monthly Average **Daily Max** Monthly Average **Daily Max**	Existing M&R requirement. **Additional reporting added in this cycle.** Application data: 41.16 mg/l max, 25.93 mg/l max monthly, and 19.64 mg/l LTA (117 samples).
Nitrate-Nitrite as N	Report Lbs/d **Report Lbs/d** Report **Report**	Monthly Average **Daily Max** Monthly Average **Daily Max**	Existing M&R requirement. **Additional reporting added in this cycle.** Application data: 28.36 mg/l max, <21.05 max monthly, and 15.7J mg/l LTA (117 samples).
Total Kjehldahl Nitrogen (TKN)	Report Lbs/d **Report Lbs/d** Report **Report**	Monthly Average **Daily Max** Monthly Average **Daily Max**	Existing M&R requirement. **Additional reporting added in this cycle.** Application data: 19.5 mg/l max, 5.236 mg/l max monthly, and <3.965 mg/l LTA (117 samples)

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
Total Dissolved Solids (TDS)	**Report Lbs/d** Report **Report**	**Quarterly Average** Quarterly Average **Daily Max**	Existing M&R requirement. **Additional reporting added in this cycle.** Application data: 600 mg/l max, 588 mg/l max monthly, and 480.5 mg/l LTA.
Arsenic, Total	-	-	**Deleted** Existing M&R requirement due to updated Reasonable Potential Analysis. Application data: 0.96 ug/l max, <0.569 ug/l average (59 samples, 48 ND). DEP TQL at 3.0 ug/l. LTAMEC: 0.6269997 ug/l with 0.09672 COV (using updated J values, etc.).
Selenium, Total	-	-	**Deleted** existing M&R requirement due to Reasonable Potential Analysis Application data: 2.25 ug/l max, <0.713J mg/l average (59 samples, 45 ND). DEP TQL at 5.0 ug/l. LTAMEC: 1.0869008 ug/l with 0.4033131 COV.
Zinc, Total	Report Lbs/d **Report Lbs/d** Report **Report**	Monthly Average **Daily Max** Monthly Average **Daily Max**	Existing M&R requirement, **going to monthly monitoring only**: Application data: 537 ug/l max, 67.3 ug/l average (59 samples). LTAMEC: 69.1857162 ug/l with 0.72183 ug/l COV
1,4-Dioxane	-	-	**Deleted** existing M&R requirement per Reasonable Potential Analysis. Application data: <0.36 ug/l max, <0.12J ug/l average (60 samples with 46 ND). DEP TQL at 10.0 ug/l. LTAMEC: 0.1549074 ug/l with 0.2233710 COV.
Antimony, Total	-	-	Deleted WQBEL per Antibacksliding Exception analysis. Application data: **3.73 ug/l max** and <0.9J average (59 samples, 35 ND). DEP TQL at 2.0 ug/l. LTAMEC: 0.5917171 ug/l with 0.2713900 COV.

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
Copper, Total **(Interim Limits)**	0.70 lb/d 1.10 lb/d 0.03 0.05 **0.06**	Monthly Average Daily Max Monthly Average Daily Max **IMAX**	Existing WQBEL. Application data: **233 ug/l max and 31 ug/l average (59 samples)** **LTAMEC: 41.6286192 ug/l with 0.3865701 COV.**
Copper, Total **(Final Limits)**	**0.47 lb/d** **0.68 lb/d** **24.8 ug/l** **36.0 ug/l** **62.0 ug/l**	Monthly Average Daily Max Monthly Average Daily Max **IMAX**	More stringent WQBEL per Reasonable Potential Analysis, effective in 3 years. Application data: **233 ug/l max and 31 ug/l average (59 samples)** **LTAMEC: 41.6286192 ug/l with 0.3865701 COV.**
Lead, Total	**Report** lb/d **Report** lb/d **Report** **Report**	Monthly Average Daily Max Monthly Average Daily Max	**Monthly M&R requirement, with deleted existing WQBEL per Antibacksliding Exception analysis.** Application data: 6.85 ug/l max and 1.71J ug/l average (59 samples). DEP TQL at 1.0 ug/l. LTAMEC: 3.7240270 ug/l with 0.7598203 COV.
Silver, Total	**-**	**-**	**Deleted existing WQBEL per Antibacksliding Exception analysis**. Application data: **<0.33 ug/l max** and <0.148 ug/l average (59 samples, 56 ND). DEP TQL at 0.4 ug/l. LTAMEC: 0.1866991 ug/l with 0.2497083 COV
Thallium, Total	**Report** lb/d **Report** lb/d **Report** **Report**	Monthly Average Daily Max Monthly Average Daily Max	**Monthly M&R requirement, with deleted existing WQBEL per Antibacksliding Exception analysis.** Application data: **0.67J ug/l max** and <0.25 ug/lJ average (59 samples, 56 ND). DEP TQL at 2.0 ug/l. LTAMEC: 0.3675577 ug/l with 0.3547195 COV
Chloroform	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**New monitoring requirement per Reasonable Potential Analysis.** Application data: **18.4 ug/l max** and 14.10 ug/l average (3 samples).
Benzo(a)Anthracene	**0.0008 lb/d** **0.001 lb/d** **0.043** **0.068** **0.11**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max** **IMAX**	**New WQBEL per Reasonable Potential Analysis.** Application data: **0.53J ug/l max** and <0.45 ug/l average (3 samples, 3 ND). Lab QL at 0.41 ug/l. **DEP TQL at 2.5 ug/l.**

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
3,4-Benzofluoranthene	**0.0008 lb/d** **0.001 lb/d** **0.043** **0.068** **0.11**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max** **IMAX**	**New WQBEL per Reasonable Potential Analysis.** Application data: **0.62J ug/l max** and <0.48 ug/l average (3 samples, 3 ND). Lab QL at 0.40 ug/l. **Detected in several samples. DEP TQL at 2.5 ug/l.**
Free Cyanide	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**New monitoring requirement per Reasonable Potential Analysis.** Application data: **14.05 ug/l max** and 10.59 ug/l average (3 samples). Lab QL at 0.86 ug/l. DEP TQL at 1.0 ug/l.

Comments:

- Standard minimum frequency monitoring incorporated into the permit.
- Updated for Instantaneous Minimum Limits for pH and DO; Instantaneous Max (IMAX) for TRC per EDMR requirements for Grab sampling.
- Daily max limits based on existing IMAX limits (as any duration of exceedance of an Instantaneous Maximum limit is an exceedance), with reporting of daily max concentrations/loadings otherwise. IMAX limits added as necessary.
- Discharge hardness of 149 mg/l average (3 samples).

TOXCONC Output: The DEP TOXCONC Spreadsheet was used to calculate the Long Term Average Monthly Effluent Concentrations (LTAMEC) and daily Coefficient of Variability (COV) for the toxic pollutants (for which relief is being requested), using 5/8/2024 Revised Application submittal (tables including “J” values).

		Reviewer/Permit Engineer:	Berger
Facility:	East Stroudsburg WWTP		
NPDES #:	PA0020168		
Outfall No:	001		
n (Samples/Month):	4		

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Antimony (ug/l)	Delta-Lognormal	0.2712900	0.5917172
Arsenic (µg/L)	Delta-Lognormal	0.0967200	0.6269997
Copper (µg/L)	Delta-Lognormal	0.3865701	41.6286192
Lead (µg/L)	Lognormal	#REF!	#REF!
Selenium (µg/L)	Delta-Lognormal	0.4033131	1.0869008
Silver (µg/L)	Delta-Lognormal	0.2497083	0.1866991
Thallium (µg/L)	Delta-Lognormal	#NAME?	0.3675577
Zinc (µg/L)	Lognormal	#REF!	#REF!
Lead (µg/L)	Lognormal	0.7598203	3.7240270
Zinc (µg/L)	Lognormal	0.2724183	69.1857162
Thallium (µg/L)	Delta-Lognormal	0.3547195	0.3675577
1,4-Dioxane (µg/L)	Delta-Lognormal	0.2233710	0.1549074
Copper (µg/L)	Delta-Lognormal	0.3865701	41.6286192

Reasonable Potential Analysis: Using the DEP Toxic Management Spreadsheet (TMS) that incorporated TOXCONC LTAMEC/COV (based on reported "J" values based on lab MDL, more sensitive than lab QL) results plus application Pollutant Group Table information, plus application stream hardness data:

☑ ***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 Copper	0.47	0.68	24.8	36.0	62.0	µg/L	24.8	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	Report	Report	Report	Report	Report	µg/L	39.2	THH	Discharge Conc > 25% WQBEL (no RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	17.4	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	Report	Report	Report	Report	Report	µg/L	2.35	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	193	AFC	Discharge Conc > 10% WQBEL (no RP)
Chloroform	Report	Report	Report	Report	Report	µg/L	55.8	THH	Discharge Conc > 25% WQBEL (no RP)
Benzo(a)Anthracene	0.0008	0.001	0.043	0.068	0.11	µg/L	0.043	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,4-Benzofluoranthene	0.0008	0.001	0.043	0.068	0.11	µg/L	0.043	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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- **New WQBELs for Toxic Pollutants condition with three-year Part C (WQBELs for Toxic Pollutants) Schedule of Compliance for new WQBELs):**
  - Copper: Copper limits became somewhat more stringent (0.03 monthly average; 0.05 mg/l daily max in previous permit). The existing permit limits will remain in effect as interim limits until the fourth year of the permit.

  - Benzo(a)Anthracene and 3,4-Benzofluoranthene: Interim monitoring with Part C conditions allowing the permittee to make a technical case for modifying or deleting final WQBELs prior to their effective date. The Application indicated:
    - "Finally, with respect to the two chemicals Benzo(a)Anthracene and 3,4-Benzofluoranthene, these two chemicals were identified as non-detect in two of the three permit renewal sample events, with an MDL of approximately 0.42 ug/l. The sample event on 6/30/2023 identified estimated values for these two parameters of 0.53J and 0.62J respectively. These estimated values were slightly above the MDL but below the analytical laboratory's Practical Quantitation Limit (labeled as RDL on the analytical reports) of 1.6 ug/l".
    - The permittee is not aware of any source. Both constituents were detected in the raw sewage influent (2 ug/l Benzo(a)Anthracene and 2.4 ug/l 3,4-Benzofluoranthene, single influent sample).
- **Industrial Users**: Per the revised application: "It has been verified that the IUs send only sanitary sewage to the POTW". The POTW currently monitors for possible unauthorized discharges. IUs include 40 CFR 433 Subpart A (Metal Finishing Point Source Category), 40 CFR 460 Subpart A (Hospital). 40 CFR Part 417 (Soap and Detergent manufacturing). Any future acceptance of IW wastewaters would be subject to NPDES Permit Part A.III.C.2 (Planned Changes in Wastestreams) notification requirements. There is no existing EPA-approved Industrial Pretreatment Program.
- **PFAS**: Updated Part B.I.D (Pretreatment) conditions will require the permittee to determine if any EPA-identified PFAS category industries discharge to the POTW. No application data (submittal prior to current requirements) but no IW wastestream accepted. NPDES Permit Part A.III.C.2 (Planned changes in wastestreams) notification requirements would pertain in event of acceptance of an IW wastewater. Therefore, no additional PFAS monitoring requirement at the present time.
- **Monitoring Requirements**:
  - Total Lead and Total Thallium: Previous permit limits dropped with only monthly monitoring required in this NPDES Permit term.
  - Total Zinc: Weekly monitoring reduced to monthly monitoring in this NPDES Permit term.
  - Free Cyanide and Total Chloroform: New monthly monitoring requirements per Reasonable Potential Analysis. The permittee will be able to pursue reduction in monitoring requirements concurrently with the Part C (WQBELs for Toxic Pollutants) Schedule of Compliance.

Anti-Backsliding Exception: The application contained a request for relief from existing final permit limits for Total Antimony, Total Lead, Total Silver, and Total Thallium that went into effect on March 1, 2022 and relief from ongoing monitoring requirements for other parameters (Total Arsenic, Total Selenium, Total Zinc, and 1,4-Dioxane). Per the CWA Section 402(o)(2), an NPDES permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in accordance with one of the identified Antibacksliding Exceptions.

- **Total Antimony, Total Lead, Total Silver, and Total Thallium WQBELs**: The CWA Section 402(o)(2)(B)(1) Antibacksliding Exception applies when "information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance". In this case, the previous NPDES Permit WQBELs were based upon insensitive ND concentrations reported in the NPDES Permit Application Pollutant Group tables (see below). This NPDES Permit Renewal now includes new information that was not available during previous NPDES permitting that was incorporated into an updated Reasonable Potential Analysis. The TOXCONC analysis included 59+ sample results for these constituents, allowing for a statistically meaningful LTAMEC and daily COV to be developed. The POTW indicated that it has not implemented any treatment for these constituents to bias the TOXCONC results. The updated Reasonable Potential Analysis determined:
  - **Total Antimony and Total Silver**: WQBELs and/or monitoring is not required. The previous permit limits and monitoring requirements have been deleted from the NPDES Permit.
  - **Total Lead and Total Thallium**: Only monitoring is required. The previous permit limits have been deleted from the NPDES Permit, with only monthly monitoring required.
- **Original Basis for Permit Limits and/or Monitoring Requirements**: The Application noted that the previous NPDES Permit renewal application determined permit limits and monitoring requirements based on reported insensitive Application ND concentrations. The EPA Sufficiently Sensitive Rule required the Department to treat the insensitive ND concentrations as the constituent being present at the insensitive ND concentration. See below

for table of previous application information and results of 59 subsequent sampling events as provided by the applicant:

Constituent	Previous Renewal Application reported max concentration (ug/l)	Application Effluent Maximum Concentration of 59 samples (ug/l)	Application Effluent Average Concentration of 59 samples (ug/l)	Application Effluent Median of 59 samples (ug/l)	DEP TQL (ug/l)	LTAMEC* (ug/l)
Permit Limits	**-**	**-**	**-**	**-**	**-**	**-**
Total Antimony	<100	3.73	<0.9	<0.5	2.0	~0.59
Total Lead	<50	6.85	1.71	1.56	1.0	~3.72
Total Silver	<50	<0.33	<0.148	<0.132	0.4	~0.18
Total Thallium	<100	0.67	<0.25J	<0.233	2.0	~0.36
M&R only	**-**	**-**	**-**	**-**	**-**	**-**
Total Arsenic	<50	0.96	<0.569	<0.55	3.0	~0.62
Total Selenium	<10	2.25	<0.731J	<0.63	5.0	~1.08
Total Zinc	<100	537	67.3	<49.7	5.0	~69.18
1,4-Dioxane	<400	<0.36	<0.12	-	10.0	~0.15

*See above TOXCONC Analysis. TOXCONC analysis incorporated “J” values based on the more sensitive lab MDL.

- **Influent Monitoring Results**: Antimony, Lead, Silver, and Thallium
  - **Antimony:** 2.93 ug/l max and <1J ug/l average (70 samples, 14 ND, lab QL of 2.15 ug/l)
  - **Lead**: 34.8 ug/l max and 4.2J ug/l average (70 samples, zero ND, lab QL of 0.280 ug/l)
  - **Silver**: <5 ug/l max and <0.254J average (70 samples, 49 ND, lab QL of 0.23 ug/l)
  - **Thallium**: 1.5 ug/l max and<0.31J average (70 samples, 53 ND, lab QL of 0.197 ug/l)
- **TRE**: The previous NPDES Permit Part C.II (Toxic Reduction Evaluation (TRE)) conditions explicitly applied to Total Antimony, Total Copper (not part of antibacksliding request), Total Lead, Total Silver, and Total Thallium (except to the extent that the permittee could also address the other constituents.
  - **9/1/2020 TRE Phase I Report**: The permittee does not believe that there is any significant upstream source for the metals, except for Total Copper. The NPDES Permit Application indicates the presence of several 40 CFR Metal Finishing IUs, but indicate only sewage is being received from them. The TRE Phase I Report indicated further investigations were planned.
  - **TRE Phase II Report**: The permittee was granted an extension for a Copper pilot study (pH adjustment via caustic soda addition) and Final TRE Phase II Report to June 2025.

Previous Monitoring Requirements: The Antibacksliding prohibition pertains to existing permit limits, not monitoring requirements for Total Arsenic, Total Selenium, Total Zinc and 1,4-Dioxane (Chapter 92a.61 informational monitoring). See updated Reasonable Potential Analysis for which parameters still require monitoring.

WQM Model 7.1.1: Existing permit limits are adequately protective.

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
01E	4750	BRODHEAD CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
3.280	ESBA STP	PA0020168	2.250	CBOD5	25		
				NH3-N	9.5	19	
				Dissolved Oxygen			5

EastStroudsburgWQMmodel.pdf

TRC Spreadsheet: Incorporation of TMS AFC Partial Mixing Factor resulted in more stringent permit limits. Since they are meeting the new limits already, the new limits will be effective on PED.

A	B	C	D	E	F	G
TRC EVALUATION						
Input appropriate values in A3:A9 and D3:D9			East Srroudsburg Borough WWTP			
30.6	= Q stream (cfs)		0.5	= CV Daily		
2.25	= Q discharge (MGD)		0.5	= CV Hourly		
30	= no. samples		0.334	= 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)			=Decay Coefficient (K)		
Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc = 0.956		1.3.2.iii	WLA cfc = 2.745	
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581	
PENTOXSD TRG	5.1b	LTA_afc= 0.356		5.1d	LTA_cfc = 1.596	
Source		Effluent Limit Calculations				
PENTOXSD TRG	5.1f	AML MULT = 1.231				
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.438		AFC		
		INST MAX LIMIT (mg/l) = 1.434				

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)**

Development of Effluent Limitations

Outfall No. 005 and 006 **Design Flow (MGD)** 0
Latitude 40º 59' 7.30" (005) 40º 59' 6.10" (006) **Longitude** -75º 10' 50.80" -75º 10' 48.00"
Wastewater Description: Stormwater

Permit Limits and/or Monitoring Requirements:

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
pH	**6.0 – 9.0 SU**	**Inst. Min - IMAX**	**Chapter 95.2 limit for** PAG-03 Appendix J (Miscellaneous) parameter
Total Suspended Solids (TSS)	Report	IMAX	PAG-03 Appendix J (Miscellaneous) parameter. See Part C benchmark (100 mg/l) (Chapter 92a.61).
Chemical Oxygen Demand (COD)	Report	IMAX	PAG-03 Appendix J (Miscellaneous) parameter. See Part C benchmark (120 mg/l) (Chapter 92a.61).
Oil & Grease	**30**	**IMAX**	**Chapter 95.2 limit for** PAG-03 Appendix J (Miscellaneous) parameter
Total Nitrogen (calculated from TKN and Nitrate-Nitrite measured in same sample)	Report	IMAX	PAG-03 Appendix J (Miscellaneous) parameter. (Chapter 92a.61).
Total Kjehldahl Nitrogen (TKN)	Report	IMAX	PAG-03 Appendix J (Miscellaneous) parameter (Chapter 92a.61)
Nitrate-Nitrite as N	Report	IMAX	PAG-03 Appendix J (Miscellaneous) parameter. (Chapter 92a.61).
Total Phosphorus	Report	IMAX	PAG-03 Appendix J (Miscellaneous) parameter. (Chapter 92a.61).

Comments: Only Stormwater Outfall Nos. 005 and 006 will be monitored in this NPDES Permit Term, but IW Stormwater requirements (Stormwater BMPs; implementation of site PPC Plan; other NPDES permit conditions) apply to all following stormwater drainage areas. The PAG-03 Appendix J (Miscellaneous) parameters will be monitored for. Other IW Stormwater outfalls are assumed represented by the two monitoring points:

Outfall No.	Area Drained (ft^2)	Latitude	Longitude	Description
005	56,000	40º 59' 7.30"	75º 10' 50.80"	Contains part of WWTP
006	37,500	40º 59' 6.10"	-75º 10' 48.00"	Contains part of WWTP, pipe discharge monitoring point
007	-	40º 59' 4.59"	-75º 10' 45.69"	Sheet Flow area including part of existing WWTP Trickling filter and sludge drying beds. Assumed to be represented by Outfall No. 006.
008	-	40º 59' 3.47"	-75º 10' 49.09"	Final Concentrated Discharge Point from site, receiving depression “overflow to Brodhead Creek” with drainage area including part of WWTP (digester structure parts), part of Forge Road & adjacent areas, and non-WWTP building. Excludes the bulk of the adjacent Twin

				Borough Recycling Facility. Assumed to be represented by Outfall No. 005.

Revised Application information:

- Permittee reports there was no evidence found of IW Stormwater Outfall Nos. 002, 003 and 004. Based on research of the Borough's records, these outfalls were not identified on the wastewater treatment plant plans past or present.
- Application Drawing C.S.01 (Stormwater Drainage Plan) shows stormwater subdrainage areas including areas that receive stormwater from areas unrelated to the WWTP (005; 006; sheet flow area (007), and "point of concentrated discharge (008).
    - The narrative-referenced "DP001" was not shown, but corresponds to Outfall No. 008. Per narrative, DP001 is the final location of concentrated stormwater flow from a portion of the wastewater treatment plant property, the Twin Borough recycling center, and other, private properties as indicated on the Sheet C.S.01. Figure indicates the 008 drainage area includes non-WWTP structure, but bulk of recycling facility is outside its drainage area. The "overflow to Brodhead Creek" is an area defined by a local high point in the topography. It is meant to show the division between the two relatively lower areas on either side. The stormwater flow through this area is based on existing contours and is conveyed toward **DP001** when conditions allow.
    - Both the Twin Boroughs Recycling Center and the WWTP are on the same tax parcel (property) owned by the East Stroudsburg Borough. The structures seen on the Route 80 side of the property are part of the Twin Borough's Recycling Center. However, they are separate facilities. The recycling center is not associated with wastewater treatment activities.
- IW Outfall No. 001 is the discharge location of the WWTP effluent. It does not discharge stormwater per application.
- Other historic Outfalls:
    - DEP Available files indicated that several outfalls (Nos. 002 and 003) had been SSO bypasses and removed from permit in 1986.
    - The 2001 NPDES Permit Amendment removed Outfall Nos. 002, 003, and 004 on the basis that they were non-existent stormwater outfalls.
    - The DEP E-facts System listed an additional active outfall No. 100 (Concrete Headwall) at 40°, 59', 5.4589"; -75°, 10', 48.9778". The facility indicated it did not know what was being referenced after investigation, and it was marked as "inactive" in E-facts

Whole Effluent Toxicity (WET)

For Outfall 001, **Chronic** WET Testing was completed:

X For the permit renewal application (4 tests).
X Other: **Additional tests per NPDES Application Table, reason uncertain.**

The dilution series used for the tests was: 100%, 60%, 30%, 8%, and 4%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 8%.

Summary of Four Most Recent Test Results

NOEC/LC50 Data Analysis

	Ceriodaphnia Results (% Effluent)			*Pimephales* Results (% Effluent)			
Test Date	NOEC Survival	NOEC Reproduction	LC50	NOEC Survival	NOEC Growth	LC50	Pass? *
6/29/2021	100%	100%	>100%	100%	100%	>100%	Pass
7/27/2021	100%	100%	>100%	100%	100%	>100%	Pass
11/30/2021	100%	100%	>100%	**30%**	100%	>100%	Pass
3/14/2022	100%	100%	>100%	100%	100%	>100%	Pass
3/28/2022	100%	100%	>100%	100%	100%	>100%	Pass
6/21/2022	100%	100%	>100%	100%	100%	>100%	Pass
3/14/2023	100%	100%	>100%	100%	**60%**	>100%	Pass

***** *A "passing" result is that which is greater than or equal to the TIWC value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? **NO**

Comments: It is unclear why the table has 3 tests listed for 2021 and 2022. The quarterly testing was only for the first year of the permit.

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **0.334** Chronic Partial Mix Factor (PMFc): **1**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(2.25 MGD x 1.547) / ((30.6 cfs x 0.334) + (2.25 MGD x 1.547))] x 100 = **IWCa% = 25.4%**

Is IWCa < 1%? **NO**

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined: **NA**

Type of Test for Permit Renewal: **Chronic**

2a. Determine Target IWCa (If Acute Tests Required): NA

2b. Determine Target IWCc (If Chronic Tests Required)

(Q_d x 1.547) / (Q_{7-10} x PMFc) + (Q_d x 1.547)

[(2.25 MGD x 1.547) / ((30.6 cfs x 1) + (2.25 MGD x 1.547))] x 100 = **TIWCc% = 10.2% (rounded to 10%)**

3. Determine Dilution Series

Dilution Series = 100%, 60%, 30%, 10%, and 5%.

WET Limits

Has reasonable potential been determined? **NO**

Will WET limits be established in the permit? **NO**

If WET limits will be established, identify the species and the limit values for the permit (TU). **NA**

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits: **NA**

Communications Log:

Prior to Submittal:

- **2/26/2019**: Previous NPDES permit issued.
- **3/1/2022**: Final Toxic Pollutant WQBELs came into effect in accordance with the NPDES Permit.
- **8/26/2022**: RKR Hess Letter (Proposed pilot study for the purpose of evaluating pH adjustment methods for reducing copper concentrations in the effluent discharge): The 8/26/2022 RKR Hess Letter set forth the proposed pilot study (see On-Base# 133294 for a copy of this letter, incorporated into the NPDES Permit Application for informational purposes):
    - The short term goal of this Pilot Program is an effort to remain below limits for Cu in the effluent discharge, pending more permanent solutions being developed.
    - The long term goals of this program are to obtain data including: feed rates over a range of flows, pump configuration, chemical costs, physical improvements required, seasonal effectiveness, alternate chemical options, return stream impacts, and permit renewal information, and to plan and budget for more permanent solutions for enhanced Cu removal, including the minimizing and/or eliminating sources of Copper in the sewer collection system based on Industrial Pretreatment Program testing data.
    - The initial proposal is to feed 50% Caustic Soda on a flow paced basis to incrementally increase the pH in the influent to the treatment processes and to monitor for the effectiveness of Cu removal from the discharge.
- **9/2/2022**: DEP TRE Phase I letter approved the pilot study, allowing it to go forward, but did not find actual submittal. Letter language:
    - On September 2, 2022 the Department of Environmental Protection (DEP) received a 12th Progress Report – Phase I Toxics Reduction Evaluation (TRE) Work Plan as required by Part C.II.B.2 on page 25 of NPDEs Permit No. PA0020168.
    - The TRE Phase I Report included additional sampling for Total Antimony, Total Copper, Total Lead, Total Silver, Total Thallium, Total Arsenic, Total Selenium, Total Zinc, and 1,4-Dioxane. After the initial testing had been completed, copper was identified as having a potential external source requiring further investigation.
    - The 12th Progress Report cited a request for a pilot study for the purpose of evaluating pH adjustment as a method for reducing copper concentrations in the effluent. The pilot test is approved with the following conditions:

  - Continue all NPDES-required monitoring
  - All proposed additional monitoring will be conducted using EPA approved methods to the appropriate Quantitation.
  - Contact Mr. Dan Ackers via phone or email weekly during the trial to provide updates. Mr. Ackers can be reached at dackers@pa.gov or 570.895.4050.
  - Results and final report can be submitted via OnBase (preferred) or by mail.
  - Approval of the pilot study does not relieve NPDES permit obligations Part C.II.B.1.c to identify sources of the pollutants and Part C.II.C.1.c source reduction evaluation.
- **2023**: Administrative Extension: They were granted an extension to November 4, 2023 for submittal of the Renewal Application.

11/4/2023: NPDES Permit Renewal application received.
11/8/2023: Initial NPDES Incompleteness Letter issued.
11/8/2023: Applicant (RKR Hess) e-mail acknowledging receipt of Incompleteness Letter.
11/8/2023: On-Base No. 129166 (Non-application Copper Pilot Study monthly report in On-Base).
11/30/2023: Applicant consultant (Mark V. Dudinyak, RKR Hess) E-mail asking for clarification regarding letter requirements (Outfall 101; IW stormwater outfalls).
12/1/2023: DEP (Berger) E-mail response to 11/30/2023 E-mail questions.
12/4/2023: Telephone call with consultant (Mark V. Dudinyak, RKR Hess) who asked for clarification regarding Incompleteness letter issues (IU information, IW stormwater, and Antibacksliding). They may ask for extension on response to incompleteness letter.
12/5/2023: DEP (Berger) E-mail note to include the entirety of the TRE in the revised application.
12/7/2023: On-Base Nos. 132214 (non-application copper pilot study in On-Base)
12/8/2023: Applicant (RKR Hess) E-mail indicating revised application had been uploaded into On-Base but no On-Base confirmation e-mail included.
12/11/2023: Receipt of 12/7/2023 Letter request for 18-month extension of copper pilot study.
12/13/2023(?): Return of On-Base No. 132517 (response to incompleteness letter) via On-Base System due to missing requested TRE information and several minor issues.
12/14/2023: On-Base No. 133294 uploaded (including original copper pilot proposal and copy of 12/7/2023 Letter request to extend pilot study 18 months). Courtesy E-mail with On-Base reference number also received.
12/15/2023: DEP (Berge) E-mail requiring resubmittal of On-Base No. 132517 documentation (no longer available due to previous return via On-Base Submittal).
12/18/2023: On-Base No. 133675 received.
12/19/2023: Admin Ext Letter issued (along with approving a requested 18-month extension for the Copper Pilot Study to 6/30/2025 with Copper WQBELs in effect already). **NOTE**: They had been granted an extension to November 4 for submittal of the Renewal Application, but their response to the first incompleteness letter did not address all requirements on time to qualify for standard language to administratively extend the permit. The existing permit would otherwise have expired 2/29/2024.
2/26/2023: DEP OCC forwarded e-mail copy of the missing 2020 TRE Phase I Report (from the Borough attorney).
3/8/2024: Technical Deficiency Letter issued. Response due 4/8.
4/4/2024: RKR Hess (Mark Dudinyak) e-mail request for 30-day extension. E-mail stated client contact was changed.
4/4/2024: DEP (Berger) E-mail granting extension to 5/8/2024, and asking for updated client contact information.
4/4/2024: RKR Hess (Mark Dudinyak) e-mail request for copies of WQM Permits 4588409 and 4517402
4/5/2024: DEP (Berger) E-mailing a copy of a WQM Permit to the technical consultant per their request. The other was available via DEP file review.
4/9/2024: EASB Update (Guy Brink) on Copper Pilot Study via Public Upload# 224388.
5/8/2024: Revised Application submitted under Public Upload# 142529.
5/31/2024: Attorney (Michael C. Nines under Manko Gold Attorney letterhead) e-mail of 19th Progress Report - Phase I Toxics Reduction Evaluation (TRE) Work Plan
6/11/2024: Public Upload# 237410 (19th Progress Report - Phase I Toxics Reduction Evaluation (TRE) Work Plan)
7/12/2024: Public Upload# 244725 (Update of Pilot Study) from Guy Brink
9/5/2024: Public Upload# 256186 (Update of Pilot Study) from Guy Brink
9/5/2024: Attorney (Michael C. Nines under Manko Gold Attorney letterhead) e-mail of 20th Progress Report - Phase I Toxics Reduction Evaluation (TRE) Work Plan

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Approve	Deny	Signatures	Date
X		James D. Berger (signed) James D. Berger, P.E. / Environmental Engineer	9/23/2024
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Acting Engineer Manager	9-30-24