pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026107**
Facility Type	**Municipal**	APS ID	**718796**
Major / Minor	**Major**	Authorization ID	**941884**

NPDES PERMIT FACT SHEET ADDENDUM INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Wyoming Valley Sanitary Authority (WVSA)**	Facility Name	**Wyoming Valley Sanitary Authority**
Applicant Address	PO Box 33A	Facility Address	1000 Wilkes-Barre Street (Hanover Township)
	Wilkes Barre, PA 18703-1333		Wilkes Barre, PA 18703-1333
Applicant Contact	James Tomaine, Executive Director	Facility Contact	Bernard Biga
Applicant Phone	570-825-0366 EXT# 247	Facility Phone	570-823-4716 EXT# 217
Client ID	78918	Site ID	245668
Ch 94 Load Status	Not Overloaded	Municipality	Hanover Township
Connection Status	No Limitations	County	Luzerne
Date Application Received	August 30, 2012; Redraft: TBD	EPA Waived?	No
Date Application Accepted	September 11, 2012; Redraft: TBD	If No, Reason	Major Facility; Pretreatment, Significant CB discharge; CSOs
Purpose of Application	Renewal of NPDES Permit		

Summary of Review

This is a Fact Sheet Addendum for the **Redraft NPDES Permit No. PA0026107** for the Wyoming Valley Sanitary Authority (WVSA) POTW. **Due to updated Reasonable Potential Analysis (including updated water quality modeling) and updated NPDES Permit Part C CSO-related requirements, this Fact Sheet Addendum includes additional supporting information and analysis. Public Comments on the prior 9/15/2017 Draft NPDES Permit are also addressed below.**

Background:

- **2021 Application Update**: See On-Base Reference Nos. 38613 and 38570 for revised NPDES Permit Renewal Application and the 2021 CSO LTCP Update, submitted in response to DEP Letter request.
- **Need for Redraft**: The Redraft NPDES Permit was necessary due to age of prior 9/15/2017 Draft NPDES Permit (on long-term hold due to resolved EPA objections about CSO requirements), changes in NPDES permit template language (CSO-related and other), updated IW stormwater requirements, regulatory changes (including new E Coli WQS, etc.), and updated application information. A revised NPDES Permit Application (including CSO LTCP Update and updated sampling information) was requested on 3/12/2021 and received 12/8/2021.
- **POTW**: This POTW discharges up to 32.0 MGD (50.0 MGD peak wet weather flow) of treated sewage to the North Branch Susquehanna River (WWF; Stream Code# 6685), with CSO discharges to the River and assorted tributaries with CSOs (Espy Run; South Branch Newport Creek AKA Forge Creek; Warrior Creek; Toby Creek, and Hick Creek) that ultimately direct CSO discharges to the Susquehanna River. There are two existing WWTP IW Stormwater Outfalls Nos. 059 and 060 that discharge WWTP IW Stormwater to the Susquehanna River.
  - **Annual Average Daily Flow**: The facility discharged 33.9 MGD in 2018, 27.1 MGD in 2019, and 21.1 MGD in 2020. (Decreased rainfall years). The highest monthly discharge in 2020 was February (25.6 MGD).
  - **Peak Instantaneous Flow**: 58.9 MGD in 2020 per application, but that was the daily max flow per EDMR. The Application indicates the interceptors have a combined 115 MGD peak wet weather capacity.

Approve	Deny	Signatures	Date
X		James D. Berger (signed) James D. Berger, P.E. / Environmental Engineer	February 11, 2022
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	4-14-22

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- **Identified Planned Upgrades**: The Authority plans additional aeration capacity in treatment trains Nos. 3 and 4 in the next five years. The Authority indicates Trains Nos. 1 and 2 have been upgraded. No details provided.
- **Sewage Sludge**: 5,898 dry tons produced in 2020. Disposed either at Keystone Sanitary Landfill or by onsite incinerator.
  - Onsite Incinerator: The POTW has an existing onsite sludge fluidized bed incinerator. Site sludge is dewatered prior to incineration along with accepted offsite sludges. Ash is pumped to onsite lagoons which are cleaned out annually.
  - Beneficial Use Option: Biosolids General Permit No. PAG082221 issued 6/10/2019. No land application of sludges in 2020.
  - Hauled-in Septage and Sludge: 1,220 dry tons received from offsite sources. 12,486,777 gallons Septage received in 2020.
- **Influent Monitoring Point (IMP/Outfall No. 102)**: The influent sampling location is between headworks (mechanical screening, grit removal, and grease flotation) and four treatment trains. The sampling location receives Septage/Sludge Sidestream centrate and supernate plus the >50 MGD CSO bypassing (old primary settling tanks) primary sludge. This sampling location addresses Chapter 94 Reporting requirements for BOD5 and TSS (including the hauled-in wastewater component being further treated in the treatment plant onsite, with the solids removed for land application or incineration).
- **Effluent Monitoring Point (Outfall No. 001)**: Located after the Chlorine Contact Tank. The previous Draft NPDES Permit contained obsolete language that Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids (TSS) monitoring could continue to be performed at internal monitoring point 101 (secondary clarifier effluent) prior to chlorination because effluent from CSO 053 (overflow of the primary treatment train that addresses >50 MGD peak wet weather influent flows) mixes with the secondary clarifier effluent prior to the chlorine contact tank. However, the updated 2021 "Schematic of Wastewater Flow" Drawing showed no such monitoring point and no secondary clarifier located between the >50 MGD "Primary Settling System" and the chlorine contact tank. Such an internal monitoring sampling point would not be representative of actual site discharges whenever >50 MGD peak wet weather influent flows are received, and contrary to new standard NPDES Permit Part A Additional Requirements bypass sampling requirements.

- **Tributary Municipalities**: The WVSA indicated it had 36 municipal systems connected (only some of which include combined sewer systems sewer sheds) per the 2019 Chapter 94 Report.
  - Each tributary municipality or authority owns its own collection system. The WVSA operates and maintains certain sanitary sewer systems (13 in 2019) and provides some services to others.
  - At various points where sewage enters the WVSA system, CSO Diversion Chambers (DCs) are located which can control the incoming flow per the 2019 Chapter 94 Report. The receiving interceptors were said to be able to handle ~2.5 times the dry weather flow. Overflows are discharged directly to the receiving streams via permitted CSOs.
- **Industrial Pretreatment Program (IPP)**: The Application indicated the IPP was last approved by EPA on 10/14/2014. The Application IU information indicated IUs subject to 40 CFR Part 433 (metal finisher) pretreatment ELGs. Offsite influent IU sampling data was included in the 2012 NPDES Permit Application.

CSO-related: Here is a summary of relevant information and relevant comments. See also Treatment Section for comments pertaining to the Annual CSO Status Reports and attached CSO Tables for a summary of additional CSO-related information.

- **General Description**: The 32 MGD WWTP has a wet weather 50 MGD hydraulic capacity (see Part C.II condition). The 2021 CSO LTCP Update noted the collection system includes over 800 miles of collection lines, 14,800 manholes, 63 Pump Stations, 50 active CSOs (Discharge Chambers continuously monitored via SCADA system with weirs identified in 2021 LTCP Update Exhibit 1-1), with three primary Interceptors with an estimated 115 MGD conveyance capacity to the WWTP. WVSA maintains the interceptors, but municipalities maintain the collection systems unless the WVSA has an agreement with the host municipality to maintain the collection system. The 2021 Drawing CSO-1 (CSO Plan of Action for Monitoring and Characterization" (an update of the 2012 Application Attachment 2A drawing 1996 Plan of Action for Monitoring and Characterization of Combined Sewer Overflows) showed some old River sampling locations, pump station locations, and some areal breakdowns (without legend to clarify the breakdown). WVSA Interceptors:
  - **West Side Force Main Interceptor (west side of Susquehanna River**): Serving Kingston northward up to West Pittston, Pittston and Duryea

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- **East Side Interceptor (east side of Susquehanna River**): Serving Hanover Township through Plains Township
- **Nanticoke Interceptor Line:** Serving areas south and west of the WVSA WWTP in Hanover Township (Nanticoke, Honey Pot, Plymouth, Ashley)

- **Updated Application data (2020)**: 45 storm events. The application estimated 1,091 wet weather CSO events (cumulative discharge days for all CSOs), based on monitoring of 5 actively monitored Discharge Chambers (DCs), with an average duration of 5.43 hours and 70,932.60 gallons for those 5 monitored locations. The minimum amount of rainfall that triggered a CSO discharge was not identified. The 2012 Application submittal included Discharge Chamber CSO sampling data for CSO Outfall Nos. 007 (DC-6), 018 (DC-17), 028 (DC-27), and 038 (DC-37).
- **2002 Comprehensive CSO Plan General Conclusions**: The 2021 LTCP Update indicated a previous 2002 Comprehensive CSO Plan gathered data but ran into data collection issues that only allowed for the following general conclusions at that time:
  - Diversion Chambers with Greatest Number of Overflows: Nos. 4, 17, 19, 23, 24, 31, 33, 36, 37, 52, 53.
  - Goal: The technical consultant (of that time) did not think WVSA could meet the LTCP presumptive criteria at that time.
  - Estimation of CSO discharges: The collected data was not sufficient to calibrate the consultant-developed "MIKE/SWMM (Storm Water Management Model)" at that time (2002). The consultant (of that time) believed that once sufficient data was collected, calibration would be possible. **NOTE**: The 2020 Annual CSO Status Report indicated that subsequent efforts to calibrate the modeling occurred in the past, with "2020 data from the ongoing characterization of our combined sewer system". WVSA is apparently not using the model to estimate CSO discharge volumes (MG) or intensities (MGD) as of the 2021 LTCP Update and EDMR reporting.
  - Alternatives: The consultant (of that time) identified some CSO Control Alternatives and estimated costs. The LTCP Update indicated the chosen options for further consideration included installation of netting systems/basket screens and chlorine disinfection.
- **2009 LTCP Update**: DCs 12, 26, 40, 46 and 47 had been deactivated. The LTCP identified a potential new "sensitive area" due to a proposed Susquehanna River Inflatable Dam Project (not implemented, status unknown).
- **2010 NPDES Permit No. PA0026107-A2 Part C Eight III (page 28) and VII (page 30) LTCP Schedule**: The status of some items is unclear:
  - A netting demonstration project was to include CSO Outfalls Nos. 52 and 53, which were not listed as having nets in 2021 LTCP Update
  - DC-5 solids and floatables removal system construction documents were to be completed. Status of this project is unknown.
  - No PCCM Plan (other than drawing showing some River sampling locations) or evidence of implementation of PCCM was found. The 2009 LTCP indicated real time sampling would be done, including on Toby Creek and Nanticoke Creek.
- **2021 LTCP Update**: The 2021 LTCP Update (prepared by Quad 3) did not address the required public participation requirements and other LTCP requirements. It relied on obsolete information (2002 Weir elevations that did not address subsequent weir level adjustments; 1999-2001 River sampling data; etc.) and omitted other data (summarization of all CSO Discharge volumes, rainfall data, minimum rainfall triggering CSO discharges, etc.). The 2021 LTCP Update identified some post-2009 actions, and included a tentative schedule (with 3 tiers) for additional CSO projects. It is unclear if the provided Discharge Chamber figures are up-to-date. The LTCP mentioned the 2002 uncalibrated SWMM model, but did not use it to estimate CSO discharges or indicate it was otherwise in use. 2021 Application drawing showed River sampling locations, but no PCCM Plan was found and apparently no sampling has been done since 2001. Since 2009, the LTCP notes WVSA also subsequently increased its DC/CSO maintenance, added solids netting systems, conducted additional flow monitoring efforts, and SCADA improvements. Two sewer separation projects (Ross Street/Wilkes-Barre) and West Pittston were noted to have been completed. The LTCP Update noted that (separate) tributary Municipal Separated Storm System (MS4) activities have some overlapping benefits when a tributary municipality with both separated/combined sewer system institutes common activities. WVSA is looking at future MS4 projects that might have common benefits. **The Part C.IV LTCP Implementation Schedule includes interim compliance milestones to address CSO issues. The Part C.IV NMCs now include both previous WVSA commitments and some additional minimum NMC requirements not spelled out in the LTCP. Additional Part C.IV Reporting requirements included to document progress in meeting the future LTCP Goals. In addition:**
  - **LTCP Goal**: WVSA requested the LTCP Presumption Goal in this LTCP Update (changing from previous 2009 LTCP-proposed Demonstration Goal), but did not choose a specific Goal (85% capture/treatment of

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volume or mass; 4 - 6 CSO events/year). **The LTCP Implementation Schedule includes language allowing the Authority to decide on it LTCP Goal (Demonstration or specific Presumption Goal) within this NPDES Permit Term.** Relevant LTCP Update Information:

- The LTCP does not contain information/analysis to allow for determination if they are compliant with either 85% Presumption Goal (volume or mass). In 2020, the POTW did not meet the 4 – 6 CSO event goal. No sampling data was provided to demonstrate that the CSO discharges are not causing the receiving streams to exceed the applicable Chapter 93 Water Quality Standards (including E Coli, Fecal Coliforms, AMD metals (Aluminum, Manganese, Total Iron), and several additional WQS applicable to Hicks Creek). The CSO discharge contributions to the Chesapeake Bay loadings also require quantification for purposes of the determining if the (statewide CSO Chesapeake Bay annual mass load allocation limits for CSOs) are being met statewide. The 1999-2001 sampling for Susquehanna River and Discharge Chamber (DC) discharges included: DO, BOD, TSS, pH, Nitrogen levels, but not E Coli, AMD metals, etc.
- WVSA has not been reporting CSO discharge flows (MGD) or volume (MG), except for a select handful of rotating monitored CSOs (see below).
    - The LTCP Update indicates all active CSOs have “Continuous, Level & Activation” (with SCADA monitoring). They have been reporting days when the CSO DC’s are reporting overflows.
    - The 2021 LTCP referenced the uncalibrated 2002 SWMM modeling, but did not state it had been subsequently calibrated and/or presently usable for determination of CSO discharge quantities/volumes in the absence of flow monitoring.
    - They installed flow measurement provisions allowing determination of flows at DC-5, DC-6, DC-27, DC-39, and DC-42 per the 2009 NPDES Permit Amendment Part CSO Implementation schedule, but no flow data found in EDMR or CSO Annual Status Reports.
    - They have been rotating flow monitoring locations among DCs from 2014 – 2020, with 2021 LTCP Update duration and volume figures (see attached CSO Tables for summary of flow data). There were some informational conflicts between the DC chamber monitoring and flow monitoring data (with the flow monitoring data presumed more accurate). The monitoring included:
        - 2014: DC-11, DC-12, DC-15, DC-28, DC-41 (October – December)
        - 2015:
            - DC-1, DC-21, DC-22, DC-48, DC-55 (October – December)
            - DC-11. DC-12, DC-15, DC-28, DC-41 (January – May)
        - 2016: DC-2, DC-21, DC-22, DC-48, DC-55 (January – December)
        - 2017:
            - DC-1, DC-48, DC-55 (January – August)
            - DC-21, DC-22 (January – July)
            - DC-7, DC-16, (August – December)
            - DC-29, DC-34 (August – January)
        - 2018: DC-7, DC-16, DC-29, DC-34, DC-52 (January – March)
        - 2019: DC-8, DC-18, DC-23, DC-25, DC-51 (January – December)
        - 2020:
            - DC-3, DC-31 (September – December)
            - DC-8, DC-18, DC-25, DC-51 (January – July)
            - DC-32 and DC-36 (August – December)
        - 2021 (up to October): Not summarized.
    - **WWTP Discharges**: 32 MGD hydraulic capacity and 50 MGD wet weather capacity WWTP can handle additional peak wet weather flows (**i.e. further maximization of CSS storage (capture for later release to WWTP) and direction of CSS flows to WWTP (for minimum treatment))**:
        - At 100 GPCD (accounting for normal I&I) DWFM standard assumption and 2019 Chapter 94 reported EDUs, the WWTP would be expected to receive: 34.9832 MGD. At the standard 250 GPD/EDU assumption: 24.988 MGD.
        - The facility discharged 33.9 MGD ADF in 2018 (record year of precipitation), 27.1 MGD ADF in 2019 (very wet first half of year), and 21.1 MGD ADF in 2020. The highest monthly average discharge in 2020 was February (25.6 MGD) per the 2021

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NPDES Permit Application update. The highest daily max discharge per 12 months of EDMR data was: 58.9 MGD (May 2020). The Chapter 94 Reports indicate no existing or projected hydraulic or organic overloading.

- The LTCP indicates the Interceptor lines can direct up to 115 MGD flow to the WWTP.

- **Proposed Three Tiered LTCP Implementation Schedule for specific actions**: A proposed three (3) tiered schedule of implementation of additional actions (process for closure of certain CSOs; installation of Red Valve Tide Flex Check Valves on river-influenced CSOs; installation of solids netting systems for control of floatables; proposal for constructing two (2) "storage and release facilities" in the near term; further investigation, design, and corrective actions in the future Tiers) was provided. **However, the NMCs might require rescheduling of weir adjustments/Tide gate valve installation & solids/floatables controls (netting) upfront depending on the CSO Outfall/Diversion Chamber (DC) conditions. The future chosen LTCP Goal might also require project rescheduling, depending on CSO discharge volumes being captured for minimum treatment**.
  - **Tier 1 (years 1 through 5):** Tier 1 includes DCs whose flow data indicates they can be closed or converted to in-line storage with little impact on the CSS per WVSA. Please note that the Discharge Chamber Nos. and CSO Outfall Nos. do not match. See CSO tables at back of Addendum Report for which DCs are for which permitted CSO Outfalls.
    - **Diversion Chambers Nos. 4, 14, 20, 25, and 43**: Install a "temporary full closure", continue monitoring and schedule final permanent closure within a year. DC 4 was separated and will be permanently close (circa 2022). Examples:
      - DC 4 area has been separated and outfall closed.
      - DC 14 weir and other weir will be raised with subsequent monitoring to verify no basement backflows. The LTCP Update noted the Authority could not install flow metering at this DC.
    - **Diversion Chambers Nos. 8 and 11: Design and construct a solids/disinfection treatment system prior to discharge.** A vortex separator and disinfection system may be installed in DC 8, with DC 11 discharge possibly redirected to it. **NOTE**: **This project will require Part II WQM permitting and monitoring/permit limits for the treated CSO discharge incorporated into the next NPDES Permit Renewal or Amendment's Part A.** In the absence of any Part II WQM Permit, the Department could not address the project in this Redraft NPDES Permit.
    - **Diversion Chambers Nos. 15, 16, 21, 22, and 23**: The design and construction of in-line or off-line storage improvements to reduce CSO frequency, duration and volumes (hopefully to under four (4) discharges per year. Examples:
      - DC 16 will have its weir raised for example.
      - DC 22 might have a floating gate installed in short term, with future storage and release.

        NOTE: Weir raising/optimization will not require Part II WQM Permits. Tide gate valves and floating gates and other inline or off-line storage will require a case-by-case determination of permitting requirements.
  - **Tier 2 (years 4 through 10)**: Tier 2 includes DCs that require more flow monitoring to characterize them (not all have flow data).
    - **Diversion Chambers Nos. 2, 7, 38, 52 and 53**: Closure, with interim incremental weir raising steps and monitoring to assure no resultant problem such as basement backup/etc., over several years prior to closure. Example:
      - **DC 7**: Tide Flex Valve will be installed to eliminate river backup.
    - **Diversion Chambers Nos. 17, 24, 28, 29, 30, 32, 33, 35, 36, and 54**: DC Nos. 17 and 30 are being evaluated for netting in the short-term. These DCs require additional flow metering, evaluation and investigation, but all are candidates for in-line/off-line storage and release.
  - **Tier 3 (years 8 through 20)**: Tier 3 DCs are considered "very active" due to frequent discharges, large discharge volume or long duration discharges, that are expected to require a long term approach for mitigation.
    - **Diversion Chambers Nos. 1, 3, 5, 6, 9, and 10 (located on the "East Side Interceptor" along the river through Wilkes-Barre City)**: WVSA will be evaluating short term options

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(such as Netting systems, Tide Flex Valve installation) and conducting further investigation of other options including determination if working combination of Federal Pump Station operations, Key Storm/Sanitary Separation areas and MS4 Storm Reduction projects might allow reduction in CSO frequency, duration, and volume in these urbanized areas. **NOTE**: The June 2009 Implementation of NMCs and LTCP Approach NMC 6 (Control of solid and floatable materials in CSOs) indicated an "extensive structure and treatment system" was planned for DC-5 (Market Street) including two (2) 10-foot diameter self-cleaning basket and UV disinfection unit for a "sensitive area" (inflatable dam project, status unknown).

- **Diversion Chambers Nos. 12, 18, 19, 27, 32, 34, 37, 39, 41, 42, 44, 45, 48, 49A, 50, 51 and 55 (West Pittston, Nanticoke, Edwardsville, Plymouth and Pittston areas with access issues due to limited land availability or river locations)**: Additional coordination with third parties (Luzerne County Flood Protection Authority, Army Corp of Engineers, Municipality coordination) is needed to determine design options for affordable alternatives. Short term improvements like weir raising and solids netting will be evaluated. It was noted that extremely limited land areas around the CSO facilities and/or river bank locations limited WVSA options.

Changes from Previous Draft NPDES Permit:

- **Parts A, B, and C**: Regenerated NPDES Permit with current Template Standard Conditions: Parts A, B, and C (CSOs; WET Testing; IW Stormwater: etc.)
- **Parts A.I.A and A.I.B (Interim/Final Limits Outfall No. 001)**: New permit limits (effective in 3 years, with interim monitoring) due to updated Reasonable Potential Analysis and updated TRC water quality modeling. See updated Reasonable Potential Analysis. Two notes added:
  - *Flow Proportional 24-hour Composite Sampling must include all shifts.
  - **If two years of sampling and analysis (meeting DEP Target Quantitation Limits) shows the constituent is not present, the Department retains authority to allow cessation of further monitoring in writing. **NOTE**: This was due to new limits/monitoring requirements triggered by insensitive ND levels for certain constituents.
- **Part A.I.C (Outfall No. 001)**:
  - Ammonia-N: Going to 1/day flow-proportional 24-hour composite sampling (all shifts) per Public Comment request. All 24-hour composite sampling must be flow-proportional and include all shifts per note.
  - Deleted Draft NPDES Permit language allowing use of an internal monitoring point No. 101 for effluent CBOD5 and TSS sampling has been deleted as not allowing for representative sampling and contrary to current Part A bypass sampling language.
  - Additional Monitoring Requirements per Reasonable Potential Analysis.
    - *Flow Proportional 24-hour Composite Sampling must include all shifts.
    - **If two years of sampling and analysis (meeting DEP Target Quantitation Limits) shows the constituent is not present, the Department retains authority to allow cessation of further monitoring in writing. **NOTE**: This was due to new limits/monitoring requirements triggered by insensitive ND levels only by certain constituents.
  - Chapter 92a.47 Fecal Coliform IMAX limits added. (appears to have accidently omitted from previous Draft NPDES Permit but noted in Fact Sheet).
  - E Coli monitoring added due to new WQS.
  - 85% minimum monthly average reduction (CBOD5 and TSS) added per Chapter 92a.47 requirement and previous NPDES permitting. CBOD5 requirement was in previous 2010 NPDES Permit Amendment.
  - Updated limits for EDMR (significant digits, Instantaneous minimums, updated Fecal Coliform units; additional mass load reporting that does not require additional sampling)
- **Part A.I.D and A.I.E (Stormwater Outfalls Nos. 59 and 60)**: Updated Stormwater Outfall permit limits/monitoring requirements to meet current IW stormwater requirements (semiannual sampling; BOD5 monitoring instead of CBOD5 (BOD5 covering nitrogenous loading with BOD5 benchmark); Total Iron instead of dissolved Iron; IMAX reporting for grab samples) and Chapter 95 permit limits plus PAG-03 benchmarks. See related Part C.X (Stormwater) conditions.
- **Part A.I.F (New IMP/Outfall No. 102)**: This Internal Monitoring Point/Outfall for influent raw sewage was administratively created to separate out influent from effluent monitoring (Outfall No. 001) and to allow reporting of influent flows due to CSO-related requirements at the existing influent sampling point (which addresses any

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wastewater component from hauled-in wastewaters in addition to collection system influent). **NOTE**: Existing IMP No. 101 was formerly used to sample effluent for CBOD5/TSS prior to CSO discharge mixture.

- **Part A.I.G (Chesapeake Bay)**: CB table now has footnote that Flow Proportional 24-hour Composite Sampling must include all shifts.
- **Part A.I.H (CSOs)**: CSO Outfall table has new footnotes cross-referencing CSO-related requirements.
- **Part C.I**: **Up-to-date** Chesapeake Bay Conditions.
- **Part C.II**: Existing Requirements for Facilities with built-in Excess Hydraulic Capacity (obsolete page references deleted).
- **Part C.III**: Existing Maximizing Treatment at The Existing POTW
- **Part C.IV**: **Revised** Combined Sewer Overflow (CSO) Conditions. These standard conditions have been substantially revised per agreement with the US EPA **with site-specific requirements including**:
    - **Part C.IV.B (Nine Minimum Controls)**: Previous WVSA commitments have been summarized. **In addition, the following minimum requirements have been added to the Permit:**
        - Minimum annual inspections of the CSO Outfall locations on the receiving streams.
        - Weir elevations shall be optimized to maximize flow directed to the Treatment Plant for treatment by storage in the collection system.
        - Operation of Treatment Plant and sewer system Pump Stations shall be optimized to maximize wet weather combined sewer system flow delivered to the Treatment Plant.
        - Weir elevations shall be optimized to maximize flow directed to the Treatment Plant for treatment.
        - If CSO outfall inspections find accumulated solids and/or floatables impacting the receiving stream, notification and corrective action shall be implemented.
        - When WVSA maintains the tributary collection system by agreement and/or implements the (separate) Municipal Storm Sewer System (MS4) pollution prevention actions that also address the Combined Sewer System sewer shed(s), the Annual CSO Status Report shall document the CSS sewer shed area activities (catch basin cleaning, street sweeping or other).
        - The permittee shall maintain a table cross-referencing the Industrial Users to any CSO Outfall that might receive raw Industrial User wastewater.
    - **Part C.IV.C (Long Term Control Plan): Site-specific requirements include:**
        - **Part C.IV.C.1:** The 2009 LTCP has been incorporated by reference except as it has been superseded by regulations, permit requirements, and applicable DEP/EPA policies/technical guidance. The 2021 LTCP Update did not go through required public participation and had other issues as described in this Fact Sheet Addendum. The LTCP Implementation Schedule includes an interim milestones for updating the LTCP.
        - **Part C.IV.C.2:** Language incorporated allowing the Authority to choose its LTCP Goal (Demonstration or Presumption) at a later date per the 2021 LTCP request. See LTCP Implementation Schedule.
        - **Part C.IV.C.3 (LTCP Schedule of Implementation):** New interim and final compliance milestones included to address LTCP requirements and documentation issues (informational discrepancies, missing or obsolete information, etc.) that must be addressed. The Final LTCP Compliance date was based on the 20-year tentative 3-Tier schedule.
        - **Part C.IV.D (Monitoring and Reporting Requirements):** Additional information is required in terms of a LTCP Progress Report (to be submitted as part of the CSO Annual Status Report):
            - Annual Calculations shall be provided regarding whether the 85% Volume Presumption Goals have been met during the reporting year. The Report shall define the number of "CSO events" (CSO discharges during or immediately after the same precipitation trigger event) and the minimum precipitation magnitude (to the closest 0.01-inch rainfall) triggering CSO discharges. The number, dates, and volumes of Part C.III bypasses (with precipitation amount) shall be summarized in table format.
            - The Annual CSO Status Report shall quantify non-CSS sewer shed peak wet weather flow contributions in a provided table (by receiving WVSA Interceptor/Pump Station and source municipalities) with drainage area and precipitation data from nearest rain gage. The Table shall note any implemented and/or proposed Corrective Action Plan to address any receiving Separated Sewer System sewer shed's excessive stormwater Inflow & Infiltration (I&I).

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- Any Treatment Plant overflows (outside of secondary containment) shall be summarized in a table, with date, estimated release, and identification of overflow cause (peak wet weather influent flows or other).

- **Part C.V: New** TRC Schedule of Compliance (3-years to be consistent with Part C.VIII schedule of compliance) due to new limits.
- **Part C.VI**: **Up-to-date** POTW Pretreatment Program Implementation
- **Part C.VII**: **Up-to-date** Standard Solids Management Conditions (in previous Draft NPDES Permit) **with clarification that the (incinerator) ash lagoons are subject to the RSW regulations (Chapters 287 – 299) with annual cleanout requirement.**
- **Part C.VIII**: **New** WQBELs for Toxic Pollutant conditions (with 3-year schedule of compliance) per Reasonable Potential Analysis
- **Part C.IX**: **Up-to-date** Whole Effluent Toxicity (WET) Testing Conditions **with updated dilution factors due to site-specific inputs.**
- **Part C.X**: **New** WQBELs below Quantitation Limits condition for compliance reporting after new limits become effective.
- **Part C.XI**: **Revised** Requirements Applicable to Stormwater Outfalls including new site-specific requirements (BMPs and permit limits) due to the onsite incinerator and ash lagoons, plus potential WWTP overflows due to peak wet weather influent flows (CSS and potential I&I in the Separated Sewer System sewer sheds). Submittal of Annual IW Stormwater Report required. Benchmark condition added for BOD, COD and TSS. Site-specific BMPs include: Secondary containment for tanks and ash-related BMPs.
- **Part C.XII.A through C**: Standard Sewage Conditions (Stormwater prohibition for **Separated** Sewers; Necessary property rights; Residuals Management). The LTCP addresses stormwater in the CSS areas.
- **Part C.XII.D: New** Chlorine Minimization condition to optimize chlorine usage.
- **Part C.XII.E: New** Responsible Operator condition due to application not identifying number of operators and allowance for different operators to be assigned different duties.
- **Part C.XII.F: New** High Flow Management Plan condition due to peak wet weather influent flows (CSS and separated sewer system sewer sheds not subject to CSO conditions).
- **Part C.XII.G**: Existing Changes in effluent/stream condition. **This existing condition appears to have been accidentally omitted in the previous Draft NPDES Permit, and has been restored**.

Public Comments on 2017 Draft NPDES Permit:

11/9/2017 WVSA Comments on 2017 Draft NPDES Permit: Responses bolded.

Part A Ammonia-N Sampling Frequency: Request that the sampling frequency of 1/shift be reduced to 5/week for the 24-hour composite sampling requirement. **The Department could not grant this request. The Ammonia-N flow-proportional composite sampling requirement has been modified to 1/day (with flow-proportional composite sampling addressing all shifts) as the standard minimum monitoring frequency for this size of facility. Please note the Part A.II "Composite Sample" definition and Part A.III representative sampling requirement require representative flow proportional composite sampling (i.e. during all WWTP shifts).**

- **The Ammonia-N minimum sampling frequency for ≥5 MGD STPs is daily.**
- **For >25 MGD, all shifts must be addressed (by the flow-proportional composite sampling).**

Part A Additional Requirements Narrative TBELs for Color and Turbidity: The Authority concern was that the narrative Technology-Based Effluent Limits (derived from regulatory language) for color and turbidity were "ambiguous". The Authority proposed the incorporation of language stating that the observed change in be "objectionable and obvious to anyone" into the condition and/or additional clarification be provided on how to measure and reported. The Authority noted that their proposed language was found in other (unidentified) permits and came originally from DEP Central Office-proposed language. The Authority indicated it was concerned that its Certified Operators have legal obligations and must know how to measure "an observed change" for conditions 100 feet downstream of the discharge.

- **The Department could not incorporate the Authority-proposed language into the NPDES Permit. The proposed language is not in the current NPDES Template Part A language which was agreed upon by the Department and US EPA, and substantially varies from the regulatory language which is the basis of the permit condition. The language does not include any alternate methodology for determining what would be**

Summary of Review

an "observed change". The term "objectionable and obvious" would result in disputes over the meaning of the subjective terms "objectionable" and "obvious".

- **Applicable standard: The current template language includes**: **For the purpose of determining compliance with this condition, DEP will compare conditions in the receiving water upstream of the discharge to conditions in the receiving water approximately 100 feet downstream of the discharge to determine if there is an observable change in the receiving water. (25 Pa Code § 92a.41(c))**
  - **"No observable change" is an objective standard employed in both science and industry. The Department expects any Certified Operator to be able to make a visual inspection for observable changes in color or turbidity (directly comparing upstream and downstream conditions) given normal eyesight and operating experience. It is the same standard that the DEP Inspectors and the public would apply.**
  - **The Authority is free to propose a site-specific alternative methodology (color wheels, turbidity monitoring, other) that the Authority Certified Operators could use to <u>supplement</u> their visual observations.**
  - **The current Authority-chosen CSO LTCP requirements (especially the LTCP Demonstration Goal) require the Authority's Certified Operators to make a visual inspection for such changes during CSO discharges to the River and Tributaries (with CSO discharges) in addition to other Outfall monitoring. The certified operators would be expected to check river conditions during abnormal WWTP operating conditions as well.**

<u>NPDES Permit Part A.III.C.2.b(ii) (Planned Changes to Waste Streams and "Improper inclusion of Chapter 94 requirements in the NPDES Permit)</u>: The Authority requested deletion of NPDES Permit language regarding hydraulic and organic overloading because it is not an NPDES permit requirement and is not an enforceable NPDES regulatory requirement (subject to separate specific remedies). The Authority believes it is an "abnormal" permit requirement. The specific language being referenced: "The acceptance of increased loading of approved pollutants may not result in an exceedance of ELGs or effluent limitations, may not result in a hydraulic or organic overload condition as defined in 25 Pa. Code § 94.1, and may not cause exceedances of the applicable water quality standards in the receiving stream."

- **The Part A.III.C.2 condition has been updated to current NPDES Permit Template language (lacking the objected language), rendering this comment obsolete.**
- **The Department retains all authority to incorporate Pennsylvania-specific regulatory and other requirements in any NPDES Permit, including Chapter 94 requirements, MSW regulations (Chapters 271 – 285) and RSW regulations (Chapter 287 through 299).**

<u>Part A Stormwater Monitoring Requirements</u>: The Authority requested inclusion of a Part A footnote stating that the Authority can conduct an annual inspection in lieu of monitoring for Stormwater Outfalls Nos. 059 and 060. **The Department cannot grant this request because the updated IW Stormwater NPDES permit requirement do not allow for this option).**

<u>Part A.III.C.3 (Receipt of Municipal/Residual Waste Sidestreams Supplemental Form Reporting)</u>: The Authority requested relief from the hauled-in waste requirements for BOD5 (concentration in mg/l; load in lbs/day) reporting for wastes received). The Authority noted that it currently side-streams all of its hauled waste received. The hauled in waste is screened, sent to sludge mixing tanks, dewatered and then directed to the incinerator. The hauled in waste is never becomes part of the wet-end treatment process. The Authority is requesting relief from the influent BOD5 concentration (mg/l and load (lb/day). The Authority proposed to retain onsite records for seven (7) years, instead of a submitted Hauled-In waste supplemental form, recording: date, delivery times, TSS and location of origin of each hauled waste load brought to the facility. **The Department could not grant this requirements because the Part A.III.C.3 hauled-in wastewater monitoring/reporting requirements (and MSW/RSW Hauled-In supplemental forms) are the standard minimum requirements.**

<u>October 5, 2017 EPA (Dana Hales) E-mailed Public Comments on 2017 Draft NPDES Permit</u>:

<u>Missing Application Copy</u>: EPA noted it had not received an NPDES Permit Renewal application copy. **Department records indicate the application copy was subsequently sent on October 12, 2017. EPA will be able to access the 2021 Application Update via the DEP On-Base System.**

Summary of Review

General Statewide EPA objections to Part C CSO Language: The EPA raised general statewide objections to the Draft NPDES Permit Part C CSO language for assorted Draft NPDES Permits. The EPA subsequently withdrew it general objections with interagency agreement on standard Part C CSO language.

- **The Department has updated the Part C CSO language to the current standard language (agreed-upon language with EPA) and to address EPA feedback on other CSO facilities when the LTCP Goal is undetermined (as the Authority has requested a change in LTCP Goals in the 2021 LTCP Update).**
- **The Department separately forwarded the revised standard CSO language (with a request for an updated NPDES Permit Renewal Application including an CSO LTCP) to the Authority in the March 12, 2021 DEP Letter. The December 2021 On-Base Application update included a 2021 LTCP Update.**
- **This Redraft NPDES Permit includes revised Part C CSO Language, allowing for additional public comment.**

Site-specific EPA Comments on Compliance Schedule: EPA commented that the Fact Sheet did not include adequate justification for the appropriateness of the Draft NPDES Permit's proposed CSO Schedule of Compliance "to meet the requirements of the state water quality standards upon completion of the LTCP implementation", referencing: the 1994 EPA CSO Policy requirements; the May 10, 2007 EPA Memo (Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits) guidance; the Pennsylvania's Water Quality Standards dates & numeric performance standards for the selected CSO Controls; and Chapter 92a.51 (Schedules of Compliance including limitation to 5-year NPDES Permit Term). EPA requested that any CSO activities be performed in the 5-year NPDES Permit Term.

- **The Department and EPA have come to a general statewide agreement in terms of LTCP compliance schedule requirements, with the Department presently modifying the Chapter 92a.51 regulatory language**.
- **See the Redraft NPDES Permit for the revised CSO Schedule of Compliance which takes the EPA comments and updated CSO LTCP information into account. EPA and third parties are free to comment.**

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; 059; 060	Design Flow (MGD)	32 (001) 0 (059; 060)
	41º 14' 14.06" (001) 41º 14' 17.91" (059) 41º 14' 14.53" (060)		-75º 56' 47.15" (001) -75º 56' 22.90" (059) -75º 56' 45.60" (060)
Latitude	CSOs: See attached CSO Table	Longitude	CSOs: See attached Table
Quad Name	Wilkes-Barre West	Quad Code	0939 (4.20.4)

Wastewater Description: Outfall No. 001: Treated Sewage (including minimally treated CSS flows)
Outfall Nos. 059 and 060: Stormwater associated with industrial activities
CSO Outfalls Nos. 002 – 013; 015 – 026; 028; 038 – 040; 042 – 045; 049; 051; 053 – 058:

Receiving Waters	Susquehanna River (WWF), North Branch	Stream Code	6685
NHD Com ID	65634033	RMI	185.0
Drainage Area	9977.5 mi^2	Yield (cfs/mi^2)	0.0994
Q_{7-10} Flow (cfs)	992.5	Q_{7-10} Basis	See below
Elevation (ft)	514	Slope (ft/ft)	-
Watershed No.	05B	Chapter 93 Class.	WWF
Existing Use	n/a	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, MERCURY, POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	ACID MINE DRAINAGE, SOURCE UNKNOWN, SOURCE UNKNOWN (historical mining and industrial/commercial legacy pollutants)		
TMDL Status	Final, Final	Name	Susquehanna River Metals, Susquehanna River PCB

Background/Ambient Data		Data Source
		Sample ID: 2380396, Sequence Number: 317 Monitoring Point ID: 48093 (West Market Street Bridge, ~3.67 miles upstream of Outfall No. 001)
pH (SU)	7.45	Date Collected: 8/12/2020
Temperature (°C)	27.4	See above
Hardness (mg/L)	90	See above. The application indicated 111 mg/l based on Storet. The more conservative value was used.
TSS (mg/l)	8	See above
TDS (mg/l)	172	See above
Aluminum (ug/l)	383.00	See above
Manganese (ug/l)	119.00	See above
Total Iron (ug/l)	807.00	See above
Nickel (ug/l)	7.0	See above
Lead (ug/l)	0.363	See above
Copper (ug/l)	2.05	See above
Zinc (ug/l)	15.0	See above

Nearest Downstream Public Water Supply Intake: Danville Water Authority

PWS Waters	Susquehanna River	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	>40 miles

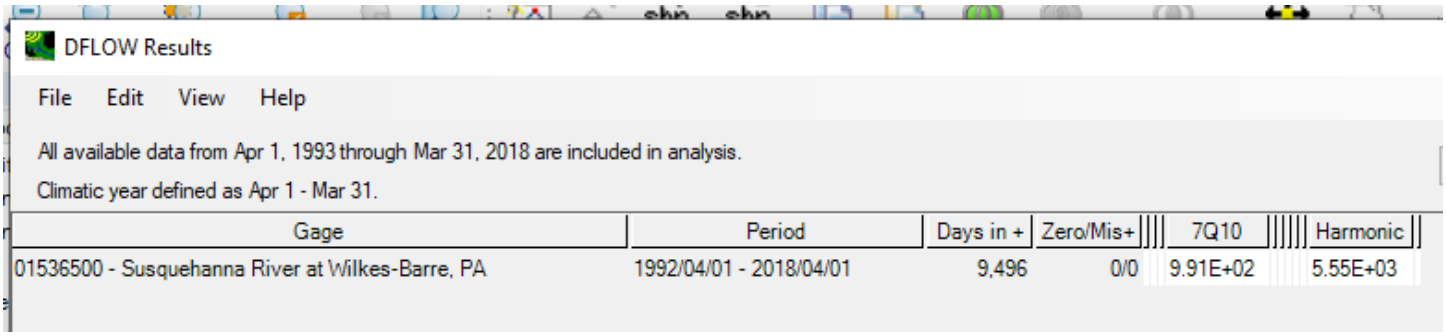
Changes Since Last Permit Issuance: DEP Biologists confirmed the point of first use by aquatic life is at the WVSA discharge (001). The 2005 WPC Report (copied in previous Draft NPDES Permit Fact Sheet) indicated the point of first use (aquatic life) was 23 miles downstream at the confluence of Nescopeck Creek and North Branch Susquehanna River, but the stream has recovered and is now supporting aquatic life.

Other Comments:

Peak Wet Weather Discharges: The WVSA Plant is authorized to conduct bypassing of secondary treatment units during >50 MGD peak wet weather CSS flows. The facility was estimated to receive up to 115 MGD peak instantaneous flows for minimum treatment. At a minimum, the CSO-related bypass flows must receive primary clarification, solids and floatables removal, and disinfection.

Susquehanna River: 700 feet wide, 6 feet deep per previous Applications' information. Stream width incorporated into water quality modeling. Depth figure not clear if average or maximum during low flow periods, so not inputted into TMS (which automatically calculated the value based on Q7-10 low flow and River width).

Q7-10 Low Flow Yield: The USGS Gage No. 01536500 (Susquehanna River at Wilkes-Barre) was used to derive the LFY via DFLOW. The gage location (Elevation 510.86 Feet, 9960 square mile drainage area). The calculated LFY is 0.0994 CFS/Square mile.


DFLOW Results

File Edit View Help

All available data from Apr 1, 1993 through Mar 31, 2018 are included in analysis.

Climatic year defined as Apr 1 - Mar 31.

Gage	Period	Days in +	Zero/Mis+	7Q10	Harmonic
01536500 - Susquehanna River at Wilkes-Barre, PA	1992/04/01 - 2018/04/01	9,496	0/0	9.91E+02	5.55E+03

Additional CSO Outfalls discharging to Tributaries to the Susquehanna River:

- Espy Run (CWF; Stream Code# 28349; AMD-impaired): 029 – 031
- Forge Creek a.k.a. South Branch Newport Creek (CWF, Stream Code# 28344; AMD-impaired, Newport Creek TMDL (AMD)): 032 - 033
- Warrior Run (CWF; Stream Code# 28350; AMD-impaired): 035 – 036
- Nanticoke Creek (CWF; Stream Code# 28348; AMD-impaired): 037
- Toby Creek (WWF; Stream Code# 28358; Natural Trout Reproduction): 046
- **Hick Creek (CWF; Stream Code# 28644; hydromodification, PCB, Mercury impairment): 052 (in Exeter Borough)**

NOTE: Some CSOs, indicated to be discharging to the Susquehanna River, are located adjacent to additional Tributaries such as Mill Creek. Verification of the receiving stream is being requested in the LTCP Schedule of Implementation.

Stream Impairments: The facility has no Waste Load Allocations from the applicable TMDLs. The pollutants appear to be legacy pollutants from historic mining, industrial and commercial activities.

- **PCBs**: POTWs are not expected to be a significant source. The PCBs TMDL applies to the stretch of river from PA Route 92 bridge at Falls to confluence with West Branch Susquehanna River. This facility is not subject to any load allocations. The source of the PCBs in the stream is unknown. The CSO LTCP should reduce any Hick Creek (PCB impairment) watershed I&I that might contribute to existing impairments.
- **AMD Metals (Aluminum, Manganese, and Total Iron)**: The Susquehanna River TMDL (AMD) Metals did not include any Waste Load Allocations for this facility. This is a historic coal mining area with additional historic

industrial activities. The CSO LTCP should reduce any CSS I&I influent that might contribute to AMD metals effluent loadings. Additional monitoring will gather information for updating the AMD TMDL.

- **Mercury**: The facility is not expected to be a significant source of mercury. The CSO LTCP should reduce any Hick Creek (mercury impairment) watershed I&I that might contribute to mercury effluent loadings.
- **Other Toxics**: The new permit limits and monitoring requirements (including new WET Testing addressing any cumulative or synergistic impacts) will prevent any impairments due to facility effluent.

Treatment Facility Summary

Treatment Facility Name: Wyoming Valley Sanitary Authority (WVSA)

WQM Permit No.	Issuance Date	Scope
WQG02401401	6/15/2015	Shulde Lane Pump Station and sewer extension
PAG08221	9/23/2014	PAG-08 Beneficial Use of Non-Exceptional Quality Sewage Sludge by Land Application, In PA
4009404	5/22/2009	WWTP Upgrade/modification for TN/TP reduction
4000403	11/15/2000	Replacement of 3 Headworks Pump Station existing screen pumps with 4 submersible pumps, coarse screen installation in influent channel, hoists for pump maintenance, and headworks building air conditioning/dehumidification for corrosion control. The IRR indicated: "The capacity of each of the submersible pumps will be 8200 gpm at 36 feet of total dynamic head". (8200 GPM = 11.808 MGD, with four pumps equating to 47.232 MGD max, assuming no pump interference).
4094402	9/7/1994	Primary Plant Rehabilitation – CSO Treatment Facility: Ball valve would control flow to the rehabilitated primary tanks (old sludge collectors removed; weirs reset; tank bottoms reconfigured and repaired); new drain lines to Nanticoke interceptor, and installation of Parshall flume to measure effluent from primary tanks. Excess flows to the secondary treatment units would be directed to the primary units. If overloaded, the primary tanks will be allowed to overflow. All effluent will be chlorinated.
4092401	3/25/1992	Replacement Fluidized Bed Incinerator system designed to incinerate 12,800 wet pounds of solids per hour (included 15% allowance for maintenance and repair downtime). The sludge dewatering system includes centrifuges; two (2) sludge cake conveyors; two (2) dual variable sludge feed pumps; pneumatic sand feed system; two (2) ash slurry pumps; blowers for fluidizing air; two ash lagoons. Concurrent PADEP AQ permitting noted in IRR. **NOTE**: RSW regulations apply to the ash storage impoundments.
4085401	3/28/1985	Upgrading existing 40 MGD primary treatment to secondary treatment (including four (4) counter-current low load aeration process tanks; four (4) secondary clarifiers; a sludge handling building; and associated equipment/yard piping). **The design flows were 32.0 MGD average 24-hour flow, 50.0 MGD maximum wet-weather flow, and 80.0 MGD peak wet weather flow (peak instantaneous).**

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus reduction	Low load, counter-current treatment units	Gas Chlorine	32.0

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
32.0*	49,106**	Not Overloaded	Hauled-in Wastewater is treated as described below.	Land application of site generated biosolids; onsite incineration with ash landfilled.

*See NPDES Permit Part C.II (which is an existing NPDES Permit condition).
******This is the value set forth in the 2012 NPDES Permit Renewal Application form and 2017 Draft NPDES Permit Part A with exceedance being "organic overloading". It equates to: 184 mg/l BOD5 average influent flow at 32.0 MGD and 117.7 mg/l at 50.0 MGD flow.

Changes Since Last Permit Issuance: Per 2020 Chapter 94 Report:

- The facility installed a "Hauled Waste Receiving/Screening Facility" in 2015 per the 2020 Chapter 94 Report. The new Facility allows side-streaming of hauled-in wastewater (septage and sludge primarily) to screening, dewatering, and incineration. This was noted to have reduced overall organic loadings received in the Treatment Plant. 12.8 million gallons of received hauled-in wastewater in 2020.
- The facility completed a 2014 Nutrient Removal project to include additional aeration capacity and chemical phosphorus removal.

Other Comments:

Sewer System Description: The 2019 Chapter 94 Report indicated the WVSA system includes 25 "original remove pumping stations" and 34 former municipality pumping stations, 50 active wet weather overflow diversion chambers/CSOs, ~12.4 miles of force main, and ~17.0 miles gravity sewer lines. The WVSA system receives 36 individual municipality sewer systems (estimated at ~800 miles sanitary sewer lines which are municipality owned.

WWTP Description: Extended Aeration, activated sludge process per application.

- BNR: The facility used ammonium and nitrate level in-situ monitors that control blowers to achieve nitrification/denitrification in the four treatment trains. 1/21/2010 WVSA Letter included a consultant letter that indicated two treatment trains were modified to allow operation in the MLE mode.
- Treatment Process Description: 2019 Chapter 94 Report indicated the secondary treatment plant went on-line on 12/20/1987. At that time the existing primary treatment plant was taken out of service. The last of four (4) identical secondary treatment trains ("low load, counter current treatment units") was placed on-line in July 1988. The secondary treatment process was described as: Raw sewage pumping; mechanical screening; pre-aeration; grease flotation and removal; grit removal (Parshall Flume with ultrasonic flow meter at grease & grit removal unit for monitoring internal plant flows); metering; activated sludge introduction; denitrification; aeration; clarification; chlorine contact; effluent pumping (during high river levels only).
- Onsite Sludge Incinerator and ash storage lagoons: They separate out the solids for dewatering and incineration or alternative land application. The wastewater component is directed to the WWTP headworks. PADEP Air Quality and Waste Management Programs regulate the incinerator and ash storage lagoons.
- Outfall No. 001 Design: NPDES Permit Renewal Application indicates Outfall No. 001 is a "3-port discharge rather than a single point" and would generate three discharge plumes (but is considered a single point discharge for NPDES permitting purposes).

Hauled-in Wastewater: The 2019 Chapter 94 Report indicated 12.7 million gallons (septage and sludge) was received in 2019. Prior to 2018, WVSA sent the hauled-in wastewater was sent to the process trains. Toward end of 2018, WVSA completed its new Hauled Waste Receiving/Screening Facility (for screening, dewatering, and incineration), with elimination of direction to the WWTP Aeration and Clarifier process tanks.

Chapter 94 Report Information:

2020 Chapter 94 Report:

- **Form Item 1, 2, 3, 9:** No identified or predicted organic or hydraulic overloading. WVSA is reporting incorrect design loads:
    - **Hydraulic Design Load**: The identified hydraulic capacity figure (spreadsheet) is incorrect. Per Redraft NPDES Permit Part C.II (REQUIREMENTS FOR FACILITIES WITH BUILT-IN EXCESS HYDRAULIC CAPACITY) condition (also an existing permit condition), the value of **32 MGD** is to be used to determine hydraulic overloading. See condition for related requirements.
    - **Organic Design Load**: The identified organic design capacity (68,301 lbs BOD5 per day) was greater than that set forth in the 2017 Draft NPDES Permit (**49,106 lbs BOD5 per day per the 2012 NPDES Permit Application form**). The NPDES Permit number will govern.
        - Existing EDUs: 99,952

  - Persons/EDU: 3.5
  - Load/EDU: 0.281
  - Load/Per Capita: 0.080
- **Form Item 4 (Sewer System Extension):** A table of 2020 Project capacity requests was supplied. Some of the Trib Reports included figures showing new connection locations.
- **Form Item 6 (Exceeded Capacities):** The response of no SSOs was incorrect. DEP files included a notice of Sanitary Sewer Overflow. Trib Chapter 94 Reports (such as Wilkes-Barre City) that report surcharging or other exceedances should have been summarized or cross-referenced in the WVSA Report. Harvey's Lake Trib Report included a Corrective Action Plan for I&I (separated system).
- **Form Item 7 (Pump Stations):** The Report was missing the required comparison of maximum pumping rates with the present maximum flows and projected 2-year max flows for each pump station.
- **Form Item 8 (IW):** During glance-over, no table was found addressing the existing NPDES permit Part B.I.C.4.d requirement of identification of IUs with pretreatment requirement with specification of total volume of discharge and estimated concentrations of pollutants.
- **Form Item 10 (Sewage Sludge Management Inventory):** The Redraft NPDES Permit will include this requirement.
- **Form Item 11 (Annual CSO Report)**:
  - The DEP Annual CSO Report form was not used. It will be a Redraft NPDES Permit requirement.
  - The Report did not address all existing NPDES Permit Part C.I Eight Section IV.B (Annual CSO Status Report) requirements:
    - No summary of frequency, duration and quantity/volume of all CSO discharges provided (or correlated to rain gage data). They only provided quantity data for the rotating flow-metered CSO discharges.
    - No identification of known in-stream water quality impacts, their causes or effects. PCCM monitoring was to begin by 12/31/2014 per the 2010 NPDES Permit Amendment.
    - No progress report on implementing any necessary revisions to the NMCs or LTCP.
    - They did not include any explicit evaluation and progress report on implementing any necessary revisions to the NMC and LTCP. They were to re-evaluate and update the CSO Control Plan by 12/31/2014 per the 2010 NPDES Permit Amendment.
    - Rain gage precipitation data was not reported to the 0.01-inch that caused a CSO discharge.
    - They did not summarize all CSO discharges by location, date, time, and duration for the Discharge Chambers that appear to have automatic level monitoring connected to the WVSA SCADA System.
  - The Report is basically confusing because it does not clearly distinguish historical information from what has been done in the reporting year and/or proposed in the near future.
    - They included a draft "Wyoming Valley Sanitary Authority Comprehensive CSO Study (proposed) Outline Scope of Work", which appears to have been based on the 2009 LTCP-superseded 2002 CSO Comprehensive Study. This document was not submitted as an LTCP Update, and references to obsolete/outdated documents not provided such as a referenced 1996 "WVSA monitoring and characterizing plan", etc.
    - The "Annual CSO Status Report Continued Study Recommendations" discussed completed projects/tasks and a potential Courtright Project (Vortex Swirl Concentrator and Disinfection) without discussion of associated permitting requirements. This document also references actions taken in 2009, without substantial updates. It referenced CSO and River sampling data that was not provided.
    - The "Engineering Projects Complete in 2020" list was useful in listing CSS maintenance projects and minor upgrades (isolation valve installation; etc.) but it is unclear if they achieved any useful reduction in CSO discharge number, frequency or volumes.
- **Form Item 12 (Flow Meter Calibration):** They calibrated for range of 0 to 100 MGD, but the facility can receive up to 115 MGD from the interceptors. They may need to calibrate for higher peak instantaneous flows (CSS or Separated Sewer System I&I flows). They did not include calibration reports for the CSO-related flow meters (not part of Part A flow monitoring at present).
- **Trib Munipality Reports enclosed: Missing reports from Ashley, Courtdale Borough, Sugar Notch Bourogh and Duryea.**

The 2019 Chapter 94 Report (attached 2019 CSO Status Report and Annual IPP Report):

- **General**: WVSA did not use the DEP Chapter 94 Reporting Form, Chapter 94 Spreadsheet, or DEP Annual CSO Status Report form for WVSA itself. (They had some reports from their Tribs as discussed below).
- **Missing Trib Reports**: They did have some partially completed trib municipalities DEP Chapter 94 Reporting Forms:
    - The 2019 WVSA copy was missing trib municipality Chapter 94 Reports from Ashley, Kingston, West Pittston and maybe more. They say that they have 36 municipal systems connected, but this reviewer only looked for the municipalities with CSOs. The WVSA table of sewer extension had blanks for Kingston for example, so the entire Report might have been incomplete. **WVSA indicated a supplement would be provided, but it was not attached to the 2019 Chapter 94 Report copy.**
    - Various tribs did not complete all applicable Chapter 94 Report Items (including Annual CSO Status Reports for satellite CSS systems or required pump station information; SSO section in at least one trib). Some trib reports referenced the WVSA Chapter 94 Report (which was referencing them), leading to potential information omissions.
- **No existing or projected hydraulic or organic overloading**.
    - **Organic Design Load (49,106 lbs BOD5/day per Draft NPDES Permit)**: They are claiming higher organic design capacity than listed in the 2017 Draft NPDES Permit. The 2019 Chapter 94 Report claimed (source(s) unidentified):
        - **Claimed "Permitted Organic Design Wet Weather Capacity"**: 68,301 lbs BOD/day. There is no organic "wet weather organic design capacity" identified in the existing NPDES Permit (the Part C.I Seven condition only allowed for peak wet weather NPDES permit CBOD5/TSS mass loading effluent limits (based on 50 MGD flows).
        - **Claimed "Permitted Organic Design Dry Weather Capacity"**: 52,967 lbs BOD5/day. This differs from the 2017 Draft NPDES Permit value of 49,106 lbs BOD5 per day.
        - **Existing EDUs in 2019**: 99,111 EDUs
    - **Hydraulic Design Load (50.0 MGD)**: Existing 2010 NPDES Permit Amendment No. PA0026107-A2 Part C.I Seven (Requirements for Facilities with Built-in Excess Hydraulic Capacity, page 26) required them to also monitor and report the "average dry weather flow" (computed as arithmetic mean of daily measurements) with Act 537 Planning requirements triggered if it exceeds 32.0 MGD.
- **Pump Station Information**: WVSA Pump Station Data (pump numbers, sizing and head) provided, but not actual pumping flow data **per reg**. Information needed especially due to CSO-related considerations.
- **2019 IPP Report**:
    - 19 SIUs, of which only 8 were identified as categorical industries (metal finishers and an electroplater). No Non-Significant Categorical SIUs were identified (such as dental offices, hospitals, etc.).
    - **2010 NPDES Permit Part B.I.C.4(d, e) requires additional information on the industrial users subject to 40 CFR 400 – 500 pretreatment standards in terms of total volume and estimated pollutant concentrations, and to ensure compliance with the pretreatment standards. Information on the identified metal finishers and electroplater discharges ELG pollutants/discharge volumes was not found by brief glance-over.**
- **Annual CSO Status Report:** They did not address 2010 NPDES Permit Part C.I Eight IV.B (Annual CSO Status Report) requirements:
    - **Required summary of frequency, duration, and volume of CSO discharges**: Not provided. Sample reports were provided for a single Diversion Chamber/CSO that was apparently metered. The ADC report did not summarize the frequency or duration of CSO discharges for even that sole CSO outfall. Monthly data was provided on average DC/pipeline depth, average velocity, quantity (total monthly and average) and total monthly rain (plus DC pipe height and depth of silt) for the few CSOs that ADC was actively monitoring. No information found on rest of the ~50 CSOs.
        - The **2019 CSO Annual Status Report** included a "Sample CSO Flow Data Characterization" (prepared by ADC LLC) provided flow-meter flow data for CSO Outfall No. 019 (DC-18). The ADC report did not summarize the frequency or duration of CSO discharges for even that sole CSO outfall. No information found on rest of the ~50 CSOs. The January 1 – December 31 flow data was 1.89 average pipe depth (1.08 – 14.29-inches), 0.89 feet/second velocity (0 – 4.81 ft/sec), and 0.036 MGD average flow (0 – 0.811 MGD). The December Daily Tabular Report indicated an 8.00-inch pipe (no silt build-up), with average 1.74-inch pipe depth, average 0.68 ft/sec flow, and quantity of 0.026 MG average and 0.801 MG total, from 2.11 inches of rain. Discharges appear to have happened on every day of the calendar month, including 6-days after precipitation event. **Report appeared to indicate potential dry weather CSO discharges (i.e. dry weather discharges 3 days after recorded precipitation events). NOTE:** A DC-18(2) was also reported, but is unclear what the (2) stood for. It reported an average depth of 4.32-inches (2.27 – 30.57-inches), 2.64 feet/second average velocity (0.14 – 3.72 ft/second), and average 0.604 MGD (0.222 – 4.321 MGD) for the year.

- The **2018 CSO Annual Status Report** included a Sample Report for DC-16 (CSO Outfall No. 017) for the time-frame of January 1, 2018 through October 31, 2018. Pipe height was estimated at 12.26-inches (no silt build-up). Tabulated daily data appeared to indicate flows during each day of the calendar months. For example, CSO Outfall No. 016 had a total discharge flow rate of 2.677 Million Gallons (averaging 0.096 MGD daily over 28-day month) in February 2018. The total flow metering period (January through October 31) had an estimated average 1.31-inch pipe depth (0.017 – 20.88-inch max), 3.88 ft/second average flow (0 – 9.32 ft/second), 0.112 MGD quantity average flow rate (0 – 3.586 MGD). **Report not clear on discrepancy on pipe depth. Report appeared to indicate daily CSO discharges (i.e. dry weather discharges 3 days after recorded precipitation event).**
- **Provide the operational status of overflow points**: No summary was provided. They provided some information on upgraded Diversion Chambers and related O&M information.
- **Provide an identification of known in-stream water quality impacts, their causes, and their effects on downstream users**: Not addressed. Report included a 2003 Final Draft for a Comprehensive CSO Study, and indicated some previous water quality sampling (no date given). The Study description appears to indicate such impacts, causes and effects would be determined later. Sensitive areas were not identified in the Report. No 2019 water quality monitoring data included (with referencing of much older water quality data in narrative).
- S**ummarize all actions taken to implement NMCs and LTCP and their effectiveness**: WVSA noted that it continues to perform projects to meet the Nine Minimum Controls (including installing additional netting systems for floatable control in 2019) but did not evaluate their effectiveness. Not clear what actions took place during the reporting year (versus historical information that was included).

- **Inspections and Maintenance:** No summary report was included.
- **Dry Weather Overflows:** None identified.
- **Wet Weather Overflows:** There was no summary of automatic level monitoring data (transducer or other) in the Report. No summary of pump station data for when the CSO Discharge is pump station controlled (which was indicated to be the majority of the ~50 CSOs).
- **CSO Bypassing**: They did not identify the internal WWTP CSO bypassing of secondary treatment dates during 2019, etc.

- **Flow Meter Calibration Reports**: They did not include calibration reports for the CSO-related flow meters (not part of Part A flow monitoring at present).

Compliance History

DMR Data for Outfall 001 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Flow (MGD) Average Monthly	**26.8**	**25.5**	**21.2**	**19.4**	**16.9**	**16.3**	**16.4**	**16.0**	**24.2**	**24.5**	**23.3**	**25.6**
Flow (MGD) Daily Maximum	**38.3**	**49.4**	**33.1**	**37.1**	**33.5**	**37.7**	**32.3**	**22.9**	**58.9**	**38.7**	**33.0**	**38.3**
pH (S.U.) Minimum	6.7	6.7	6.8	6.7	6.7	6.8	6.7	6.6	6.7	6.7	6.7	6.6
pH (S.U.) Maximum	7.0	7.0	7.0	7.0	7.0	7.0	7.2	7.1	7.0	6.9	6.9	6.8
TRC (mg/L) Average Monthly	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2
TRC (mg/L) Instantaneous Maximum	0.22	0.26	0.30	0.28	0.30	0.45	0.40	0.31	0.36	0.19	0.33	0.44
CBOD5 (lbs/day) Average Monthly	881	976	862	823	671	610	765	723	1066	1122	1028	1145
CBOD5 (lbs/day) Weekly Average	1165	1637	876	1105	800	743	1298	771	1693	1388	1119	1415
CBOD5 (mg/L) Average Monthly	4	4	5	5	5	4	5	5	5	5	5	5
CBOD5 (mg/L) Weekly Average	4	5	5	6	5	5	7	6	5	6	6	6
TSS (lbs/day) Average Monthly	1033	1163	788	661	468	554	858	810	1429	1424	1398	1219
TSS (lbs/day) Weekly Average	1323	2248	823	1258	628	812	1730	899	2274	1708	1585	1423
TSS (mg/L) Average Monthly	5	5	4	4	3	4	6	6	7	7	7	6
TSS (mg/L) Weekly Average	5	7	5	5	3	5	9	7	8	7	8	6
Fecal Coliform (CFU/100 ml) Geometric Mean	7	15	22	19	13	13	15	18	11	14	18	8
Nitrate-Nitrite (mg/L) Average Monthly	2.5	1.8	1.8	1.2	1.2	0.8	1.6	1.2	1.3	1.1	1.7	1.4
Nitrate-Nitrite (lbs) Total Monthly	16938	11016	9599	6394	5437	4146	6195	4639	7539	6517	10414	8933

Total Nitrogen (mg/L) Average Monthly	4.0	3.2	3.3	3.0	3.3	2.7	3.4	3.6	3.5	2.8	3.2	2.7
Total Nitrogen (lbs) Effluent Net Total Monthly	25403	17114	15239	12709	12305	2555	9910	9287	16390	14170	16355	14920
Total Nitrogen (lbs) Total Monthly	27631	19830	17966	16247	15477	13411	13408	14036	19518	16327	19628	16912
Total Nitrogen (lbs) Effluent Net Total Annual					145748							
Total Nitrogen (lbs) Total Annual					186664							
Ammonia (mg/L) Average Monthly	1.0	0.9	0.7	0.9	0.8	1.0	0.5	1.2	1.4	0.9	1.1	0.9
Ammonia (lbs) Total Monthly	6944	5995	4073	4685	3075	4208	2059	4418	6815	5195	6529	5320
Ammonia (lbs) Total Annual					65681							
TKN (mg/L) Average Monthly	1.6	1.5	1.5	1.8	2.1	1.9	1.9	3.6	2.2	1.7	1.5	1.3
TKN (lbs) Total Monthly	10693	8814	8324	9853	10041	9265	7213	9397	11979	9810	8889	7858
Total Phosphorus (mg/L) Average Monthly	0.6	0.4	0.5	0.4	0.5	0.7	0.6	0.8	0.9	0.7	0.5	0.6
Total Phosphorus (lbs) Effluent Net Total Monthly	3835	2718	2514	2045	2057	10243	2830	3067	4467	4256	2780	3766
Total Phosphorus (lbs) Total Monthly	3835	2718	2514	2045	2057	2555	2830	3067	4467	4256	2780	3766
Total Phosphorus (lbs) Effluent Net Total Annual					42324							
Total Phosphorus (lbs) Total Annual					42324							

Compliance History

Inspection Reports:

SITE NAME	INSP PROGRAM	INSP ID	INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	INSPECTOR ID	INSPECTOR	# OF VIOLATIONS
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3207115	01/24/2022	Combined Sewer Overflow-Non-Sampling	No Violations Noted	00513336	LACZI, CHRIS	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3081987	01/13/2022	Compliance Evaluation	Violation(s) Noted	00513336	LACZI, CHRIS	2
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3144154	06/02/2021	Administrative/File Review	No Violations Noted	00610365	CRAVEN, TIMOTHY	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3307360	05/20/2021	Biosolids Processor Admin/File Review	No Violations Noted	00610365	CRAVEN, TIMOTHY	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3311117	02/05/2021	Incident- Response to Accident or Event	No Violations Noted	00513336	LACZI, CHRIS	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3194706	12/07/2020	Compliance Evaluation	No Violations Noted	00513336	LACZI, CHRIS	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	2560687	09/18/2020	Compliance Evaluation	No Violations Noted	00610365	CRAVEN, TIMOTHY	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	3121267	02/03/2020	Administrative/File Review	No Violations Noted	00513336	LACZI, CHRIS	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	2684573	02/27/2019	Compliance Evaluation	No Violations Noted	00610365	CRAVEN, TIMOTHY	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	2844502	01/22/2018	Routine/Partial Inspection	No Violations Noted	00513336	LACZI, CHRIS	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	2845149	01/08/2018	Administrative/File Review	No Violations Noted	00610365	CRAVEN, TIMOTHY	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	2991263	05/30/2017	Administrative/File Review	No Violations Noted	00610365	CRAVEN, TIMOTHY	0
WYOMING VALLEY SANI AUTH WILKES BARRE	WPCNP	2618820	01/31/2017	Routine/Partial Inspection	Violation(s) Noted	00462913	INSALACO, SANDRA	1

Compliance History: No open violations per 2/2/2022 WMS query (open violation by client number).

Permit: PA0026107
Client ID: 78918
Client: All

Open Violations: 0

No data was found using the criteria entered. Please revise your choices and try again

Potential Compliance Issues:

- **2010 NPDES Permit No. PA0026107-A2 Requirements:**
  - **Part B.I.C.4.d**: The IUs with Pretreatment ELGs' identify total volume of discharges and estimated concentrations of each pollutant was to be submitted with the Annual Chapter 94 Reports, but no table found in 2019 or 2020 Chapter 94 Report.
  - **Part A.I (CSO Outfalls) required use of DEP "DMR for CSOs" Supplemental Form**: Besides Part A language, NPDES Permit Part C Eight IV.A (page 28) also specifies use of the DMR for CSOs form (with site retention for 5 years). Part C.I Eight VI (page 30) required submittal of "DMR for CSO" within 28 days of the end of month. The WVSA summary table might be a useful table, but the permit required the use of the old Supplemental Form.
    - The DEP DMR for CSOs Form information required reporting CSO discharge duration (in hours), total CSO flow per discharge (MG with method of determination, whether observed/estimated, model/empirical calculation or measured by calibrated flow meter).
      - They did not include available flow quantity/duration data from the CSOs with flow measurement (rotating or previously installed per last NPDES Permit Implementation

Schedule) or those which they were monitoring (by rotating flow meters) as described in the CSO section of this Addendum.
- They continuously monitor the Discharge Chambers via SCADA, and therefore should be able to report discharge duration by hour for each discharge.
- The DMR for CSOs Form specifies one report for each monitored overflow point and had individual comment section for each outfall/date to report comments on CSO regulator (Discharge Chamber)/CSO Outfall conditions, whether solids were removed, etc. They did not submit any CSO-specific report. Individual CSO point comments were not provided. They should have included about 50 DMRs for CSO forms unless they have written permission to use their own form instead.

- **CSO Annual Status Reports:** See Treatment Section for the 2019 and 2020 CSO Annual Status Report issues.
- **Hauled-In Wastewater (Residual and Municipal Waste) Reporting:** They were given the DEP Hauled-in Waste Supplemental forms in the 2010 NPDES Permit Amendment. Did not see completed forms for the two monitoring months looked at. Since they receive offsite sludges for incineration and monthly septage hauling, they should have completed and submitting those forms.
- **New Hauled Waste Receiving/Screening Facility (for screening, dewatering, and incineration)**: Did not find WQ permit in E-facts for such a plant change.

Development of Effluent Limitations

Outfall No.	059 and 060	**Design Flow (MGD)**	0
Latitude	41º 14' 5.00" (059) 41º 14' 6.00" (060)	**Longitude**	-75º 56' 20.00" (059) -75º 56' 43.00" (060)

Wastewater Description: Stormwater associated with Industrial Activities

Permit Limits and/or Monitoring Requirements: Changes from 2017 Draft NPDES Permit Bolded

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
BOD5	**Report**	**IMAX**	**Replaced CBOD5 monitoring as IW stormwater monitoring requirement with PAG-03 benchmark (with BOD5 accounting for nitrogenous loading). Statewide PAG-03 Best Professional Judgment (BPJ) benchmark value incorporated. Potential for peak wet weather flow-caused overflows onsite.** Application data: 8 mg/l BOD5 (060)
COD	Report	**IMAX**	**Statewide PAG-03 Best Professional Judgment (BPJ) benchmark value incorporated. Potential for peak wet weather flow-caused overflows onsite.** Application data: 56 mg/l COD (60)
TSS	Report	**IMAX**	**Statewide PAG-03 Best Professional Judgment (BPJ) benchmark value incorporated. Potential for peak wet weather flow-caused overflows onsite and/or ash releases.** Application data: 32 mg/l TSS (060)
TKN	Report	**IMAX**	Existing Monitoring requirement to ballpark nutrient impacts (Chesapeake Bay facility). Application data: 1.56 mg/l TKN (060) and 1.18 mg/l Nitrate-Nitrite as N (060)
Total Iron	**Report**	**IMAX**	**Replaced existing Dissolved iron monitoring. PAG-03 Appendix H (steam electric plant) parameter and TMDL constituent of interest**
pH	**6.0 – 9.0 SU**	**Inst. Min - IMAX**	**Chapter 95.2 regulatory requirement being incorporated into the permit. PAG-03 Appendix H parameter.** Application data: **5.93 SU (060)**
Oil & Grease	**30.0**	**IMAX**	**Chapter 95.2 regulatory requirement being incorporated into the permit. PAG-03 Appendix H parameter.** Application data: <1.40 mg/l (060)

Total Phosphorus	Report	**IMAX**	Existing Monitoring requirement to ballpark nutrient impacts (Chesapeake Bay facility). Application data: 0.18 mg/l (060)
Other AMD metals (Aluminum, Manganese)	-	-	Not needed as Total Iron would be an indicator for any AMD drainage in the IW Stormwater. Application data: No data

Comments:

- Semi-annual sampling requirement minimum is current requirement.
- 2012 NPDES Application form Attachment 4C Drawing indicated:
    - There are treatment trains in both stormwater drainage areas, so monitoring is required for both.
    - Drainage Area 1 discharges to the Susquehanna River. It includes the administrative buildings, main pump station, dewatering building, furnace building, chlorine building, chlorine contact tank, Existing Primary Treatment Tanks (reused for peak wet weather flows), Train No. 1 with blow building No, 1).
    - Drainage Area 2 discharges to the Hanover Township Municipal System (ultimately to Susquehanna River). It includes remainder of Treatment Plant including headworks, lab, ash lagoons, other Treatment Trains, blower building No. 2.
- **New Site-specific Stormwater BMPs: All tanks have secondary containment walls (identified site BMP).** Due to the onsite sewage incinerator (fluidized bed) and onsite Ash storage impoundments, this permit incorporated additional site-specific stormwater BMPs:
    - IW Stormwater PAG-03 Appendix H (STEAM ELECTRIC GENERATING FACILITIES) ash-related BMPs have been incorporated into this permit.
    - The PADEP Air Quality Program Permits/approvals are incorporated by reference.'
    - The PADEP Chapter 299 (RSW storage and transportation) regulations are incorporated by reference.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 32.0 (NPDES Permit basis flow, with 50.0 MGD wet weather hydraulic capacity)
Latitude 41º 14' 7.00" **Longitude** -75º 56' 45.00"
Wastewater Description: Sewage Effluent

Permit Limits and Monitoring: Changes From 2017 Draft NPDES Permit Bolded

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
CBOD5	10,425 Lbs/d 16,680 Lbs/d 25**.0** 40**.0** 50**.0**	Monthly Average Weekly Average Monthly Average Weekly Average IMAX	Existing Technology limit (Chapter 92a.47) supported by water quality modeling. **Significant digit added.** Application data: 20 mg/l max and 9 mg/l average (365 samples)
TSS	12,510 Lbs/d 18,765 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: 10 mg/l max and 7 mg/l average (365 samples)
pH	6.0 – 9.0 SU	**Inst.** Min - IMAX	Existing Technology limit (Chapter 92a.47) Application data: 6.26 – 7.16 SU (365 samples)
Dissolved Oxygen (DO)	5.0	**Inst.** Minimum	No change from Draft NPDES Permit, which was based on protection WWF receiving stream. Updated water quality modeling confirmed limit remain protective. Application Data: 9.72 mg/l max (365 samples)
Fecal Coliform (5/1 – 9/30)	200/100 ml **1,000/100 ml**	Geo Mean **IMAX**	Existing Technology limit (Chapter 92a.47) **with IMAX added per reg. Previous Fact Sheet noted IMAX limit which was apparently omitted from Draft NPDES permit by mistake.** Application Data: 4800/100 ml max and 188/100 ml max monthly average (365 samples)
Fecal Coliform (10/1 – 4/30)	2,000/100 ml **10,000 ml/100 ml**	Geo Mean **IMAX**	See above
Total Residual Chlorine (TRC) **Effective in 3 years**	**0.07** **0.24**	Monthly Average IMAX	**New WQBEL per water quality modeling (TRC Spreadsheet) superseding old TBEL. Old Limits in effect for 3 years (0.50 mg/l monthly average and 1.20 mg/l IMAX) in case additional facility upgrades are required to address toxics.** Application Information: **0.36 mg/l max (365 samples) and 0.21 mg/l max monthly average**. EDMR data: **0.1 – 0.2 mg/l monthly average**; 0.22 – **0.45 mg/l IMAX**

Ammonia-Nitrogen	**Report Lbs/d** **Report Lbs/d** 25.**0** 40.**0** 50.**0**	**Monthly Average** **Daily Max** Monthly Average Weekly Average IMAX	No change from Draft NPDES Permit. Updated water quality modeling showed proposed limits were protective**.** Application Information: 3.13 mg/l max (125 samples). EDMR Data: 0.5 – 1.4 mg/l monthly average
Total Nitrogen (Nitrate-N + Nitrite-N + TKN measured in same sample)	584,467 lbs Report Lbs/day Report Report	Net Total Annual Monthly Average Monthly Average Daily Max	Existing Chesapeake Bay mass limits and CB monitoring requirements. Application Information: Total Nitrogen: 5.10 mg/l max and 3.6 mg/l max monthly average (115 samples) Nitrate-Nitrogen: 4.37 mg/l max and 1.8 mg/l max monthly average (115 samples) TKN: 3.8 mg/ max and 3.6 mg/l max monthly average (115 samples).
Total Phosphorus	77,929 lbs Report Lbs/day Report Report	Net Total Annual Monthly Average Monthly Average Daily Max	Existing Chesapeake Bay mass limits and CB monitoring requirements. Application Information: 1.8 mg/l max and 0.9 mg/l max monthly average (52 samples)
Nitrate as N	Report Lbs/day Report Report	Monthly Average Monthly Average Daily Max	See above
Nitrite as N	Report Lbs/day Report Report	Monthly Average Monthly Average Daily Max	See above
Total Kjehldahl Nitrogen (TKN)	Report Lbs/day Report Lbs/day Report Report	Monthly Average Daily Max Monthly Average Daily Max	See above
CBOD5 Minimum Reduction	**85%**	**Minimum Monthly Average**	**Reporting of Chapter 92a.47 requirement.** 2010 NPDES Permit Amendment specified CBOD5 and TSS removal**.**
TSS Minimum Reduction	**85%**	**Minimum Monthly Average**	**See above**
TMDL Metal (Total Iron)	**Report Lbs/day** **Report Lbs/day** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Minimum monitoring to gather data for updating Susquehanna River Watershed TMDL (AMD), need to quantify CSO loadings, and Chapter 92a.61. Monthly monitoring for Total Iron due to potential spiking (AMD-contaminated I&I, IU sources)** Application Data: Total Iron: 212 ug/l max (3 samples); 117 ug/l in original application.
TMDL Metals (Aluminum, and Manganese)	**Report Lbs/day** **Report Lbs/day** **Report** **Report**	**Semi-Annual Average** **Daily Max** **Semi-Annual Average** **Daily Max**	**Minimum monitoring to gather data for updating Susquehanna River Watershed TMDL (AMD), need to quantify CSO loadings, and Chapter 92a.61. Monthly monitoring for Total Iron due to potential spiking. Semi-annual monitoring for Aluminum and Manganese.** Application Data: Aluminum: 21.0 ug/l max (3 samples); 42.3 ug/l max in original application.

			Manganese: 195 ug/l max (3 samples); 132 ug/l max in original application. Total Iron: 212 ug/l max (3 samples); 117 ug/l in original application.
Cadmium, Total (final limits, effective in 3 years)	**0.28 Lbs/day 0.43 Lbs/day 1.04 ug/l 1.62 ug/l 2.60 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects at insensitive QL level (1 ug/l).** DEP Target QL is 0.2 ug/l.
Copper, Total	**Report Lbs/day Report Lbs/day Report Report**	**Monthly Average Daily Max Monthly Average Daily Max**	**Monitoring is required per Reasonable Potential Analysis.** Application data: 3.9 ug/l max (3 samples)
Free Cyanide	**Report Lbs/day Report Lbs/day Report Report**	**Monthly Average Daily Max Monthly Average Daily Max**	**Monitoring is required per Reasonable Potential Analysis. Potential for spiking due to IUs.** Application data: **No Outfall No. 001 data in 2012, 2017, and 2021 sampling data.**
Hexavalent Chromium (final limits, effective in 3 years)	**4.35 Lbs/day 6.34 Lbs/day 16.3 ug/l 23.8 ug/l 23.8 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: 33.0 ug/l max (1 sample ND).
Silver, Total	**Report Lbs/day Report Lbs/day Report Report**	**Monthly Average Daily Max Monthly Average Daily Max**	**Monitoring is required per Reasonable Potential Analysis.** Application data: 3 non-detects at insensitive QL (5 ug/l). DEP Target QL is 0.4 ug/l.
Zinc, Total	**Report Lbs/day Report Lbs/day Report Report**	**Monthly Average Daily Max Monthly Average Daily Max**	**Monitoring is required per Reasonable Potential Analysis.** Application data: 34.4 ug/l max of 3 samples; 47 ug/l max in original application.
Acrolein (final limits, effective in 3 years)	**0.80 Lbs/day 1.17 Lbs/day 3.0 ug/l 4.38 ug/l 4.38 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects at insensitive QL level (5 ug/l).** DEP Target QL is 2.0 ug/l.
Vinyl Chloride (final limits, effective in 3 years)	**0.079 Lbs/day 0.12 Lbs/day 0.30 ug/l 0.46 ug/l 0.74 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects at insensitive QL level (1 ug/l).** DEP Target QL is 0.5 ug/l. **WQBELs below QL condition needed.**
1,3-Dichloropropylene (final limits, effective in 3 years)	**1.07 Lbs/day 1.66 Lbs/day 4.0 ug/l 6.24 ug/l 9.99 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects at insensitive QL level (2 ug/l).** DEP Target QL is 0.5 ug/l.
1,1,2,2-Tetrachloroethane	**Report Lbs/day Report Lbs/day Report Report**	**Monthly Average Daily Max Monthly Average Daily Max**	**Monitoring is required per Reasonable Potential Analysis.** Application data: **Two ND at insensitive ND concentration (1.000 ug/l), missing third sample. DEP Target QL is 0.5 ug/l.**

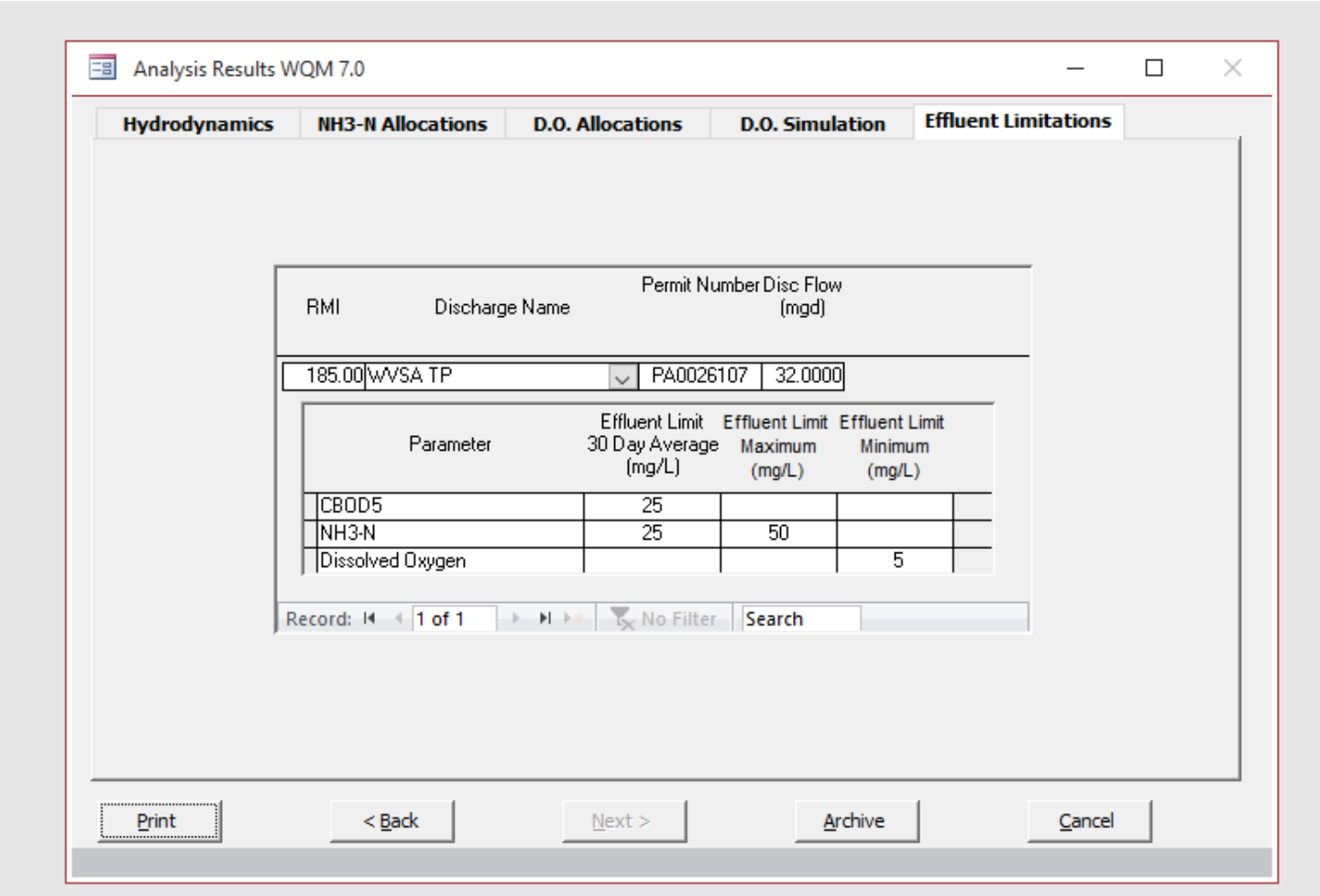
2,6-Dinitrotoluene (final limits, effective in 3 years)	**0.20 Lbs/day 0.31 Lbs/day 0.74 ug/l 1.15 ug/l 1.85 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: 0.68 ug/l max (3 samples). **DEP Target QL is 5.0 ug/l. WQBELs below QL condition needed.**
Hexachlorobutadiene (final limits, effective in 3 years)	**0.04 Lbs/day 0.062 Lbs/day 0.15 ug/l 0.23 ug/l 0.37 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects at insensitive QL level (1.1 ug/l).** DEP Target QL is 0.5 ug/l. **WQBELs below QL condition needed.**
1,2,4-Trichlorobenzene (final limits, effective in 3 years)	**0.078 Lbs/day 0.120 Lbs/day 0.29 ug/l 0.46 ug/l 0.73 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects at insensitive QL level (1.1 ug/l).** DEP Target QL is 0.5 ug/l. **WQBELs below QL condition needed.**
Alpha-BHC (final limits, effective in 3 years)	**0.002 Lbs/day 0.002 Lbs/day 0.006 ug/l 0.009 ug/l 0.015 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: 0.011 max (3 samples) with 0.025 ug/l QL. **DEP Target QL is 0.05 ug/l. WQBELs below QL condition needed.**
4,4-DDT (final limits, effective in 3 years)	**0.0001 Lbs/day 0.0002 Lbs/day 0.0004 ug/l 0.0007 ug/l 0.0010 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects** at different QLs (0.051 or 0.049 ug/l). DEP Target QL is 0.05 ug/l. **They were above the DEP QL in 2 out of 3 tests. WQBELs below QL condition needed.**
4,4-DDE (final limits, effective in 3 years)	**0.00008 Lbs/day 0.00010 Lbs/day 0.0003 ug/l 0.0005 ug/l 0.0007 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects** at different QLs (0.051 or 0.049 ug/l). DEP Target QL is 0.05 ug/l. **They were above the DEP QL in 2 out of 3 tests. WQBELs below QL condition needed.**
4,4-DDD (final limits, effective in 3 years)	**0.0004 Lbs/day 0.0006 Lbs/day 0.001 ug/l 0.002 ug/l 0.004 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects** at different QLs (0.051 or 0.049 ug/l). DEP Target QL is 0.05 ug/l. **They were above the DEP QL in 2 out of 3 tests. WQBELs below QL condition needed.**
Dieldrin (final limits, effective in 3 years)	**0.000004 Lbs/day 0.000006 Lbs/day 0.00001 ug/l 0.00002 ug/l 0.00004 ug/l**	**Monthly Average Daily Max Monthly Average Daily Max IMAX**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects** at different QLs (0.051 or 0.049 ug/l). DEP Target QL is 0.05 ug/l. **They were above the DEP QL in 2 out of 3 tests. WQBELs below QL condition needed.**

Endrin **(final limits, effective in 3 years)**	**0.023 Lbs/day** **0.033 Lbs/day** **0.086 ug/l** **0.130 ug/l** **0.0130 ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**New permit limits per Reasonable Potential Analysis with interim monitoring for 3 years.** Application data: **3 non-detects** at different QLs (0.051 or 0.049 ug/l). DEP Target QL is 0.05 ug/l. **They were above the DEP QL in 2 out of 3 tests.**

Comments:

- **Outfall No. 001**: WVSA noted it discharges to the River through a 3-port discharge rather than a single point. Water Quality modeling assumed 1 discharge point on the River. The Authority can further address this 3-port discharge via the Part C.VIII (WQBELs for Toxic Pollutants) site-specific data collection.
- **Updated Application Sampling Data**: The original 2012 application submittal only included Pollutant Table 1, The 3/2/2017 DEP (Phil Amico, then assigned reviewer) informed WVSA that Pollutant Group Tables 1 through 6 had to be completed, and noted the need to meet DEP Target Quantitation Limits. The 2017 sampling data included insensitive ND levels such as <0.05 mg/l Total Cyanide. The Department subsequently asked for updated sampling data in 2021, which was received 12/8/2021 and used in the updated Reasonable Potential Analysis.
- **Bypass Sampling**: NPDES Permit Part C.III allows for bypassing of secondary treatment during >50 MGD flows, with the facility indicating it can receive 115 MGD peak instantaneous wet weather flows. The Redraft NPDES Permit Part A.I Additional Requirements section clarifies minimum bypassing sampling requirements during internal plant bypassing.
- **CBOD5 and TSS Mass Loadings**: Based on 50 MGD wet weather capacity per previous NPDES permitting.

Updated Water Quality Modeling for Ammonia: The Chapter 93 Ammonia-N Water Quality Criteria was recently revised, and updated modeling addressed the new Chapter 93 Ammonia Water Quality Criteria, the warmer in-stream temperature (25 °C) for the Warm Water Fishery (WWF), and revised Q7-10 low flow. The Draft limits were protective.



Reasonable Potential Analysis: See Toxic Management Screen output. The TMS replaced previous DEP PENTOXSD modeling and incorporated available site-specific information and 2021 updated analytical data.

- **AMD Metals (Total Aluminum, Manganese and Total Iron)**: In addition to the TMS recommendations, the River is subject to the Susquehanna River TMDL, with evidence of AMD metal in the wastewater but no quantification in terms of CSO discharges (with potential AMD-impacts). Semi-annual monitoring will be required for Aluminum and Manganese. Monthly monitoring will be required for Total Iron due to potential spiking due to AMD-impacted groundwater I&I and IUs, and to act as indicator for the other AMD metals.
- **Free Cyanide**: No Outfall No. 001 sampling data was provided (in 2012, 2017, and 2021 submittals). Potential IU sources. Monitoring will be required in this permit term.
- **Industrial User Background Sampling**: Known IUs include metal finishers (40 CFR 433 Subpart A), electroplaters (40 CFR 413 Subpart A – Reilly Finishing Technologies in 2012 NPDES Permit application reclassified as under Part 433 in the 2021 Application), plastic film recycler, paperback publisher, breweries, food companies (potato chip manufacturer), water purification service, etc. Service area include hospitals and dental offices. **Spiking of ELG constituents and other metals with potential pass-through or interference impacts is possible.**
    - 2012 and 2021 submitted Sampling Data: The Authority did optional background sampling for some of its IUs, but did not identify sampling date or flow during sampling. The analyses indicated the presence of some metals and organic chemicals in the IU discharges to the WVSA. DEP Target QLs were not met for all parameters (<0.100 mg/l Free Cyanide MDL for example). Some detected non-ELG concentration levels were relatively high (0.38 mg/l TRC; 5.2 mg/l Aluminum; 8.660 mg/l Napthalene; 217 mg/l & 15.1 mg/l Total Iron; 4.92 mg/l Dissolved Iron; etc.). A number of the IUs were subject to the following Pretreatment ELGs:
        - 40 CFR Part 413 Subpart A PSES Pretreatment ELG: Total Cyanide, Copper, Total Chromium, Cadmium Lead, Nickel, Zinc, Total metals, TTO. EPA Guidance documents note that Part 433

applies instead to some electroplaters, with the 2021 Application indicting that is the case for Reilly (which was noted to be an electroplater under Part 413 in 2012 NPDES Permit Application).

  - 40 CFR Part 433 Subpart A PSES Pretreatment ELG: Total Cyanide, Copper, Total Chromium, Cadmium Lead, Nickel, Silver, Zinc, TTO. Reilly had 10.8 mg/l Zinc, exceeding the 2.61 mg/l daily max limit. General Dynamics had 7.0 mg/l Zinc. KMS had 3.1 mg/l Zinc.

- **2021 WWTP Influent Sampling Data (no date on sampling event)**: Shows evidence of either use of AMD-impacted source water usage or AMD-impacted I&I, and chlorine residuals (with no apparent plant source per the 2021 Schematic of Wastewater Flow drawing).
  - Aluminum: 320 ug/l (1 sample)
  - Total Iron: 194 ug/l (1 sample)
  - Dissolved Iron: 721 ug/l (1 sample)
  - Manganese: 221 ug/l (1 sample)
  - Total Residual Chlorine: 0.09 ug/l (1 sample)
  - Chloroform: 2.53 ug/l (1 sample)
  - Chlorodibromomethane: 0.9259 ug/l (1 sample)
  - Dichlorobromomethane: 0.3587 ug/l (1 sample)

☑ ***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 Cadmium	0.28	0.43	1.04	1.62	2.6	µg/L	1.04	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	4.35	6.34	16.3	23.8	23.8	µg/L	16.3	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	12.4	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	3.02	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	107	AFC	Discharge Conc > 10% WQBEL (no RP)
Acrolein	0.8	1.17	3.0	4.38	4.38	µg/L	3.0	AFC	Discharge Conc ≥ 50% WQBEL (RP)
1,3-Dichloropropylene	1.07	1.66	4.0	6.24	9.99	µg/L	4.0	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,1,2,2-Tetrachloroethane	Report	Report	Report	Report	Report	µg/L	2.96	CRL	Discharge Conc > 25% WQBEL (no RP)
Vinyl Chloride	0.079	0.12	0.3	0.46	0.74	µg/L	0.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
2,6-Dinitrotoluene	0.2	0.31	0.74	1.15	1.85	µg/L	0.74	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.04	0.062	0.15	0.23	0.37	µg/L	0.15	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,2,4-Trichlorobenzene	0.078	0.12	0.29	0.46	0.73	µg/L	0.29	THH	Discharge Conc ≥ 50% WQBEL (RP)
alpha-BHC	0.002	0.002	0.006	0.009	0.015	µg/L	0.006	CRL	Discharge Conc ≥ 50% WQBEL (RP)
4,4-DDT	0.0001	0.0002	0.0004	0.0007	0.001	µg/L	0.0004	CRL	Discharge Conc ≥ 50% WQBEL (RP)
4,4-DDE	0.00008	0.0001	0.0003	0.0005	0.0007	µg/L	0.0003	CRL	Discharge Conc ≥ 50% WQBEL (RP)
4,4-DDD	0.0004	0.0006	0.001	0.002	0.004	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Dieldrin	0.000004	0.000006	0.00001	0.00002	0.00004	µg/L	0.00001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Endrin	0.023	0.033	0.086	0.13	0.13	µg/L	0.086	AFC	Discharge Conc ≥ 50% WQBEL (RP)

TRC EVALUATION			
Input appropriate values in A3:A9 and D3:D9		Wyoming Valley Sewer Authority	
991	= Q stream (cfs)	0.5	= CV Daily
32	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	0.023	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.159	= 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 = 0.166	1.3.2.iii	WLA cfc = 1.001
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.062	5.1d	LTA_cfc = 0.582

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.076	AFC
		INST MAX LIMIT (mg/l) = 0.249	

WVSATMSPDF.pdf WVSAWQMModel.pdf

Whole Effluent Toxicity (WET)

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

X For the permit renewal application (4 tests).

Per Draft NPDES Permit Fact Sheet, the dilution series used for the tests was: 100%, 53%, 5.7%, 3.0%, and 1.5%. The Target Instream Waste Concentration (TIWC) used for analysis of the results was: 5.7%.

NOEC/LC50 Data Analysis: Summary of Four Most Recent Test Results: **From Draft NPDES Permit Fact Sheet (no additional WET Testing submitted):**

(

	***Ceriodaphnia* Results (% Effluent)**			***Pimephales* Results (% Effluent)**			
Test Date	**NOEC Survival**	**NOEC Reproduction**	**LC50**	**NOEC Survival**	**NOEC Growth**	**LC50**	**Pass? ***
5-22-12	100	100	100	100	100	100	Y
11-20-12	100	100	100	100	100	100	Y
1-22-13	100	100	100	100	100	100	Y
4-16-13	100	100	100	100	100	100	Y

Comments: Recalculating new Permit dilution ratios from updated Q7-10 value (991 CFS) and Prime Mixing Factors from TMS Spreadsheet (which incorporated site-specific stream data):

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

Acute Partial Mix Factor (PMFa): **0.023** Chronic Partial Mix Factor (PMFc): **0.159**

1. Determine IWC – Acute (IWCa):

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

[(32 MGD x 1.547) / ((991 cfs x 0.023) + (32 MGD x 1.547))] x 100 = TIWCa% = **68.79%**

Is IWCa < 1%? **NO**

Type of Test for Permit Renewal: Chronic

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

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

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

[(32 MGD x 1.547) / ((991 cfs x 0.159) + (32 MGD x 1.547))] x 100 = **TIWCc% = 24.17%**

3. Determine Dilution Series

Dilution Series = 100%, 62%, 24%, 12%, and 6%.

WET Limits: Has reasonable potential been determined? **NO.**

Additional CSO-related Information

Table 1 (Tributary CSS Systems)

(Per 2021 NPDES Permit Renewal Application update and 2019/2020 Chapter 94 Reports)

Trib Municipality with CSS & population	Flow Contribution	Separate Sewers	Combined Sewers	2019 EDUs	Trib System operated & maintained by WVSA?	Comment from Trib Report
Ashley (2790)	1.55%	5%	95%	1429 (95% is 1358)	No	See Hanover Twp. No Trib report found. WVSA provides services on a fee basis for limited collection system maintenance for up for 3-days/month.
Edwardsville Borough (4816)	2.55%	50%	50%	2838 (50% is 1419)	Yes	Chapter 94 Trib report claimed separated system only. 2009 CSO LTCP indicated predominately separated sewers. WVSA has taken over collection system maintenance by agreement.
Exeter Borough (5652)	2.69%	80%	20%	2950 (20% is 590)	Yes	2019 separation projects mentioned & others being considered. WVSA has taken over collection system maintenance by agreement.
Forty Fort Borough (4214)	2.38%	25%	75%	2261 (75% is 1696)	Yes	FF does normal maintenance and WVSA does cleaning and jetting upon request. 2009 CSO LTCP indicated predominately separated sewers. WVSA has taken over collection system maintenance by agreement.

Hanover Township (11,076)	5.71%	25%	75%	5984 (75% is 4488)	Yes	Conveys Ashley Borough, Warrior Run Borough, and Sugar Notch Borough flows plus Hanover Industrial Park WVSA has taken over collection system maintenance by agreement.
Hughestown Borough (1,392)	0.82%	5%	95%	698 (95% is 663)	No*	Referenced WVSA Report for IU information.
Kingston (13,182)	6.85%	80%	20%	7620 (20% is 1524)	Yes	2019 Trib Report not found in available copy. 2009 CSO LTCP indicated predominately separated sewers. WVSA has taken over collection system maintenance by agreement.
Larksville Borough (4,480)	2.22%	95%	5%	1902 (5% is 95)	No	2009 CSO LTCP indicated separated sewers. WVSA provides services on a fee basis for limited collection system maintenance for up for 3-days/month.
Nanticoke City (10,465)	5.79%	5%	95%	5755 (95% is 5647)	Yes	WVSA has taken over collection system maintenance by agreement.
Pittston City (7,739)	4.44%	20%	80%	4187 (80% is 3350)	Yes	2009 CSO LTCP also indicated West Pittson Borough as predominately combined sewers with reported CSO discharges. WVSA has taken over collection system maintenance by agreement.
Plains Township (9,961)	5.19%	90%	10%	6163 (10% is 62)	No	2009 CSO LTCP indicated

						separated sewers.
Plymouth Borough (5,921)	3.37%	80%	20%	3110 (20% is 622)	Yes	2009 CSO LTCP indicated separated sewers. WVSA has taken over collection system maintenance by agreement.
West Pittston Borough (4,868)	2.64%	10%	90%	2487 (90% is 2238)	Yes	2009 CSO LTCP indicated separated sewers. WVSA has taken over collection system maintenance by agreement.
Wilkes-Barre City (41,498)	22.47%	50%	50%	22955 (50% is 11478)	Yes	They indicate WVSA assists in maintenance done by City or contractors. WVSA has taken over collection system maintenance by agreement.
Wilkes-Barre Township (2,967)	1.69%	20%	80%	3089 (80% is 2472)	No*	WVSA provides services on a fee basis for limited collection system maintenance for up for 3-days/month.
Wyoming (3,073)	1.54%	25%	75%	No data	Yes	WVSA has taken over collection system maintenance by agreement.
Total	~72%	-	-	73,346 EDUs plus Wyoming contribution (~37,602 EDUs plus Wyoming contribution from CSS areas)	-	-
WVSA including Separated Sewer System sewer sheds	100%	-	-	99,952 Existing EDUs, 3.5 persons/EDU**	-	**-**

*Fee for Service Agreement Contract only.

**At 100 GPCD DWFM standard assumption, the WWTP would be expected to receive: 34.9832 MGD. At the standard 250 GPD/EDU: 24.988 MGD. The facility discharged 33.9 MGD ADF in 2018, 27.1 MGD ADF in 2019, and 21.1 MGD ADF in 2020. The highest monthly discharge in 2020 was February (25.6 MGD) per the 2021 NPDES Permit Application update. See EDMR section for recent daily max effluent discharge range.

Table 2 (Active Combined Sewer Overflows Information: some conflicting information bolded)

No.	LOCATION	DC No.	LATITUDE	LONGITUDE	RECEIVING WATER	LTCP Update Information (relative frequency of discharge; drainage area in Square Miles; and # overflows in 2020)
002	End of Delaney Street Hanover Township	1	41°14'26"	75°56'05"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Active, but requires heavy rain 2.464 11 overflows
003	Wilkes-Barre D&H Railroad Bridge (PS-14, two 3,500 GPM at 28 Feet TDH), near Barney Farms	2	41°14'45"	75°54'49"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 1.445 49 overflows
004	Old River Road Wilkes-Barre (next to PS-13, two 2,000 GPM @ 23 Feet TDH)	3	41°14'46"	75°54'04"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.543 33 overflows
005	Ross Street Wilkes-Barre (PS-12, two 5,500 GPM @ 23 Feet TDH)	4	41°14'41"	75°53'37"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Separated 0.655 2 overflows (possible SSOs if separated by then)
006	Market Street Wilkes-Barre (just downstream of PS #11)	5	41°14'53"	75°53'04"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.5625 51 overflows
007	Union Street Wilkes-Barre (near PS-10, two 5,500 GPM @ 23 Feet TDH)	6	41°15'02"	75°52'53"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.520 54 overflows
008	North Street Wilkes-Barre (behind Court House)	7	41°15'09"	75°52'44"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.091 1 overflow
009	Courtright Street Wilkes-Barre	8	41°15'21"	75°52'19"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Active 0.03 Zero overflows
010	North River Street Wilkes-Barre (River & Chestnut) (**inside or next to** PS #9)	9	41°15'34"	75°52'07"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.016 Zero overflows

No.	LOCATION	DC No.	LATITUDE	LONGITUDE	RECEIVING WATER	LTCP Update Information (relative frequency of discharge; drainage area in Square Miles; and # overflows in 2020)
011	**Mill Creek Wilkes-Barre along Juniper Street next to PS #9 per LTCP Update;** (inside PS-10, two 5,500 GPM @ 23 Feet TDH)	10	41°15'35"	75°51'59"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Active 0.693 12 overflows
012	Wilkes-Barre City Cemetery River Street (inside cemetery)	11	41°15'22"	75°52'15"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Active 0.43 28 overflows
013	Church Street Kingston Borough (next to PS-7, two 3,800 GPM @ 65 Feet TDH)	12	41°15'43"	75°52'32"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 1.301 27 overflows
015	Sullivan Street Forty Fort (Across from Turkey Hill in Forty Fort Cemetery north corner)	14	41°17'03"	75°52'16"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.186 12 overflows
016	Wyoming Avenue Wyoming Borough (PS-5, two 2,200 GPM @ 82 Feet TDH) near Wyoming Monument	15	41°18'18"	75°50'30"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.098 9 overflows
017	Seventh Street Wyoming Borough	16	41°18'31"	75°49'50"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.107 6 overflows
018	Schooley Street Exeter Borough (PS-4, two 1,200 GPM @ 90 Feet TDH)	17	41°19'08"	75°49'05"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.511 46 overflows
019	River Street West Pittston Borough (near PS-3, two 1,750 GPM @ 100 Feet TDH)	18	41°19'24"	75°48'05"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.125 31 overflows

No.	LOCATION	DC No.	LATITUDE	LONGITUDE	RECEIVING WATER	LTCP Update Information
020	Wilkern Street next to PS-11 per LTCP Update West Pittston Borough (PS-1, two 370 GPM @ 52 Feet TDH)	19	41°20'24"	75°48'08"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.107 36 overflows
021	Carpenters Creek Exeter Borough (PS-1A (on Dike levee), two 231 GPM @ 25 Feet TDH)	20	41°20'28"	75°48'14"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.053 4 overflows
022	Near Jefkin & Loomis Street Nanticoke (Kosciuszko Street)	21	41°12'24"	75°59'40"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.09375 Zero overflows
023	College Street (near Main and Railroad Streets) Nanticoke (Armory)	22	41°12'23"	75°59'45"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.136 23 overflows
024	Near Arch and Railroad Streets Nanticoke (Beer Distributor)	23	41°12'27"	76°00'11"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.111 9 overflows Solids netting
025	Walnut Street Nanticoke (north of PS-17, two 2,000 GPM @ 65 Feet TDH)	24	41°12'32"	76°00'28"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.202 13 overflows
026	River Street Nanticoke (Honey Pot (Hill))	25	41°12'48"	76°00'31"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.091 4 overflows
028	Willow Street Nanticoke (Honey Pot (River)) downriver of PS-16	27	41°12'55"	76°00'44"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.32 **2 overflows**
029	Intersection of Meade and East Grand Streets Nanticoke (Grand & Meade)	28	41°12'09"	75°59'13"	Espy Run 4 feet wide, 1 foot deep at low flow	Most active 0.191 42 overflows Solids netting
030	Kosciuszko & Grant Street Nanticoke (Kosciuszko St. (Guiderail)	29	41°11'50"	75°59'19"	Espy Run 5 feet wide, 1 foot deep at low flow	Least active 0.12 9 overflows
031	Espy & Jones Street Nanticoke (Middle Road (Larmel Inn))	30	41°11'21"	75°59'20"	Espy Run 6 feet wide, 1 foot deep at low flow	Least active 0.268 14 overflows
032	West Main Street Nanticoke near Turkey Hill (Front PS-19, two 1,000 GPM @ 137 Feet TDH))	31	41°11'50"	76°00'44"	South Branch Newport Creek (AKA Forge Creek in prior NPDES Permit) 12 feet wide, 1 foot deep at low flow	Active 0.211 17 overflows

033	Union Street Nanticoke (W. Union)	32	41°11’42”	76°00’37”	South Branch Newport Creek (AKA Forge Creek in prior NPDES Permit) 12 feet wide, 1 foot deep at low flow	Most active 0.21 28 overflows Solids netting
034	West Grand Street Nanticoke (Parking Lot – Off Legget)	33	41°11’38”	76°00’37”	South Branch Newport Creek (AKA Forge Creek in prior NPDES Permit) 12 feet wide; 1 foot deep at low flow	Most active 0.0969 31 overflows Solids netting
035	Located just off San Souci Parkway between PS-20 and trailer park per LTCP Update. Warrior Run Hanover Township (Trailer Park)	34	41°12’38”	75°57’26”	Warrior Creek 20 feet wide, 2 feet deep at low flow	Most active 0.83 31 overflows Solids netting
036	Hanover Green Hanover Township along San Souci Highway (Across from PS-20, two 1,400 GPM @ 80 GPM)	35	41°12’40”	75°57’52”	Warrior Creek 15 feet wide, 1 foot deep at low flow	Least active 0.233 2 overflows
037	Hanover Township (near Middle Road just south of Dundee Rd (Larmel Inn), Lower Askam	36	41°11’56”	75°57’50”	Nanticoke Creek 5 feet wide, 1 foot deep at low flow	Least active 0.085 6 overflows
038	Laurel Line Creek Pittston City (on River bank) (Behind Coopers Seafood, adjacent to mine tunnel outlet structure)	37	41°19’19”	75°47’44”	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 2.816 70 overflows Solids netting
039	Cron Street Pittston (just upriver of PS-2, two 3,900 GPM @ 120 Feet TDH)	38	41°19’32”	75°47’21”	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.006 33 overflows
040	Mill Street Pittston – under bridge (just upriver of PS-2, two 3,900 GPM @ 120 Feet TDH)	39	41°19’35”	75°47’19”	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.008 46 overflows
042	Lambert Street Pittston City (Tracks (Between Bldgs))	41	41°19’45”	75°47’15”	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.048 43 overflows Solids netting
043	Panama Street on River bank Pittston City (Down over Tracks)	42	41°19’54”	75°47’12”	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.734 55 overflows Solids netting

No.	LOCATION	DC No.	LATITUDE	LONGITUDE	RECEIVING WATER	LTCP Update prioritization based on frequency
044	Near Main & Union Streets Pittston (Railroad Yard)	43	41°20'29"	75°47'06"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.156 37 overflows
045	Loveland Avenue Edwardsville Borough or Kingston (PS-8, two 5,600 GPM @ 49 Feet TDH)	44	41°15'11"	75°54'03"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.297 5 overflows
046	Woodward Street Edwardsville Borough (behind Lowes)	45	41°15'36"	75°54'20"	Toby Creek 5 feet wide, 1 foot deep at low flow	Active 0.355 15 overflows Solids netting
049	Ferry Street at toe of dike Plymouth Borough (Old Carey Ave Bridge)	48	41°14'41"	75°56'10"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Active 0.53 24 overflows Solids netting
051	Near Wadhams Creek adjacent to Federal Pump Station Plymouth Borough	50	41°14'08"	75°57'11"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active 0.236 24 overflows
052	Near Hicks Creek **West Pittston** (Route 92 PS-1A, two 231 GPM @ 25 Feet TDH)	51	41°20'28"	75°48'19"	Hicks Creek 5 feet wide, 1 foot deep at low flow	Most active 0.035 40 overflows Solids netting
053*	Combined Sewage Primary Treatment Plant Overflow	--	41°14'11"	75°56'44"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Zero overflows
054	Plymouth – near Breslau Bridge Plymouth Borough (PS-15, two 220 GPM @ 38 Feet TDH)	49A	41°14'19"	75°56'44"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.361 2 overflows
055	Susquehanna Avenue @ Armory **West Pittston**	52	41°19'22"	75°48'03"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active 0.083 5 overflows
056	Susquehanna Avenue, near the Water Street Bridge **West Pittston** @ Delaware Avenue	53	41°19'27"	75°47'48"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active Undefined Zero overflows
057	Susquehanna Avenue **West Pittston** @ Luzerne Avenue (Bridge)	54	41°19'36"	75°47'37"	Susquehanna River 700 feet wide, 6 feet deep at low flow	Most active Undefined 43 overflows Solids netting

058	Susquehanna Avenue near York and Linden Streets **West Pittston** @ York & Linden	55	41°19’51”	75°47’32”	Susquehanna River 700 feet wide, 6 feet deep at low flow	Least active Undefined 6 overflows Solids netting

*See Part C, Special Conditions (CSO bypassing and etc.) for other requirements pertaining to Point Source 053.

Table 3 (2021 LTCP Update Yearly Summary of CSO Discharge Data 2014 - 2020)

DC	Data	Proposed WVSA Tier and Other information
1	2015 (Oct – December): 1 discharge, 105,000 gallons 2016 (Jan – December): 3 discharges, 677,000 gallons 2017 (Jan – August): 17 discharges, 19,128,000 gallons	Tier 3 11 discharges in 2020
3	2020 (Sept – Dec): 8 discharges, 6,171,000 gallons	Tier 3 33 discharges in 2020
5	No flow monitoring data provided, but flow measurement provisions installed per NPDES Permit Amendment LTCP schedule.	Tier 3 51 discharges in 2020
6	No flow monitoring data provided, but flow measurement provisions installed per NPDES Permit Amendment LTCP schedule.	Tier 3 54 discharges in 2020
7	2017 (August - December): 2 discharges, 19,000 gallons 2018 (Jan – March): 5 discharges, 284,000 gallons	Tier 2 1 discharge in 2020
8	2019 (Jan – December): 47 discharges, 3,645,000 gallons 2020 (Jan - July): 20 discharges, 825,000 gallons	Tier 1 Zero discharges in 2020 **(conflicting information*)**
11	2014 (Oct – December): 3 discharges, 40,000 gallons 2015 (Jan – May): 7 discharges, 31,000 gallons	Tier 1 28 discharges in 2020
12	2014 (Oct – December): 1 discharge, 286,000 gallons 2015 (Jan – May): 3 discharges, 577,000 gallons	Tier 3 27 discharges in 2020
15	2014 (Oct – December): 2 discharges, 113,000 gallons 2015 (Jan – May): 4 discharges, 387,000 gallons	Tier 1 9 discharges in 2020
16	2017 (August - December): 2 discharges, 1,000 gallons 2018 (Jan – March): 1 discharge, 259,000 gallons	Tier 1 6 discharges in 2020
18	2019 (Jan – December): 66 discharges, 38,391,000 gallons 2020 (Jan - July): 21 discharges, 13,065,000 gallons	Tier 3 31 discharges in 2020
21	2015 (Oct – December): 1 discharge, 3,000 gallons 2016 (Jan – December): Zero discharge 2017 (Jan – July): Zero discharge	Tier 1 Zero discharges in 2020
22	2015 (Oct – December): 10 discharges, 478,000 gallons 2016 (Jan – December): 66 discharges, 2,541,000 gallons 2017 (Jan – July): 49 discharges, 4,629,000 gallons	Tier 1 23 discharges in 2020
23	2019 (Jan – December): 35 discharges, 224,000 gallons 2020 (Jan - July): 15 discharges, 477,000 gallons	Tier 1 9 discharges in 2020 **(conflicting information*)**
25	2019 (Jan – December): 49 discharges, 5,655,000 gallons 2020 (Jan - July): 13 discharges, 231,000 gallons	Tier 1 4 discharges in 2020 **(conflicting information*)**
27	No flow monitoring data provided, but flow measurement provisions installed per NPDES Permit Amendment LTCP schedule.	Tier 3 2 discharges in 2020
28	2014 (Oct – December): 10 discharges, 857,000 gallons 2015 (Jan – May): 21 discharges, 745,000 gallons	Tier 2 42 discharges in 2020
29	2017 (August - Jan): 2 discharges, 16,000 gallons 2018 (Jan – March): 5 discharges, 168,000 gallons	Tier 2 9 discharges in 2020
31	2020 (Sept – Dec): 6 discharges, 192,000 gallons	Tier 3 17 discharges in 2020
32	2020 (Aug – Dec): 5 discharges, 436,000 gallons	Tier 2 28 discharges in 2020
34	2017 (August - Jan): 2 discharges, 326,000 gallons 2018 (Jan – March): 8 discharges, 8,854,000 gallons	Tier 3 31 discharges in 2020
36	2020 (Aug – Dec): Zero discharges	Tier 2 6 discharges in 2020 **(conflicting information*)**
39	No flow monitoring data provided, but flow measurement provisions installed per NPDES Permit Amendment LTCP schedule.	Tier 3 46 discharges in 2020

41	2014 (Oct – December): 15 discharges, 1,845,000 gallons 2015 (Jan – May): 10 discharges, 1,652,000 gallons	Tier 3 43 discharges in 2020
42	No flow monitoring data provided, but flow measurement provisions installed per NPDES Permit Amendment LTCP schedule.	Tier 3 55 discharges in 2020
48	2015 (Oct – December): 2 discharges, 192,000 gallons 2016 (Jan – December): 7 discharges, 276,000 gallons 2017 (Jan – August): 8 discharges, 445,000 gallons	Tier 3 24 discharges in 2020
51	2020 (Jan – July): 24 discharges, 1,083,000 gallons	Tier 3 40 discharges in 2020
52	2017 (August – December): 21 discharges, 1,842,000 gallons 2018 (Jan – March): 8 discharges, 13,794,000 gallons	Tier 2 5 discharges in 2020
55	2015 (Oct – December): 2 discharges, 106,000 gallons 2016 (Jan – December): 7 discharges, 174,000 gallons 2017 (Jan – August): 5 discharges, 156,000 gallons	Tier 3 6 discharges in 2020

*Possibly conflict is due to DC Chamber transducer issues. It is assumed flow monitoring data is more accurate.

Communications Log (Redraft NPDES Permit):

3/12/2021: DEP Letter request for updated NPDES Permit Renewal Application and CSO LTCP.
3/17/2021: WVSA (Tomaine) E-mail asking for extension to September 8 for response to 3/12/2021 Letter. E-mail indicated WVSA would do additional WET Testing.
3/17/2021: DEP (Bellanca) E-mail granting extension to September 8.
8/11/2021: WVSA (Tomaine) E-mail asking for second extension to December 8, 2021 for the purpose of: reviewing, categorizing and characterizing CSO data from year 2009 forward.
8/13/2021: DEP (Bellanca) E-mail granting extension to December 8, 2021.
12/8/2021: Submittal of updated NPDES Permit Application including CSO LTCP Update.