pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHEAST REGIONAL OFFICE
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET ADDENDUM

Application Type	**Renewal**	Application No.	**PA0064211**
Facility Type	**Sewage**	APS ID	**629048**
Major / Minor	**Minor**	Authorization ID	**1209936**

Applicant and Facility Information

Applicant Name	**Schuylkill Valley Sewer Authority (SVSA)**	Facility Name	**Schuylkill Valley Sewer Authority WWTP**
Applicant Address	PO Box 53 316 Ridge Road	Facility Address	316 Ridge Road (T-770)
	Cumbola, PA 17930-0053		Cumbola, PA 17930
Applicant Contact	Charles Hoslers	Facility Contact	Dean Miller
Applicant Phone	(570) 622-4813	Facility Phone	(610) 587-9957
Client ID	39485	Site ID	622919
SIC Code	4952	Municipality	Blythe Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Schuylkill
Date Published in PA Bulletin	January 30, 2021	EPA Waived?	Yes
Comment Period End Date	May 31, 2021 (extended)	If No, Reason	-

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated Sewage

Internal Review and Recommendations

This is a FS Addendum for a **Redraft NPDES Permit** being issued for public comments. The Redraft NPDES Permit addresses previously received public comments (including additional SVSA-provided sampling information) and revised Chapter 93 Water Quality Criteria.

Background:

- This is a 0.55 MGD POTW discharging to Schuylkill River (CWF; Stream Code# 833; impaired due to Flow regime modification, Habitat alterations, (AMD) Metals, (AMD) Siltation; Pathogens (Source Unknown)).
- The facility is now receiving Significant Industrial User (BRADS C&D Landfill) wastewaters as a significant fraction of daily flows. For example, in 2020 the ADF was 179,000 gallons. A spot-check of the April 2021 RSW Hauled-In Wastewater form indicated receipt of 100,000 gallons of leachate on April 13 (~55.8%).
    - The Landfill wastewater is being presently hauled-in, with the landfill pursuing direct connection to the SVSA collection/conveyance system and POTW. The 2020 SVSA Chapter 94 Report indicated: “A sewer extension has been proposed to serve the Blythe Township Solid Waste Authority (BRADs) Landfill. Currently, an Act 537 Plan Update is being prepared, including the recent collection of flow metering data in the Silver Creek and New Philadelphia areas in order to determine the capacity available for the connection with BRADs. The 2020 Chapter 94 Report Attachment G also stated: “If and when the proposed sewer extension is constructed, the system would contain provisions for a flow meter, conductivity meter, pH analyzer and other instrumentation in order to monitor flows to the WWTP, as well as allow for emergency lock-out if necessary”.
    - Daily volumes of leachate are expected to increase upon connection (no more hauling to alternate facilities; no trucking volume limitation; variable landfill leachate generation rates due to precipitation). The BRADS Landfill plans to terminate its existing (inactive) 0.026 MGD Individual IW NPDES Permit

Approve	Return	Deny	Signatures	Date
X			James D. Berger (signed) James D. Berger, P.E. / Environmental Engineer	September 15, 2022
X			Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	9-19-22
NA			NA – not needed for Redraft Bharat Patel, P.E. / Environmental Program Manager	NA

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No. PA0065137 upon connection to the SVSA. The BRADS leachate has had spiking metal concentrations (including AMD metals), per limited available information, as discussed in the Draft NPDES Permit Fact Sheet.

Changes to Previous Draft NPDES Permit:

- **Updated NPDES Template**: Changes include revised Chapter 92a fee section.
- **E Coli Monitoring**: Quarterly E Coli Monitoring added due new Chapter 93 Water Quality Criteria. The monitoring frequency is standard for this size of facility.
- **Reasonable Potential Analysis and Water Quality Modeling Update**: The DEP Reasonable Potential Analysis and water quality modeling has been updated due to Authority-provided sampling data and newly effective Chapter 93 Water Quality Standards (including Ammonia-N) addressed in the updated Water Quality Modeling.
    - TOXCONC Spreadsheet: The DEP TOXCONC Spreadsheet was used to calculate the Long Term Average Monthly Effluent Concentration (LTAMEC) and daily Coefficient of Variability (COV) using EPA-approved statistical methodology for the SVSA's new round of sampling. See Output table below.
        - Silver, Zinc, and Bis(2-Ethylhexyl)Phthalate: LTAMECs and COVs were used in the updated Reasonable Potential Analysis.
        - Cadmium, 3,3'-Dichlorobenzidine, Toxaphene: All samples were non-detect (ND) at laboratory Method Detection Limits (MDLs) below the DEP Target Quantitation Limits. No LTAMEC/COV can be calculated using TOXCONC in that case.
            - The ND levels will be used in the updated Reasonable Potential Analysis (Cadmium at <0.152 ug/l; 3,3'-Dichlorobenzidine at <0.81 ug/l, and Toxaphene at <0.4357 ug/l).
            - Previous sampling was non-detect at insensitive ND concentrations, and therefore superseded by better data.
            - Previous proposed limits/monitoring requirements no longer required (except as Cadmium spiking is possible in landfill leachate). In terms of BRADS leachate spiking, the AMD metals monitoring and separately required metal monitoring will be used as indicators of potential spiking incidents. Cadmium monitoring would be upon request only.
        - Copper and Lead: No additional sampling & Analysis was done to allow updating of the previously calculated LTAMEC and COVs. See previous Fact Sheet.
    - WQM Model 7.1.1 and New Ammonia-N limits: The modeling was updated due to revised Ammonia-N Water Quality Criteria and incorporation of the SVSA proposed LFY stream point location as a downstream modeling point. Slightly more stringent Ammonia-N resulted (11.49 mg/l monthly average; 22.98 mg/l IMAX/Daily Maximum). See output below. Please note that the standard IMAX multiplier of 2.0 is used in the Model. Any exceedance of the IMAX limit is an exceedance, whatever its duration.
    - Toxic Management Spreadsheet (TMS) & Updated Reasonable Potential Analysis: Incorporated the SVSA stream point, additional SVSA sampling data with applicable LTAMEC/COV, and current Chapter 93 Water Quality Criteria. See Output below for revised WQBEL (copper) and monitoring requirements (Lead, Silver, Zinc, Bis(2-Ethylhexyl) Phthalate). Please note that AMD metal limits/monitoring (and other parameters) is required due to acceptance of BRADS leachate for reasons discussed in Draft NPDES Permit Fact Sheet. Other constituents no longer require permit limits or monitoring.
        - Part C.IV (WQBELs for Toxics): Now only applies to Copper. Facility can optionally look at other constituents during the process (including future minimum monitoring requirements).
        - Part C.V (WQBELs below Quantitation Limits): No longer required.
- Part A.I.D
    - E Coli and Fecal Coliform Monitoring: Total Iron and other AMD constituents can impact the effectiveness of UV disinfection and the facility discharges to a pathogen-impaired stream. The E Coli and Fecal Coliform monitoring has been modified (see footnote) to require monitoring during BRADS leachate treatment at minimum (i.e. if leachate is accepted/treated that week or quarter, sampling must be done on that date to catch any impact on disinfection system effectiveness). Additional sampling on other dates is allowed.
    - Footnote clarification: To clarify requirements, the Part A.I.D footnote has been updated to: "*Effluent sampling during treatment of BRADS leachate wastewater at minimum. Additional sampling is allowed on other days".

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- **Part C (Schedule of Compliance: Ammonia-N and Dissolved Oxygen)**: The Schedule of Compliance has been revised to a 4-year schedule for the Final WQBELs to address public comments.
- **Part C (WQBELs for Toxic Pollutants: Copper)**: Condition language updated to current version and to eliminate constituents no longer requiring permit limits per the Updated Reasonable Potential Analysis. The Schedule of Compliance has been revised to a 4-year schedule for the Final WQBEL (consistent with the Ammonia-N/DO schedule of compliance).
- **See other changes below (made in response to Public Comments)**.

Public Comments:

Authority February 13, 2021, February 22, 2021, and June 3, 2021 Public Comments: In addition to additional sampling data used to update the Reasonable Potential Analysis, the Authority included assorted public comments on the Draft NPDES Permit. Responses are bolded. For the sake of brevity, repeated public comments/responses have been omitted:

Part A-I.A (Interim Limits) and A-I.B (Final Limits): SVSA requested relief from the following requirements:

- 3,3' – Dichlorobenzidine: SVSA is requesting quarterly monitoring only. **Monitoring is not required per updated Reasonable Potential Analysis.**
- Toxaphene: SVSA is requesting quarterly monitoring only. **Monitoring is not required per updated Reasonable Potential Analysis.**
- Cadmium, Copper, and Silver: SVSA requested monthly monitoring only.
    - Cadmium: **Monitoring is not required per updated Reasonable Potential Analysis, except upon request (potential landfill leachate spiking constituent).**
    - Copper: **The standard minimum monitoring frequency for toxic pollutants is weekly. The Department has granted relief by allowing for a minimum monthly interim monitoring for copper and monthly monitoring for toxics which will not require permit limits at this time. The Part C (WQBELs for Toxics) options regarding copper include opportunity to justify modifying or eliminating copper requirements (including minimum monitoring frequency). After the new permit limits' effective date, the Authority would have to show that a regulatory Antibacksliding exception applies to obtain any relief.**
    - Silver: **The Department has granted monthly monitoring for silver. Please note the Department retains general authority to require additional monitoring and/or permit limits if effluent concentration increase.**
- Metals (AMD and others): SVSA requested clarification whether metal monitoring is only required during leachate acceptance.
    - **The updated Reasonable Potential Analysis required Copper permit limits and monitoring for Lead, Silver, and Zinc. These permit limits and monitoring requirements are not tied to leachate acceptance.**
    - **Aluminum, Manganese, and Total Iron monitoring is tied to BRADS leachate acceptance due to (variable) high BRADS leachate concentrations, receiving stream TMDL (AMD) and potential for pass-through or interference. The NPDES Permit Part A table footnote has been clarified to state: "*Effluent sampling during days of acceptance of BRADS leachate wastewater. Additional sampling is allowed on other days":**
        - **Sampling during days of hauled-in BRADS leachate acceptance and/or after BRADS connection to the POTW at minimum. If no hauled-in BRADS Leachate during the month (prior to BRADS connection), then "GG" would be reported via EDMR.**
        - **The downside of only sampling upon days of hauled-in leachate acceptance is biasing. Biasing can result in inaccurate DMR reporting and potential unneeded compliance action. It is recommended that additional metal sampling be done to reduce biasing. Once BRADS connects to the SVSA collection/conveyance system, the presence of BRADS leachate will be continuous at the POTW.**
- Laboratory MDL: SVSA expressed concerns that local laboratories cannot test at the proposed 3,3 – Dichlorobenzidine and Toxaphene limits. **As no monitoring and no permit limits apply, the question is moot. The previous Draft NPDES Permit included a Part C.V Special Condition (WQBELs below Quantitation Limits) which was deleted. It is the standard requirement when the Reasonable Potential Analysis requires a permit limit below the DEP Target Quantitation Limit. For informational purposes:**

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- **In general, facilities are not limited to "local labs" for purposes of compliance monitoring or permit application preparation. The DEP Laboratory Webpage includes a method of identifying certified laboratories and their capabilities.**
- **The DEP Target QL may become more stringent over time as the laboratory state-of-the-art advances (i.e. more sensitive Method Detection Limits and Quantitation Limits). The EPA Sufficiently Sensitive Rule requires the Department to treat any insensitive Non-detect (ND) concentration (above the DEP Target QL) as being present at the insensitive ND level.**

Water Quality Modeling and Contaminant Limits:

- SVSA requested updated water quality modeling using 3.83 CFS Q7-10 Low Flow. **The Department could only grant this request in part.**
  - **Using SVSA Outfall 001 latitude/longitude coordinates (40.7085; -76.1460833) in Blythe Township, USGS PAStreamstats recalculated the Q7-10 Low Flow at 3.38 CFS and 23.3 square miles drainage area (minor differences in area depending upon exact delineated point). The original modeling assumption remain supported for the Outfall No. 001 location.**
  - **The SVSA-delineated location (with 3.83 CFS Q7-10 low flow, 24.8 square mile drainage, no identified elevation at ~640 Feet Elevation; LFY of 0.1544 CFS/square miles, in East Norwegian Township) had different coordinates (40.70799; -76.14729) and is approximately 0.08 miles downstream from the updated Outfall No. 001 coordinates.**
    - **It is not at the application-identified Outfall No. 001 location in Blythe Township. It is a downstream location. Downstream locations, with larger drainage areas, are generally expected to have higher Q7-10 flows, which is accounted for in the Department water quality modeling. The increased drainage area also includes additional AMD discharges, further accounting for increased low flows as the SVSA-identified location.**
    - **The Department incorporated the SVSA location as a downstream monitoring point in the updated water quality modeling. The Department water quality modeling used a further downstream location (40.69460; -76.16319), but incorporated the SVSA location as a downstream modeling point.**
- On the basis of the SVSA own analysis, SVSA requested:
  - Cadmium and Total Silver: Revised WQBELs requested. **These constituents do not require permit limits.**
  - Toxaphene and 3,3-Dichlorobenzidene: Deletion of permit limits as the concentrations were below DEP Target Quantitation Limits. **These constituents do not require permit limits or monitoring.**
  - Total Zinc or Bis (2-Ethylhexyl) Phthalate: No permit limits be imposed. **Monitoring only is required.**

Part A-I.C (Outfall No. 001 Limits):

- Aluminum, Manganese, and Total Iron: Request reduction to quarterly monitoring only. **The Department could not grant this request.**
  - **The BRADS leachate has substantial variable loadings of these AMD metals as discussed in the previous Draft NPDES Permit Fact Sheet. Your facility discharges an AMD-impaired stream subject to the Upper Schuylkill River TMDL (AMD).**
    - **Your Facility (and BRADS Landfill separately) does not have TMDL Waste Load Allocation (WLAs) for AMD metals.**
    - **There is potential for pass-through and interference.**
    - **The interim BRADS IU Discharger Permit does not include any monthly provisions for AMD metal monitoring to separately protect the POTW and receiving stream.**
  - **The standard minimum sampling frequency for toxics is weekly. Effluent sampling is only during days of acceptance of BRADS leachate. Therefore, no sampling would be required during the interim hauled-in wastewater time period if not accepted. Additional sampling is allowed on other days (and is recommended as sampling on BRADS leachate receipt date might bias effluent reporting).**
  - **SVSA has option of addressing AMD metals with the Part C.IV process in case future data allows for reduced monitoring frequency.**

Part A-I.D (Raw Sewage Influent flow at Monitoring Point/Outfall No. 101): The SVSA is not currently able to meet the requirement for metering total Influent Flow, including Hauled-in Leachate, at this time. The SVSA is respectfully requesting

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the ability to utilize the Influent Pumping Station flow data, as well as the Hauled-In Waste manifests, in order to report average monthly Influent flows to the WWTP. At this time, the installation of an influent flow meter would not provide total flow information, including the BRADs Landfill Leachate, until a direct connection is made with the Landfill. Per the Department's February 17, 2021 correspondence, it appears that the Department is amenable to allowing the SVSA to continue to monitor and report influent flows measured at the Influent Pump Station and to continue doing influent composite sampling using the SVSA's portable composite sampler.

- **If the proposed SVSA flow measurement/hydraulic loading methodology is accurate and representative to calculate average monthly and daily max (including hauled-in wastewater) influent flows, then it will be acceptable in terms of EDMR and Chapter 94 Reporting. Adequate onsite record-keeping will be required. The permit requires flow-proportional 24-hour composite sampling for influent and effluent.**
- **If the proposed SVSA methodology for measuring and calculating influent BOD5 and TSS loadings is accurate and representative (including hauled-in wastewater), then it will be acceptable in terms of EDMR and Chapter 94 Reporting. Adequate onsite record-keeping will be required.**
- When does this requirement come into effect? **Existing regulatory and permit requirements apply now (Chapter 94 organic load Reporting; NPDES Permit Part A.I Additional Requirements for 85% BOD5/CBOD5 minimum monthly average reduction; Part A.II composite sampling definition requirement for flow-proportional composite sampling; Part A.III requirements for representative sampling; Part B.I.C reporting requirements; etc.). The Parts A.I.D and Part A.I.E reporting requirements apply upon Final NPDES Permit Effective Date.**
- And, how long will the SVSA have in order to comply with this requirement? **Some requirements are regulation-based (Chapter 92a.47 and Chapter 94) and will continue permanently unless the regulatory requirements change. Other requirements will pertain throughout the NPDES Permit term. Once BRADS is connected, hauled-in wastewater acceptance would be expected to cease. See NPDES Permit Part A.III.C.2 (Planned Changes to Waste Stream) and Part A.III.C.3 (Hauled-in) if SVSA anticipated hauling in additional waste streams in the future.**

Part A-I.E (Industrial Influent at Internal Monitoring Point/Outfall No. 102 for Hauled-In BRADS Leachate):

- **Industrial Influent (Hauled-in BRADS leachate)**: The Hauled-In Waste discharge location does not currently contain a flow meter. The SVSA does not have a flow meter set-up for the BRADs Landfill Leachate, as it is pumped directly from the trucks into a separate treatment tank, as discussed further below. This is primarily due to the fact that this expenditure would be fairly extensive, and the BRADs Landfill is currently proposing to install a direct connection (i.e. pipe line) to the SVSA's sewer collection system at Silver Creek. The BRADs Landfill proposes the construction of the sewer line by the end of 2022. Currently, the SVSA also obtains the manifests from BRADs with the flow data on each date of hauling, and this is provided to the Department on a monthly basis. For now, we are respectfully requesting that the Department continue to accept the daily Hauled-In Waste manifest flow measurements, currently provided in the Hauled Waste Supplemental forms, in lieu of Influent Industrial flow measurement (i.e. by flow metering). We are respectfully requesting for the SVSA to continue utilizing this mode of Industrial Influent flow measurement while the Authority is awaiting the installation of a sewer pipe and direct connection by BRADs Landfill. As stated in the Department's February 17, 2021 correspondence, after Hauled-In wastewater acceptance ceases, the Authority will report "GG" for Outfall No. 102 in the eDMR and will indicate no receipt for the Hauled-In Supplemental Report forms.
    - **If the proposed SVSA flow measurement/hydraulic loading methodology is accurate and representative to calculate average monthly and daily max (including hauled-in wastewater) influent flows and loadings, then it will be acceptable in terms of EDMR and Chapter 94 Reporting. Adequate onsite record-keeping will be required.**
    - **The Final NPDES Permit will require the submittal of the Hauled-In Wastewater Supplemental Reporting Forms. The Department is also requiring EDMR reporting in this NPDES Permit Term. Please note that the BRADS Leachate is classified as Residual Waste from the landfill industrial category.**
- **Proposed Change in Hauled-in Wastewater Sampling Location (Daily pH, TDS or Specific Conductivity; Monthly for Biochemical Oxygen Demand, TSS, Cadmium, and AMD Metals):**
    - SVSA proposes hauled-in Wastewater sampling and monitoring be at the existing Sequencing Batch Reactor (SBR) compartment that is currently being used to store Hauled-In Waste (Leachate). The Hauled-In Leachate is currently accepted in an empty SBR tank, where it is completely aerated, mixed, and kept separate from the other wastestreams. The contents of this tank are solely comprised of Hauled-In Leachate and would, therefore, be representative of what is hauled into the WWTP" instead of

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grab-sampling the incoming BRADS hauled-in Leachate Trucks. SVSA indicated that it believes the SBR contents would be a homogenous mixture of the daily hauled-in wastewastes accepted during the operating day, and more representative than "grab" samples. We are recommending that composited grab samples listed in Part A.I.E be taken in this tank, and only on days in which Hauled-in Waste is being accepted. This would be the most representative of the wastewater discharge at Outfall 102, as the wastes hauled into the WWTP are not directly discharged, but are mixed and aerated providing some level of biological treatment and settling prior to discharge.

- The leachate is currently stored in a large, aerated, storage tank on the BRADs site. The content of the trucks may be considered a fairly homogeneous mixture of the leachate, as it is being drawn out of a well-mixed equalization type storage tank of the Landfill site.
- **Proposed Single Daily Truck Sample (homogenous truck content assumption): The basic Part A.III requirement is that all sampling be representative and accurate.**
  - **One truck sample per day might not be representative and accurate in terms of all received hauled-in wastewater that day. The permit therefore specified "grab-composite" sampling.**
  - **This request assumes that the BRADS Landfill leachate tank is well-mixed (not stratified and without settlement to the bottom that would result in elevated concentrations of particulates including metals). This assumption is not supported by BRADS Quarterly Leachate data indicating highly variable concentrations as documented in the original Fact Sheet. If not variable, then the BRADS-reported high metal concentrations would have result in pass-through and/or interference (exceeding the SVSA IU Discharger Total Iron limit for example).**
- **Proposed SBR Compartment Sampling Location: The Department could not grant this request. The results would not be representative of hauled-in wastewater and involves a substantial change in the approved treatment plant process that might negatively impact the waters of the Commonwealth.**
  - **The SBR Compartment would not be representative of hauled-in IW wastewater quality: The SBR compartment is where the hauled-in leachate is mixed with other raw sewage influent, and therefore the data would not be accurate/representative in terms of hauled-in leachate. The as-built 0.55 MGD plant has only two SBRs, not the three (3) SBRs originally planned, at ~0.275 MGD capacity each per previous SVSA clarification. This procedure assumes that only one (SBR) is required to treat the normal sewage flows with one dedicated to hauled-in wastewater acceptance (without mixing). Per the Draft NPDES Permit Fact Sheet EDMR section, 8 of 12 months had >0.275 MGD daily max flows (up to 1.081 MGD in April), i.e. both SBRs were required to operate. Maximum monthly flow was 0.292 MGD in April 2019 (i.e. no days occurred where BRAD leachate would be unmixed with other wastewater, precisely when precipitation is maximizing generation of leachate at a landfill). SBR downtimes for maintenance was also not considered. Therefore, the SBR compartment will contain non-IW wastewater, rendering the results non-representative of hauled-in wastewater.**
  - **Major proposed change in Treatment Process without Part II WQM Permit: The Department approved leachate acceptance on the assurance that the SBR was receiving raw sewage wastewater that would mix with the hauled-in leachate and thereby receive adequate treatment. Your Engineer did not address how the (single) SBR would achieve adequate treatment of the hauled-in IW wastewater separately from domestic wastewater. No flow chart was shown to that any SBR discharge could be redirected to the other SBR for further treatment.**
    - **Potential for pass-through and interference would greatly increase under the proposed operating scenario.**
    - **The SBRs discharge to a UV disinfection system that was not designed with IW wastewater constituents in mind. Total Iron and other IW constituents can render UV disinfection ineffective. This proposal would increase the likelihood of IW wastewater slugs contributing to the receiving stream pathogen (Fecal Coliform and/or E Coli) impairment and permit limit exceedance.**
  - **Normal Operating Costs: Sampling and analysis (with related manpower costs) to comply with NPDES permit requirements is a normal business cost that cannot be avoided.**

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- **The additional costs will be limited to the time-frame of hauled-in wastewater acceptance.**
- **In terms of procedures and manpower requirements, presumably one (1) dedicated person could take a sample of each incoming leachate truck, composite the samples, then take the site-specific daily pH and TDS measurements, then shipping the monthly sample offsite to a certified laboratory as necessary. Hauled-in trucks only require sampling on days when they arrive onsite.**
- **SVSA originally proposed that the hauled-in leachate would be discharged into the SBR pre-react tank (via a "quick connection in-line magnetic flow meter"), depending on which SBR tank is in normal operation via a metered connection point. Additional monitoring options (magnetic flow meter, pH, temperature, and conductivity) at the leachate discharge point were being explored. SVSA indicated it would closely monitor the leachate by way of a flow meter and conductivity meter to determine TDS contributions to the POTW (to meet 1,000 mg/l TDS limit). An automatic composite flow sampler option would have been available to alleviate manpower issues. This option remains available.**

- **Specific Conductivity/TDS (1 per day)**: The SVSA is requesting that the Department revise this to measurement of influent Total Dissolved Solids (TDS) using SVSA's TDS monitoring equipment, rather than Specific Conductivity. We are requesting that TDS be measured in the SBR in which the Leachate is currently being accepted, as this is a homogeneous mixture of all Hauled-In wastes accepted over a one-day period, and this is more representative than "grab" samples taken from each truck. **The Department has made the requested change to TDS reporting. Please note that it was the Authority that indicated it was measuring specific conductivity in lieu of TDS measurement for the incoming hauled in wastewater.**

Part C.II (Schedule of Compliance for new Ammonia-N and Dissolved Oxygen limits: The SVSA is requesting an extension to make improvements to the treatment system beyond 36 months of the PED, as it will take some time to determine if compliance can be consistently met, then it could easily take more than 18 months to provide a design, determine funding capabilities, submit a WQM Permit Application, and obtain approval for modifications by the Department. This would then need to be followed by a Bid Phase, Award, and Construction of any necessary improvements. Treatment equipment could also have a lag time of 24 weeks or more for manufacturing. We are respectfully requesting an extension to this Schedule. In accordance with the Department's February 17, 2021 correspondence, SVSA proposed the following Alternate Schedule of Compliance:

- In the event that the Dissolved Oxygen (D.O.) and Ammonia-Nitrogen limit can be met without any additional treatment or modifications to the wastewater treatment system, will the Department accept a letter Report proving that the limits can be met in lieu of a Feasibility Study? If so, we are respectfully requesting that the Department add a clause or statement to Permit Part C.II. Schedule of Compliance stating the following: "If the permittee is unable to achieve Compliance with the final effluent limitations for Ammonia-N and Dissolved Oxygen, the permittee shall complete the following in accordance with this schedule:" **The Department could not agree to the proposed additional language. The Schedule of Compliance must end with the facility coming into compliance with the Final WQBELs, not merely construct something. Please note the facility can provide site-specific input values to refine the Water Quality Modeling in order to see if revised limits might be acceptable. In that event, see DEP Website for the WQM Model 7.0 Technical Guidance for relevant input values. A Major NPDES Permit Amendment would be required for changing the final limits.**
- With regard to Part C.II.A., the SVSA is respectfully requesting an extension to make improvements to the treatment system beyond 36 months of the PED, as it will take some time to determine if compliance can be consistently met, then it could easily take MORE THAN 1.5 years to provide a design, determine funding capabilities, submit a WQM Permit Application, and obtain approval for modifications by the Department. This would then need to be followed by a Bid Phase, Award, and Construction of any necessary improvements. Treatment equipment could also has a lag time of 24 weeks or more at this time for manufacturing. We are requesting an extension to this Schedule, if possible. In the event that Permit limitations for Ammonia-N and Dissolved Oxygen cannot be met, the permittee shall achieve compliance with the final effluent limitations or terminate this discharge in accordance with the following schedule:
    - Feasibility study completion: 18 months of PED*

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- Final plan completion and Permit Application: 30 months of PED*
- Start construction: 42 months of PED
- Construction progress report(s): Quarterly after construction starts
- End Construction: 18 months following Construction Start

*In the event that the first 12 months of sampling following PED indicates that Ammonia-N and Dissolved Oxygen meet Permit Compliance, a letter notification may be provided in lieu of a Feasibility Study or Final Plan. The letter shall state that "no action" is the chosen final plan. No further action is required.

- **Request for 60 Month (5-Year) Schedule of Compliance: The Department could only partially grant the SVSA's request by granting a 4-year schedule of compliance:**
  - **5-Year Limitation: Chapter 92a.51 does not allow for schedules of compliance exceeding the 5-year NPDES Permit Term. The SVSA schedule involves ending construction on the 60th month (i.e. exceeding the 5-year permit term), without any plant upgrade start-up period to come into compliance. The Department is granting additional time as discussed below.**
  - **1-Year Interim Milestone Limitation: Chapter 92a.51 does not allow for interim compliance milestones to be more than 12 months apart. The Department has extended the Schedule of Compliance as described below:**
    - **Feasibility Study and Final Plan Milestones (12 and 24 months after PED): The existing Schedule of Compliance gives the maximum 12 months for the Feasibility Study and Final Plan interim milestones. No more time can be given.**
      - **The scope of the feasibility study must otherwise be enough to identify at least one feasible option that can be implemented by the permit limit effective date. This can include "no action", operational changes, plant modifications, etc.**
      - **If the Feasibility Study determines that the facility can comply with the new WQBELs by proper O&M, "no further action" is an acceptable Final Plan. In that event, the SVSA would be required to submit a combined Feasibility Study/Final Plan Letter stating its chosen Final Plan of "no action" for the public record. No special Part C language is required.**
      - **Typically, the Final Plan stage would typically include evaluating funding options/availability, preliminary engineering, permitting, funding and bidding, etc.**
    - **Construction Start Milestone (36 months after PED): The Department has increased the time-frame for the construction start milestone from 6 months to 12 months to provide more time to address the SVSA's stated concerns.**
    - **Construction End Milestone (46 months after PED): The proposed 18-month construction time-frame is prohibited by Chapter 92a.51. The Department does not understand why construction, after it starts, would drag on. Such construction delays would necessarily raise the project costs.**
    - **Compliance with WQBELs (48 months after PED): The Department is granting this extra time to address any plant upgrade start-up time-frame. The Part C.IV (WQBELs for Toxics) schedule has been adjusted for consistency. If extended further, there would be conflict in terms of Part C.IV process options.**

Part C.IV (WQBELs for Toxic Pollutants: Copper Schedule of Compliance):

- SVSA is requesting that the Department allow for 12 months of data collection and a deadline of 12 months after PED for the completion of a TRE Work Plan in the event that it is deemed necessary. **The Department could only grant this request in part in the revised Part C Condition. The Part C Condition requires the TRE Work Plan and data collection plan be developed within the first 12 months after PED. An additional 12 months is given to complete the site-specific data collection and required TRE. The Department does not approve the TRE Work Plan or Site-specific Data Collection Plan, but they must be technically adequate to justify any future request for relief from the final Copper WQBELs. The WQBEL Final Compliance Report milestone gives additional time to take any required action to come into compliance (including implementation of any required Actions identified in the TRE to reduce pollutant load) and/or justifying changes in the Copper WQBELs. See Part C.IV options in event that you determine that you cannot meet the final Copper permit limits by their effective date.**
- Would the Department be willing to add a statement that allows for determination of these requirements based on information submitted after a twelve (12) month period? **The updated Standard Part C Special Condition**

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process and Schedule of Compliance milestones must be followed except the that Final WQBEL Compliance Report can be submitted early (showing SVSA can meet the WQBEL by effective date or justifying permit amendment or adequately addressing the options given in event of unfeasibility).

- SVSA is requesting the ability to complete a full twelve (12) months of testing for these parameters and, in the event that these parameters continue to be well within the pending Effluent Concentration and Mass Loading requirements, then the requirement for the TRE Work Plan and TRE and Site-Specific Studies could be "forgiven" or "eliminated." **The 12-month sampling period has been granted. The Department cannot eliminate the requirement for a TRE Work Plan development, TRE, and Site-specific Studies as they must be completed unless the SVSA indicates upfront that it can meet the new Copper WQBEL on the effective date. In that event, the Department would delete this condition altogether.**
- It should also be noted that the Industrial Discharge Permit that has been issued by the SVSA to BRADs was only an "Interim" Permit, and that this Permit will be revised in order to provide for additional permit requirements and testing, etc. However, this will occur following the final NPDES Permit issuance and final Permit requirements for testing, limitations, etc. **The schedule for the issuance of the SVSA Industrial Discharger Permit to BRADS is up to the SVSA. The Department recommends expanding the scope of SVSA IU monitoring program to explicitly address AMD metals and other constituents with pass-through and/or interference potential.**

Request for Meeting on Public Comments: We are respectfully requesting a telephone conference call or meeting with the Department at your earliest convenience in order to review the reasons for the new Permit requirements and the schedule for compliance. **The Department will be available to schedule a conference call/meeting during the Redraft NPDES Permit's public comment period (after SVSA has had time to review the Redraft NPDES Permit to allow for a productive meeting).**

Authority February 22, 2021 Public Comments: The Department received public comments from the Authority via the February 22, 2021 Authority (Jamie Lorah, Spots, Stevens & McCoy a.k.a. SSM Group) E-mail requesting time to conduct a sampling program and commenting on the water quality modeling low flow assumptions. **The additional sampling time was granted. See above for other (combined) responses.**

Authority February 13, 2021 Public Comments: The Department received public comments from the Authority via the February 13, 2021 Authority (Jamie Lorah, Spots, Stevens & McCoy a.k.a. SSM Group) E-mail. See bolded responses to the received public comments: **See above for other (combined) comments/responses.**

We are respectfully requesting a time extension to review the new Permit requirements further with both the SVSA and the BRADs Landfill. **The 15-day automatic extension was granted by 2/17/2021 DEP (Berger) E-mail, extending the public comment period to March 18, 2021. A later extension was also granted (see above). An additional public comment period has been granted with this Redraft NPDES Permit.**

Item 1 (Zinc and Bis (2-Ethylhexyl) Phthalate) Questions: Does the Department have a number of samples that it would require in order to determine if monthly testing needs to be a requirement for the SVSA or in order to eliminate this from the list of monitoring requirements? **In addition to the above comments and response**: **A minimum of 10 weekly samples is needed to derive a statistically valid Long Term Average Monthly Effluent Concentration (LTAMEC) and daily Coefficient of Variability (COV). More sampling data allows for more accurate and less conservative LTAMEC. SVSA subsequently supplied the required sampling data.**

- **Additional sampling data will not guarantee the elimination of any new permit limit or monitoring requirement, but might allow for refining the Reasonable Potential Analysis in terms of toxics LTAMEC and daily COV. The Department will be using any additional data is submitted in the Final WQBEL Compliance Report to recalculate the Copper LTAMEC and COV prior to the Copper WQBEL effective date.**
- **See the DEP SOPs webpage for the SOP No. BCW-PMT-037 (Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers) which ties monitoring and permit limits requirements to the concentration (monitoring begins at 10-25% of WQBEL, permit limits at 50%).**

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- **BRADS Leachate variability (spiking potential) might not allow dropping of metal monitoring regardless of additional sampling data.**

Item 3: Additionally, the 2020 Annual Testing information for the Acid-Mine Drainage (AMD) Metals showed Effluent Concentrations as follows (for the SVSA WWTP):

- Total Aluminum = 0.06 mg/L (Average Monthly Concentration = 0.75 mg/L in the Draft NPDES), and testing requirements are 1/week;
- Total Iron = 0.16 mg/L (Average Monthly Concentration = 1.5 mg/L in the Draft NPDES), and testing requirements are 1/week; and
- Total Manganese = 0.088 mg/L (Average Monthly Concentration = 1.0 mg/L in the Draft NPDES Permit), and testing requirements are 1/week.
- *Each AMD Metal was found to be in levels at least 10X's less than the Average Monthly Concentration required by the Draft NPDES Permit.
- It is unclear why the SVSA is required to monitor these contaminants on a weekly basis, when the SVSA Effluent is well below (10X's+) the required concentration limits set by the Department. SVSA has not had any issues previously with meeting AMD Metals requirements, and it would appear that it would be more appropriate for monitoring requirements to be posed to BRADs directly rather than the SVSA as a Control Authority. This requirement would cost the SVSA over $1,600 per year.
- **The Authority is the NPDES Permittee with all consequent permit responsibilities. The Department does not have the authority to impose NPDES Permit obligations on a third party (other than the actual permittee/operator). The Authority is free to impose its own requirements on BRADS like any other industrial discharger. In addition to the above responses:**
    - **The Draft NPDES Permit Fact Sheet commented on the "interim" SVSA IU discharger (BRADS) permit and limited available BRADS leachate information**
    - **BRADS plans to terminate its existing NPDES Permit upon connection to the SVSA collection/conveyance/POTW system. Current (separate) BRADS NPDES permit Untreated Leachate reporting requirements will be terminated at that time.**

Item 9 (Limited BRADS wastestream data): For the Department's reference, and in order to address the Fact Sheet statement relative to inadequate Quarterly Monitoring by BRADs, please find attached the BRADs' Quarterly Reports for 3rd and 4th Quarter, as well as the Untreated Leachate Monitoring Reports for 1st and 2nd Quarter of 2020. These results have been provided for the Department's records and reference. **The Department thanks SVSA for the additional information for the SVSA public file.**

Item 13: Part C.I.G. – new requirement for submitting Pollutant Groups 1 through 7 within 60 days of Department request. Is there a frequency of testing that the Department is considering for this requirement or a Monitoring Period that should be planned for? **The requirement is for a minimum of one (1) influent sample and three (3) effluent samples (weekly) upon Department written request (along with any other available relevant sampling data at the time) to further investigate and identify the cause of significant issues (pass-through, interference, negative impacts on the receiving stream, etc.). The Department does not anticipate asking for this information unless there is a significant site problem or negative impact on the receiving stream (whose cause cannot be identified by SVSA).**

- **The Department would evaluate the data and determine if additional monitoring/permit limits are required to protect the public health, safety, welfare and environment on a case-by-case basis.**
- **If requested, the minimum requirement for the Pollutant Group sampling & analysis/Tables is one (1) influent and three (3) weekly effluent samples (plus any other available sampling data) in event the Department requires this information because of interference, pass-through, negative stream impact or other unusual circumstances.**
    - **The Department would then determine if any additional compliance monitoring or permit change is needed to protect the public health, safety, welfare, and environment on a case-by-case basis.**
    - **Please note the Authority (like any operator) would be expected to identify any problem, its cause(s), and appropriate corrective actions under other permit conditions. This condition's**

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additional information would likely not be required if the Authority has identified and addressed the problem.

Item 14: The Fact Sheet notes that D.O. Limits are required due to Updated water quality modeling. The Permittee has stated that the "Natural Trout" mentioned in the Fact Sheet are actually stocked Trout. **To clarify:**

- **See the water quality modeling for the basis of permit limits, including summer Dissolved Oxygen (DO) limits.**
- **The receiving stream has been designated a "Natural Trout (Salmonid) Reproduction stream" subject to Chapter 93.7 non-summer Water Quality Standards (For naturally reproducing salmonid early life stages, applied in accordance with subsection (b), 7-day average 9.0 mg/l; minimum 8.0 mg/l) during months of October through May. If you upgrade the facility for any reason, the Department recommends considering post-aeration options.**

Compliance History: One open violation per 9/20/2022 WMS Query (Open Violation by Client Number), but additional 2021 exceedances per WMS:

FACILITY	INSP PROGRAM	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE
SCHUYLKILL VALLEY SEW AUTH	WPC NPDES	3008016	879479	01/27/2020	92A.44

Effluent Violations for Outfall 001, from: June 1, 2020 to: July 31, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value
CBOD5	02/28/21	Wkly Avg	40.2	mg/L	40.0
TSS	02/28/21	Wkly Avg	244	lbs/day	208
TSS	02/28/21	Avg Mo	83.3	mg/L	30.0
TSS	03/31/21	Wkly Avg	78.0	mg/L	45.0
TSS	02/28/21	Wkly Avg	242.0	mg/L	45.0
TSS	12/31/21	Wkly Avg	64.0	mg/L	45.0
Fecal Coliform	06/30/22	Geo Mean	> 90	CFU/100 ml	200
Fecal Coliform	07/31/22	Geo Mean	> 511	CFU/100 ml	200
Fecal Coliform	07/31/22	IMAX	6867	CFU/100 ml	1000
Fecal Coliform	06/30/22	IMAX	> 2420	CFU/100 ml	1000

2020 Chapter 94 Report Issues: Due to general concerns about potential BRADS Leachate issues, the 2020 Chapter 94 Report was examined to shed any light on the causes of permit exceedances and/or other issues.

- Form Items 1, 2, 9 (Hydraulic/Organic Loading):
  - No existing or projected hydraulic or organic overloading, so overloading is not cause of exceedances. Item 6 indicated no excess I&I issues or bypassing. 0.179 MGD ADF and 391 lbs BOD5/day Annual Average organic loading reported. NOTE: It is unclear if they are accounting for hauled-in wastewater loadings in the Chapter 94 Reporting.

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- They only do quarterly influent BOD5 sampling (possibly confusing NPDES Permit monitoring requirements for the Chapter 94 Reporting requirement).
- The raw sewage influent is fairly weak as stated in the Report. Report information:
  - 1,644 EDUs
  - 2.32 persons/EDU
  - 0.103 lbs per capita (increased from 2019) versus 0.17 lb/day DWFM Section 43.5 default assumption for new systems.
  - Projected 20 EDUs/year increase over next 5 years.
    - Based on historical connection information and growth for the area, it is anticipated that only about two (2) additional connections may be made each year for the existing sewer service area.
    - The hauled-in waste is expected to add as much as 150 additional EDU's over the next 5 to 10 years. Therefore, these estimated flows have been included in the flow and organic loading projections for the facility from 2021 to 2025.
  - Average flow in gallons per capita per day (gpcpd) was calculated to be nearly 47 gpcpd in 2020 (versus 100 GPCD DWFM Section 43.5 default assumption for new systems).
  - Approximately 30 connections remain in the service area, which consists of 12 previously un-connected properties (that are required to eventually connect, if not be condemned) and 18 additional, potential service connections in the area of neighboring East Norwegian Township known as the "5 Points Area."

- Form Item 4 (Sewer Extensions): No sewer extension proposed except for proposed BRADS connection to SVSA collection/conveyance system. The response was contradictory in indicating no sewer extension then referencing the proposed BRADS connection. Appendix J (Location Map & WWTP Process Schematic) was missing the Form Item referenced "aerial location map is included in Attachment J which depicts the proposed sewer pipe extension configuration into Silver Creek with a connection to the Silver Creek Interceptor".
- Item 7 (Pump Stations):
  - Four (4) pumping stations (including WWTP influent pump station). Flows are only recorded at the Influent Pump Station and are based on the pump run time. The flows for the other pump stations are estimated based on the number of connections and the run times for each pump. No exceedances of pump station capacities reported.
  - PS Overflows: The Middleport Pump Station exceeded capacity once in December of 2020, the Influent Pump Station exceeded capacity only once in December, and the Kaska Pump Station exceeded capacity once in October. These overflow occurrences were likely attributed to large rainfall events during these specific days, as well as the 3-inch snow fall in December.
- Form Item 8 (IW): Said to be non-applicable because BRADS is not yet connected to the collection system, but BRADS leachate information was provided.
  - The SVSA WWTP received a total of approximately 1,619,400 gallons, or approximately 70,181 (gpd) of leachate on an average monthly basis in 2020. NOTE: This is ~39% of the ADF (during days of hauled-in leachate acceptance). This means there is potential for pass-through or interference on days of hauled-in wastewater receipt.
  - Attachment G language: "Under this scenario, leachate can be discharged into either Pre-React Tank No. 1, Pre-React Tank No. 2, or into the empty Sludge Holding Tank; flow is then transferred to either SBR No. 1 or SBR No. 2 for treatment and to allow for flexibility in operations". The process diagram only shows the two aerobic digestion tanks (i.e. no separate spare sludge holding tank). This use of an unused aerobic digestion tank (normally discharging to the existing onsite reed drying beds) for raw leachate storage raises the potential for discharge of untreated leachate to the site reed drying beds (escaping proper treatment).
  - The Attachment G was missing the form-referenced "copy of the Agreement with BRADs, the PA DEP approval letter to accept leachate". Attachment G narrative indicated: "A copy of this Agreement is included in Attachment G, as well as a copy of the interim, Industrial User Discharge Permit with BRADs. Monthly Discharge Monitoring Reports (DMRs) are currently being prepared by BRADs and submitted to the SVSA for hauled-in waste". No Agreement or interim IU Discharger Permit was found, only blank pages. An uncompleted April 2021 IU Discharger SVSA-DMR was found, which omitted the Interim IU Discharger Total Iron limit and only required quarterly AMD metal monitoring.
  - The Attachment G daily hauling records from 2020 did not include DEP Hauled-In RSW Reporting forms.
- Form Item 10 (Sludge Management Inventory): No sludge was hauled offsite in 2020.

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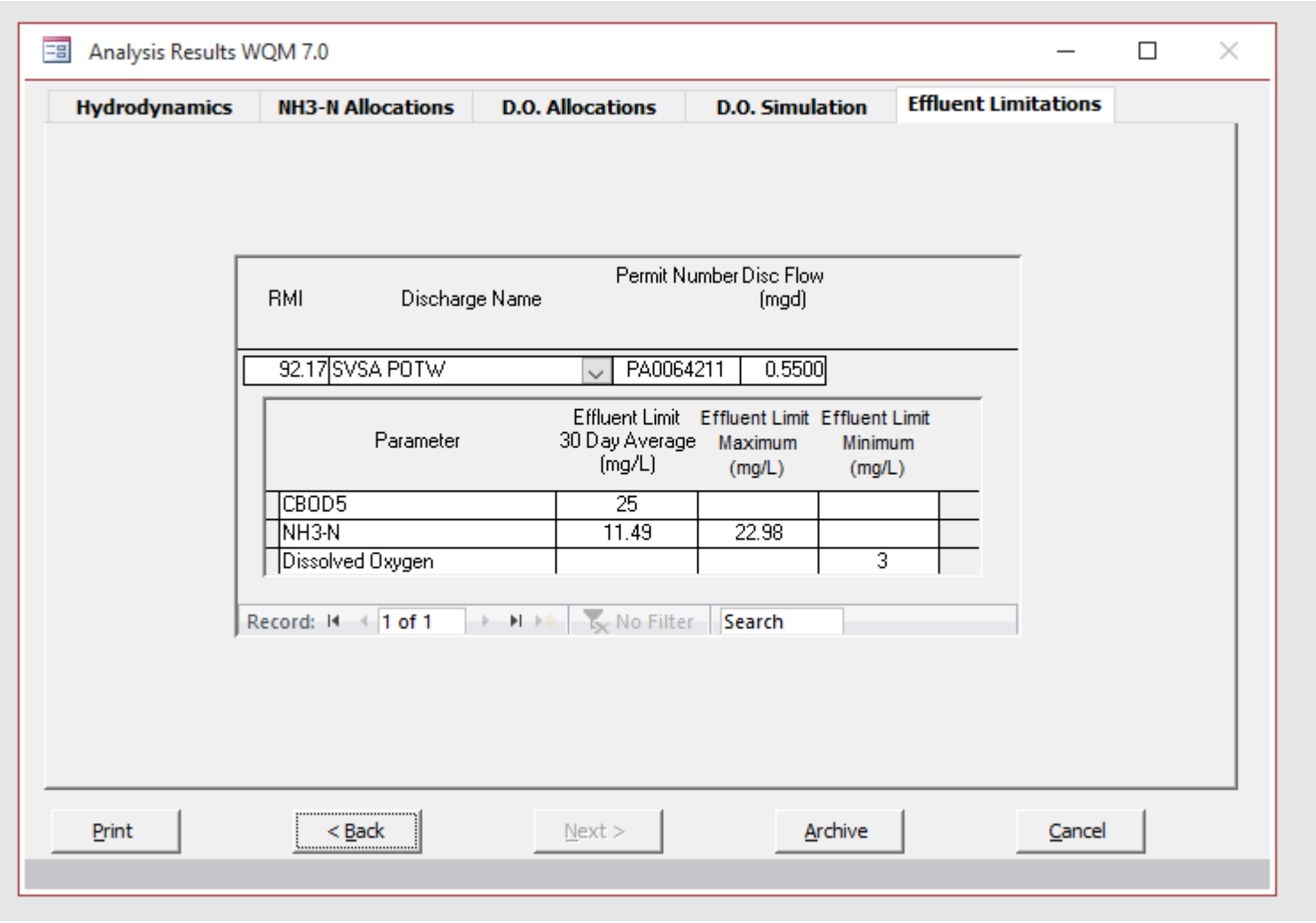
Updated Reasonable Potential Analysis/Water Quality Modeling:

TOXCONC Output for Second 10-week sampling program:

		Reviewer/Permit Engineer:	Berger
Facility:	Schuylkill Valley Sewer Authority		
NPDES #:	PA0064211		
Outfall No:	001		
n (Samples/Month):	4		
Parameter	**Distribution Applied**	**Coefficient of Variation (daily)**	**Avg. Monthly**
Cadmium (µg/L)	Delta-Lognormal	#DIV/0!	#DIV/0!
Silver (µg/L)	Delta-Lognormal	1.1563629	1.6200170
Zinc (µg/L)	Lognormal	#REF!	#REF!
,3-Dichlorobenzidine (µg/l	Delta-Lognormal	#DIV/0!	#DIV/0!
(2-Ethylhexyl)phthlate (µg	Delta-Lognormal	0.4690514	4.1973702
Toxaphene (µg/L)	Delta-Lognormal	#DIV/0!	#DIV/0!
Zinc (µg/L)	Lognormal	0.1365890	71.0802754

Updated WQM Model 7.1.1 water quality modeling output:



Updated Toxic Management Spreadsheet Output:

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.13	0.18	28.8	38.8	72.0	µg/L	28.8	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	10.7	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	14.1	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	212	AFC	Discharge Conc > 10% WQBEL (no RP)
Bis(2-Ethylhexyl)Phthalate	Report	Report	Report	Report	Report	µg/L	8.42	CRL	Discharge Conc > 25% WQBEL (no RP)

SVSATMS2.xlsb