



Pennsylvania
**Department of
Environmental Protection**

September 2, 2025

ELECTRONIC DELIVERY TO: ASULKOWSKI@NOBLEENVIRO.COM

Alex Sulkowski
Westmoreland Sanitary Landfill, LLC
111 Conner Lane
Belle Vernon, PA 15012-4519

Re: Technical Deficiency Letter
Minor Modification - Leachate Treatment Trial Project
Sanitary Landfill
Rostraver Township, Westmoreland County
I.D. No. 100277
Authorization No. 1516469

Dear Alex Sulkowski:

The Department of Environmental Protection (Department) has completed the technical review of the above-referenced application, which was received on February 20, 2025. The following technical deficiencies have been identified according to applicable laws and regulations.

Technical Deficiencies

1. The submitted application does not include the information required by 25 Pa. Code Section 271.503. Please revise the application to include the following:
 - A. An economic analysis indicating benefits to both the Commonwealth and the applicant from the proposed facility, including an economic analysis of the benefits of alternative methods of leachate treatment. The economic analysis should include capital costs, operations and maintenance (O&M) costs, project lifespan, cost per gallon treated, costs savings if any, impact on landfill operation, compliance and liability costs, environmental benefits, job creation, impact on long-term compliance, and impact on public infrastructure. The analysis should be supported by documentation.
 - B. A technical analysis comparing the proposed leachate treatment facility to the existing state-of-the-art technologies for processing and treatment of landfill leachate generated at the facility. Please provide a detailed side-by-side technical comparison between the proposed facility and the existing state of the art alternatives. The comparison should focus on treatment effectiveness, system reliability, operational complexity, and environmental performance. The information should be supported by documentation from vendors, technical literature, pilot study data, or EPA reports.

- C. A complete operational plan, including but not limited to design details and a timetable for completing various phases of the facility from initiation of construction to completion of the project (start dates for each phase, construction duration, closure/removal duration), site preparation, tanks construction, installation of various equipment, detailed description of each unit/component, manufacturer/model number for each unit/component, process flow and treatment objective of each unit (including design flow rate, residence time, and removal efficiencies); flow control and system monitoring; addition of chemicals and control of doses; sludge handling; redundancy and bypass procedures; sampling and data collection; emergency response and contingency plans; operator qualifications; closure; removal of the units and site restoration in case of project failure; staffing plan; staff training; monitoring and reporting plan; sampling plan; and obtaining the required permits. Please include all relevant calculations and attach equipment specification sheets.
- D. An evaluation of the anticipated contribution of the demonstration facility to the field of solid waste management and landfill leachate treatment. Please discuss what is novel or improved about the proposed facility, the contribution to environmental protection, the impact on landfill operations and compliance. The evaluation narrative must include supporting documentation.
- E. An evaluation of the potential applicability of this new or unique treatment technology at other landfills in Pennsylvania. In the evaluation, please indicate if the proposed technology is demonstrated elsewhere but new to Pennsylvania and clarify whether this is a pilot demonstration or full-scale installation. Please discuss the applicability/inapplicability of this new technology at other landfills considering leachate composition constraints; flow rate range requirements; site space constraints; integration with existing infrastructure; climatic constraints; operational and cost constraints; and any regulatory and environmental restrictions.
- F. A demonstration that the applicant has the financial ability to remove the facility and cleanup the affected area in the event of pollution. Please submit the cost estimates along with documentation for worst-case cleanup using DEP Bonding Worksheets.
- G. A plan for corrective action in the event of pollution. The plan must describe how Sanitary Landfill will respond to and remediate any release to the environment. The plan should identify potential pollution scenarios and include monitoring plan, pollution containment measures, long-term remediation methods, implementation procedures, remediation cost availability, DEP notification, and site restoration. Please include relevant drawings.
- H. A statement of the optimal size and capacity for a facility using the proposed technology. Please provide documentation and engineering calculations showing how the proposed leachate treatment facility's size and capacity were determined to be optimal for the site-specific conditions. In the statement, please include leachate flow rate, leachate characteristics, hydraulic and pollutant loading rates, storage volumes, equalization volume, optimal operating range, and removal efficiencies for each unit. In addition, please demonstrate that the proposed facility can handle expected leachate volumes and produce desired effluent qualities. The statement must include all relevant calculations to justify the optimal size and capacity.

- I. A plan for assessing the effectiveness and environmental impact of the proposed facility, including monitoring parameters; sampling and testing methods; analytical data evaluation/interpretation methods; and decision criteria (including effluent targets and unit processes removal efficiencies); impacts and monitoring of air, soil, and groundwater; HAP emissions; odor emissions; noise generation; residuals management; and a complete sampling/monitoring plan. Please attach all relevant documentation.
2. The design and operational information presented does not include specific justification regarding the current limitations with existing POTWs acceptance. Please explain why the leachate generated at the facility is rejected by the POTWs and include the maximum permissible concentration levels for all leachate constituents acceptable to the POTWs.
3. Attachment 28-8 and Keystone report narratives lack justification regarding the basis for the 40,000 gpd as the design capacity. Please provide calculations demonstrating the system's ability to manage peak daily leachate generation and provide documentation showing the seasonal leachate generation rates, and historical data on daily generation rates.
4. The information presented in the application indicates that the submission of the quarterly report will be within 60 days of the end of the quarter. Quarterly reports should be submitted within 30 days after the end of each calendar quarter to allow the Department to closely monitor the performance of the treatment facility.
5. The reporting plan described in the application is lacking several important elements. Please revise the plan to include a list with all parameters that will be monitored at each sampling point and their associated analytical methods; sampling methods; sampling frequency; and describe the quality assurance/quality control procedures that will be followed to ensure data reliability. In addition, each report must include:
 - A. 30-day influent and effluent flow average.
 - B. Influent/effluent concentrations and mass loadings for COD/BOD; TSS; ammonia; TKN; nitrate + nitrite; chlorides; sulfates; alkalinity; major metals; priority pollutants; and PFAS.
 - C. Chemical usage rates.
 - D. Sludge/residual volume, characterization, and disposal destination.
 - E. Equipment runtime, downtime, maintenance, and calibration logs.
6. The information presented lacks defined effluent quality targets aligned with the POTWs standards or NPDES discharge requirements. Please revise the narrative to include information regarding the anticipated effluent limits or treatment goals that the facility aims to achieve to be acceptable to the POTWs for sewer discharge (e.g., <10 mg/L ammonia-N, <30 mg/L COD, etc.) and/or for discharge under an NPDES permit.
7. The MBBR, DAF, and HRT solvent stage can produce ammonia and VOC emissions. Please provide calculations quantifying these emissions and submit a Request for Determination (RfD) to the Department's Air Quality Program. If tanks will be used for storage of treatment chemicals, determine if a PADEP tank registration and installation permit is required.

8. The leachate's total suspended solids (TSS) amount listed in Appendix A - Table 1.1 (Design Basis Table) is 10,600 mg/L while it is listed as 100 mg/L in Appendix D – Table 1. Please explain this inconsistency and provide a single TSS amount to act as a basis for the design of the MBBR and the other units.
9. No calculation is provided to demonstrate that the media volume and the hydraulic residence times associated with the MBBR are sufficient to treat the influent loading rates (COD, bCOD, Ammonia). Please provide relevant mass loading rate calculations and sizing justification for the selected media volume and the hydraulic residence time values (90 hours for Phase 1, and 40 hours for Phase 2) associated with the MBBR unit. Please include expected removal efficiencies for each contaminant.
10. The report indicates that the process may require additions of nutrients to support biological oxidation in the MBBR. Please provide a nutrient management plan that includes target C:N:P ratio, dosing rates, monitoring and amounts adjustment procedures.
11. The report does not propose an oxidation-reduction potential (ORP) monitoring plan. Since ORP is critical for metal oxidation and in the nitrification/denitrification processes, an ORP sensors and control plan must be incorporated in the design of the MBBR. Please revise the design report to include this missing item.
12. Sanitary Landfill indicates that the project involves a construction activity that results in earth disturbance of 2.4 acres. Provide an updated Form I to address Erosion and Sedimentation controls for construction and if applicable, operation for the facility. Also include details on proper stormwater management to prohibit contamination of stormwater or alternately, collection and proper management of contaminated stormwater.
13. The information presented does not include a plan for managing backwash water from the KDF units. Please provide an estimate of the backwash water flow rate and describe how the backwash water from the KDF units will be managed, treated and disposed of.
14. Sanitary landfill indicates that the residues generated from the treatment of the leachate will be disposed in the landfill. Please provide a residual waste sampling plan for residues resulting from the treatment processes, including robust sampling frequency covering the full Form U parameter list, as well as radiological sampling to confirm proper waste characterization and acceptability for disposal at the landfill as required by 25 Pa. Code Section 273.276(b). Also include an odor screening and mitigation plan for operation of the facility, storage, and disposal of residuals at the landfill. Residual waste generated by the process must be properly stored, tested, and analyzed with results submitted to the Department for approval before disposal.
15. Submit a Sampling and Analytical Plan that identifies sample points; sample type (grab/composite); frequency; preservation/holding time requirements; analytical methods and detection limits; QA/QC procedures; and data validation protocols. Include chain of custody forms and laboratory accreditation certificates.

16. No information is provided for PFAS, chlorides, sulfates, or VOC concentrations in the raw leachate. Please provide complete influent characterization, including but not limited to: PFAS, 1,4-dioxane, chlorides, sulfates, alkalinity, hardness, and full priority pollutant VOCs—as required for POTW pretreatment review and Clean Streams Law WQM permitting.
17. Provide proof of contracts for leachate trucking pursuant to 25 Pa. Code § 273.273 (Relating to leachate transportation) meeting the following requirements:
 - A. The landfill operator has a valid contract for the treatment of leachate at an offsite treatment facility for up to 3 years. The contract shall prohibit the treatment facility operator from refusing to treat leachate without six months advance written notice to the landfill operator.
 - B. The offsite treatment facility to which the leachate would be transported is operating in compliance with The Clean Streams Law and regulations thereunder and is otherwise authorized and capable of accepting and treating leachate from the landfill.
18. The content of Form A - Attachment A-1 does not include a certificate of publication issued by the newspaper in which the notice appeared. Please provide the missing documentation.

Your response should be in the form of revisions to affected pages, forms, or drawings in the application. Each revision or addition should bear the revision date and show what items have been revised or added. The Department suggests you use colored paper for page revisions to the application with additions highlighted and deletions lined out, so changes are easily identified. All revised forms must have the title sheet marked with the latest revision date.

A revised Page 2 of Form A (Application for Municipal or Residual Waste Permit) must be re-signed by the applicant, notarized, and marked with the revision date. The requested information should be submitted within 60 days of receipt of this letter.

Upon receipt of your submission, the Department will continue its evaluation of the application. You will be notified later if deficiencies remain in your application and given an opportunity to correct any deficiencies. A pre-denial letter will summarize these proceedings.

If you believe the listed deficiencies are not significant, you may ask the Department to review the information you have already submitted. If you choose this option, you should explain and justify how your current submission satisfies the deficiencies noted above. If you fail to respond to this request within 60 days, your application may be denied.

Please submit your response using the *Public Upload with Electronic Payment* tool on the Department's website. Information about this tool as well as a link to the submission form can be found here: <https://www.dep.pa.gov/DataandTools/ElectronicSubmissions/Pages/default.aspx>.

Please note in the comments section that this submittal is in response to a Technical Deficiency Letter for I.D. No. 100277 and Authorization No. 1516469.

You may follow your application through the review process via *eFACTS on the Web* at:
<https://www.ahs.dep.pa.gov/eFACTSWeb/default.aspx/default.aspx> .

If you have any questions about your application or requirements of the Solid Waste Management Act, please contact me at iabulfata@pa.gov or 412.442.5204 and refer to I.D. No. 100277 and Authorization No. 1516469.

Sincerely,

Ihab Abdulfatah, P.E.
Environmental Engineer
Bureau of Waste Management

cc: Tamira Spedaliere, Rostraver Township (planning@rostraver.us)
Jason Rigone, Westmoreland County (wcplanning@co.westmoreland.pa.us)
Brian Stewart, Westmoreland Sanitary Landfill, LLC (bstewart@nobleenviro.com)
Kyle Fitzroy, Civil Design Solutions, Inc. (kfitzroy@civildesign.org)
Region