



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

January 3, 2020

Dominick DeNaples, JR  
Keystone Sanitary Landfill Inc.  
249 Dunham Drive  
Dunmore, PA 18512-0249

Re: WQM Application Incomplete  
Keystone Sanitary Landfill  
(Industrial Wastewater Treatment Plant)  
Application No. 3519201  
Authorization ID No. 1300206  
Throop & Dunmore Boroughs, Lackawanna  
County

Dear Mr. DeNaples:

The Department of Environmental Protection (DEP) received your application for a Water Quality Management (WQM) permit on December 18, 2019. The WQM Permit was to cover permitting of an existing/to-be-upgraded "pretreatment only" Industrial Wastewater Treatment Plant (IWTP) to allow for NPDES permitted discharges and beneficial use(s) of treated leachate wastewater (dust control; building utility water in IWTP, other buildings and tire wash; disposal of concentrated RO effluent on the working face). DEP has reviewed the Part II Water Quality Management application and has determined that it is neither complete nor technically adequate for review.

Please note that the DEP permitting process requires denial of Part II WQM permit applications if the application is not complete and technically adequate for review. Rather than deny your application upfront, the Department is providing guidance on minimum application requirements to allow you to develop and submit a complete and technically adequate permit application for review. For general information regarding the WQM permitting requirements for a complete and technically adequate application, see the DEP Website "Standard Operating Procedures" webpage for the Clean Water Program SOP ID# BPNPSM-PMT-024 "Water Quality Management Permits for Industrial Waste Treatment Facilities" (which references the DEP Domestic Wastewater Facilities Manual (DEP ID# 362-0300-001, hereafter "DWF" for biological treatment, and which also applies to force main/sewer piping), DEP Policy No. 383-2125-108 (Industrial Wastewater Management), and (industrial waste) Water Quality Management Permit application forms and instructions available via the DEP E-library). The DEP Policy No. 385-2188-002 (Reuse of Treated Wastewater Guidance Manual) focuses on reuse of treated domestic wastewater (sewage) but addresses overlapping minimum design/O&M considerations. In event that a land discharge (see NPDES Permit Application Incompleteness Letter) is being proposed, see the SOP "Water Quality Management Permits for Land Application of Sewage and Industrial Wastewaters". Please note the Department anticipates

issuing a revised DWFM Update for public comment in 2020 if you plan to propose any additional biological treatment.

Application Incompleteness Issues: Submit a complete and technically adequate application within sixty (60) days of this letter addressing the following issues:

1. General:

- a. Discharge Route to Receiving Streams: The NPDES and WQM Permit Applications do not show any existing/proposed piping and/or surface drainage channel to direct the effluent to the historic Eddy Creek channel (or flowing portion thereof) or to the proposed Little Roaring Brook Outfall.
  - i. Provide engineering design drawings and figures for the proposed “force main” to direct IWTP effluent to the proposed outfalls. Expand WQM Permit Application to provide all relevant information. Clarify if you possess all required rights-of-way. Provide latitude/longitude (with elevations) for start of piping, midpoint and end-of-pipe (if other than NPDES Permit application-identified Outfall).
  - ii. Clarify if there is any plan to restore Eddy Creek.
  - iii. Provide a topographic drawing showing Eddy Creek between landfill area and the Lackawanna River confluence (showing all roads, culverts, residences, businesses, schools, etc.). Do not use obsolete topographic information on this drawing. Identify location of first aquatic life use. Address potential erosion/hydrology concerns if a dry channel discharge is proposed.
- b. Hydrogeological Concerns (Eddy Creek and proposed beneficial use): The DEP Clean Water Program Geologist previously requested the following information that must be addressed in the WQM Permit application:
  - i. A Hydrogeological Study of the Eddy Creek hydrology (infiltration and permanence; chemical characterization of the receiving groundwater) because Eddy Creek is a “losing” and “gaining” stream with infiltration into the underlying mine pool.
  - ii. A risk assessment evaluation of properties along Eddy Creek to the confluence with the Lackawanna River.
  - iii. Identification of what are the (reverse osmosis discharge) radionucleotides concentration(s) in the proposed effluent discharge and beneficial use applications.
  - iv. A report providing comprehensive understanding of the areas receiving the spray irrigation (dust control beneficial use or other) delineating and characterizing the discharge that would not be covered under the PADEP Waste Management Program MSW Landfill ground/surface water monitoring. This would include any areas outside of the overall Eddy Creek watershed.

- v. An evaluation and proposed monitoring program for determining when spray irrigation/beneficial use can occur in terms of precipitation (evaporation, transpiration, precipitation loadings). What percentages infiltrate, evaporate, or runoff should be quantified for varying weather conditions.
- vi. Clarify if the treated effluent will be used in the quarrying operations onsite, with potential exposure route to the public. In that case, the WQM Permit Application would have to address this exposure route.
- vii. A complete hydrogeological study addressing infiltration into the shallow groundwater system and deeper aquifer system. This would require groundwater monitoring around any basin receiving the treated effluent by direct runoff or infiltration.

Please note that the NPDES/WQM permit applications must contain all relevant information as “stand alone documents”. The application(s) cannot cross-reference DEP Waste Management permits, permit applications, and monitoring reports unless the relevant information is included as NPDES/WQM permit application supplements. Any Hydrogeology-related submittal will have to be signed and sealed by a PA Professional Geologist.

- c. Potential Land Discharge Permitting Requirements: The proposed “Eddy Creek” outfall location (adjacent to the IWTP) does not appear to be on the historic Eddy Creek channel as shown on Figure 1 (Site Location Map), USGS Topography and DEP E-maps. The Application Section 6.0 indicated the proposed Eddy Creek discharge location would have a 0.0467 square mile drainage area (either discharge is not going to Eddy Creek or Eddy Creek does not exist at the discharge location). In the absence of a direct channel to the historic receiving/free flowing stream, the discharge will be considered direction of effluent wastewater to the underlying groundwater/mine pool by infiltration. In that event, you would have to expand this application to address land discharge requirements and/or apply for an Underground Injection Well (addressing contaminated groundwater/mine pool considerations). In addition, you would have to address potential erosion and hydrology issues at the discharge point (and downstream). Similar requirements would be triggered if there is no direct discharge to Little Roaring Brook.

2. Related Permit/Permit Applications:

- a. Concurrent NPDES Permit Application No. PA0276268: The concurrent NPDES Permit Application No. PA0276268 (proposed discharges of treated effluent to the waters of the Commonwealth) is under separate concurrent review. The Department will be issuing a separate incompleteness letter:
  - i. Verify that the (revised) WQM Permit Application is consistent with the (revised) NPDES permit application and vice-versa. The Department has noted informational discrepancies in the submittals. Also, the NPDES

- Permit Application-required Process Flow Diagram and Line Drawing should be directly incorporated into this WQM permit application.
- ii. The WQM Permit contained copies of the May 12, 2016 Preliminary Effluent Limits (PEL) Letter (Eddy Creek) and May 10, 2019 PEL Letter (Little Roaring Brook) discharges. Those letters stated that changes in discharge flows and/or discharge location would require re-evaluation of permit limits. You are proposing increased discharge rates and the application(s) are unclear if the discharge location(s) remain the same. Therefore, the NPDES Permit review might result in revised effluent limits for the IWTP's treated discharge(s).
  - iii. The separate existing General Permit PAG-03 (Stormwater) NPDES Permit No. PAR502203 will be merged into the NPDES Permit Application per DEP Policy and to address proposed beneficial uses of treated leachate within the unlined portions of the landfill and/or otherwise entering existing/proposed site stormwater/surface runoff controls. This might require additional permitted stormwater outfalls with additional permit limits and monitoring requirements.
- b. MSW Landfill Major Modification Application and PADEP AQ Request for Determination (RFD): Please note that permit coordination requirements apply. Provide complete and accurate courtesy copies of the concurrent MSW Landfill Application(s) and PADEP AQ RFD. In addition:
- i. Provide copies of the WQM Permit Application-referenced MSW Landfill Permit No. 101247-A183 for the existing Leachate Treatment Plant construction/operation.
  - ii. Clarify what any project-related construction (wastewater conveyance piping, discharge channels, and/or stormwater controls) will be addressed under the MSW Landfill permit.
- c. Future Landfill Expansion: The Department understands that you might be seeking to expand the landfill within the future 5-year NPDES permit term. Figure 3 appears to show such an expansion. An expansion will likely modify leachate generation rates/loadings (requiring treatment). A new WQM Permit application might be required to address expansion-related site changes concurrent with any DEP Waste Management MSW Landfill expansion application.
3. NPDES Application Checklist for IW NPDES Permit:
- a. Item 3 (Application copies): Provide one original and two complete and technically adequate copies of the updated application in the response to this letter. The additional copy is required for the DEP Clean Water Program Geologist.
  - b. Item 3.c (Design Engineer Report): The Design Engineer Report cover sheet must include Design Engineer seal and signature on its cover page. Explicitly incorporate the "Effluent Reuse Monitoring Plan" as a Design Engineer Report

attachment or provide separate Design Engineer seal and signature on its cover page.

- c. Item 3.e (Technical Specifications): Where are the technical specifications for all of the proposed units, equipment, and construction (including the RO units, any force main, piping, etc.)?
  - d. Item 4.a (General Layout Diagram): Identify which figure/drawing contains the required information or where else to find it. Please note that Figure 2 (Leachate Treatment Schematic) only shows discharge to PAWC Scranton WWTP, not any provisions for discharge to the separately proposed NPDES Permit outfalls or application proposed beneficial reuse. See Module 1-related comments also.
  - e. Item 4.b (Sizes, Capacities, and Dimensions Diagram): Identify which figure/drawing contains the required information or where else to find it.
  - f. Item 5 (Design Modules): The WQM Permit will cover the entire IWTP and related facilities (truck loading/unloading; any discharge piping, surface discharge swale, outfall, etc.). This will require additional Modules (discussed below).
  - g. Item 6 (Topographic Map): Provide the required Topographic Map showing the treatment facilities, intake structures and Outfalls with accurate topography. Please note that Figure 1 (Site Location Map) does not have readable topography within site boundary, does not identify the IWTP/Outfall locations, and might be based on obsolete topography due to land regrading over the years.
  - h. Item 7 (Proof of Act 14 Notices): Provide the required proof of completed Act 14 notifications. In addition, the WQM Permit Application Act 14 notice should have noticed that a WQM permit is being sought for the IWTP in addition to beneficial use approval.
  - i. Item 8 (Act 537 Approval): In accordance with the May 10, 2019 PEL Letter (page 3) and May 12, 2016 PEL Letter (page 3), the project was required to be included in the municipality's Official Sewage Plan. The project also involves increased leachate flows (0.18 MGD) above the application-identified present 0.15 MGD IWTP capacity to PAWC Scranton WWTP. The application implies the IWTP might be discharging up to 0.33 MGD.
  - j. Item 9 (Cultural Resources Notification): Where is this notification?
  - k. Item 10 (Act 67, 68 and 127 Notification): Where are the land use notifications?
  - l. Item 11 (Proof of Publication): Provide the required proof of newspaper notification. If scope of permit expands (see above), new notification might be required. In addition, the WQM Permit Application Act 14 notice should have noticed that a WQM permit is being sought for the IWTP in addition to beneficial use approval.
4. General Information Form:
- a. Client Information Section: DEP EFACTS indicated the applicant has a Dun & Bradstreet Number. Therefore, that item is not "N/A".
  - b. Facility Information Section: Clarify if the project will impact any previous permit for beneficial use, encroachment, erosion & sediment control facility, etc.

- c. Site Information Section:
    - i. The Department's understanding is that the facility will be seeking an expansion. Clarify if this is the "Phase III" shown on Figure 3 (Site Plan with Monitoring Locations). Update this section as needed.
    - ii. The Client-to-Site Relationship was identified as "owner". Will there be a separate operator of the IWTP?
  - d. Facility Information Section: Address whether the project impacts any existing facility, system, or activity (including beneficial use; erosion & sedimentation control; quarrying; etc.).
  - e. Project Information and Land Use Information Sections: Application inputting triggered automated EFACTS warnings of potential land use conflicts and Environmental Justice requirements. Identify any existing/potential land use conflicts and/or Environmental Justice issues. Provide any available copies of local land use approval or other evidence of compliance with local comprehensive plans and zoning ordinance.
  - f. Coordination Section: Update if project scope expands. In addition:
    - i. Item 5.0 – 5.3 (Earth Disturbance/Waterways & Wetlands/Floodplain): If there will be any required earth disturbance outside of existing MSW Landfill Permit-covered structures (building, stormwater controls, piping), complete these items. At present, the application does not show how the proposed discharges will reach the intended receiving waters or whether stormwater outfalls must be constructed within a floodplain.
    - ii. Item 9 (Planning): In accordance with the May 10, 2019 PEL Letter (page 3) and May 12, 2016 PEL Letter (page 3), the project was required to be included in the municipality's Official Sewage Plan. The project also involves increased leachate flows (0.18 MGD) above the application-identified present 0.15 MGD flows to PAWC Scranton WWTP. Therefore, the response must be changed to "yes" and a copy of the Planning Approval letter included in each application copy.
    - iii. Item 13.0 (Air Emissions): Complete the required subitems.
    - iv. Item 15.0 (Infiltration within 0.5 miles): Verify responses are accurate, given potential land discharge and proposed beneficial reuse areas.
    - v. Item 18.0 (Treatment, storage, reuse or disposal of waste): Address the proposed reuse of treated leachate here in terms of types and amounts.
5. Module 1 (Treatment Plant Summary):
- a. General: Address the entirety of the IWTP in this WQM permit application (which implies that the facility might be retaining a non-RO treatment train for continued discharge to the PAWC Scranton WWTP).
  - b. Design Loading Data Section: Complete Item 5 subitems and columns for the IWTP. Clarify discrepancy with Module 3 regarding 0.33 MGD Lagoon discharge rate.

- c. Facilities Design Data Section: Identify design basis and Total Treatment Unit Hydraulic capacity for the aerated lagoons. Clarify if any existing treatment units are being abandoned or replaced. Address influent and effluent pumps, oil/grease separators, filters, etc. for the entire Industrial Wastewater Treatment Plant (from influent to lagoons to PAWC Scranton discharge, proposed NPDES Permitted Outfalls, and proposed beneficial use.
    - d. Waste Characteristics Section: Update with revised NPDES Permit Application Pollutant Group Tables and related. See separate NPDES Permit Application Incompleteness Letter for minimum requirements.
6. Module 2 (Sewer System): Expand application to identify any proposed IW (treated leachate) conveyance system construction associated with this project.
  - a. Items 2 & 3 (Connecting WQM permits): Identify the WQM Permit number for the sanitary sewer line connection to the PAWC Scranton WWTP and the PAWC Scranton WWTP. (Being retained for back-up).
  - b. Items 6 & 7: Complete these items for any project related IW conveyance piping.
7. Module 3 (Flow Equalization): The IWTP-related storage tanks appear to be flow equalization units. Expand this section to address such usage.
8. Module 4 (Screening and Settling):
  - a. Screening and Comminuting Devices: Address in-line screens in the Module 1 Facilities Design Data Section. Cross-reference narrative answering form questions.
  - b. Settling Tanks: Address Inclined Plate Separator in the Module 1 Facilities Design Data Section. If any existing/proposed tank will be used for settlement, address it here.
9. Module 5 (Aeration): Address the Lagoon aeration and any post-aeration here.
10. Module 6 (Chemical Treatment):
  - a. Show all chemical treatment units and injection points on the provided drawings.
  - b. Address both proposed pH adjustment units in this Module. Identify expected solids concentration in site effluent.
  - c. Complete columns for all mixing facilities.
11. Module 7 (Sand Filters): Figure 2 (Leachate Treatment Plant) shows the presence of sand filters. Therefore, complete this module.
12. Module 8 (Other Filters and Disinfection):
  - a. Other Filters: Provide the form-required information regarding filtration rate, backwash procedure, rates and applied loading.

- b. Disinfection: Complete this section with all details regarding the proposed chlorine back-up.
  
13. Module 13 (Stream Encroachment and Crossings): Provide this form to address any project-related earth disturbance, piping, outfall or other construction activity within the streams/floodways.
  
14. Module 14 (Spray Irrigation): Complete this form in event of proposed land discharge to a dry area (dry discharge scenario, not wastewater reuse unless proposed beneficial uses expand).
  
15. Module 15 (Industrial Wastewater Treatment Facility):
  - a. Summary of Wastewater Source and Treatment Unit Information:
    - i. Clarify if the "old" treatment plant units will be retained onsite as back-up or for separate operation.
    - ii. Clarify if the Aerated Lagoons are used for biological treatment (in addition to flow equalization).
    - iii. Expand to incorporate any post-Reverse Osmosis (RO) pH adjustment or back-up chlorine disinfection.
  - b. Waste Characteristics: Either cross-reference the updated Module 1 Section or include the information here.
  
16. Module 19 (Supplementary Geology and Groundwater Information): This is required for both the existing aerated lagoons (remaining in use) plus project-related hydrogeological issues (discussed above). The Module must be PA Professional Geologist signed and sealed.
  
17. Module 20 (Impoundments): Complete this module to describe the existing lagoons (remaining in use).
  
18. Module 22 (Pump Stations): If pumping will be required to direct effluent to the outfalls, complete this Module.
  
19. Design Engineer Report (Application Section 5.0): In addition to the above:
  - a. General: Explicitly address the DEP Policy No. 385-2188-002 (Reuse of Treated Wastewater Guidance Manual) Section IV (Design and Permitting) and Section V (Implementing a Water Reuse Plan) items within the Design Engineer Report. Cross-reference supplied engineering drawings to show design features.
  - b. Section 1.2 General Project Description:
    - i. Clarify if any "Phase I" Reverse Osmosis Units have been installed onsite.
    - ii. The Report indicates the "existing treatment plant will remain in operation and discharge to the PAWC Scranton wastewater treatment plant". The existing plant was estimated at 0.15 MGD capacity. Therefore, show the



complete treatment plant process and piping on provided PA Professional Engineer-signed and sealed engineering drawings, process flow diagram and line drawings. Verify that Modules 1 and 15 address all IWTP units/equipment.

- c. Section 1.2.2 (Leachate Quality): Update Report to address the obsolescence of the two PEL Letters and updated leachate influent/effluent analytical data.
- d. Section 2.2 (Treatment System Size, Capacity, and Dimensions): Summarize system size, capacity and dimensions on a provided table. Expand to address any project-related construction (including truck loading/unloading area for beneficial use).
- e. Section 2.3.2 (RO Chemicals): The described chemicals include biocides and antiscalants that might qualify as "chemical additives". See DEP Chemical Additive webpage for chemical additive requirements.
- f. Section 2.4 (Pumping Equipment): Provide calculations showing the existing effluent pumps are adequate to pump treated leachate effluent to Eddy Creek and Little Roaring Creek.
- g. Section 2.8 (System Management when Inoperative): What minimum lagoon storage capacity will be available in event of a prolonged site shutdown?
- h. Section 2.9 (Containment): Explain secondary containment/spill controls for the truck loading area (for beneficial use onsite). Reference related drawing and PPC Plan information.

20. Effluent Reuse Monitoring Plan: In addition to the above:

- a. General: Explicitly address the DEP Policy No. 385-2188-002 (Reuse of Treated Wastewater Guidance Manual) Section IV (Design and Permitting) and V (Implementing a Water Reuse Plan) items here.
- b. Section 1.2 (Effluent Reuse Applications): The application indicates that year-round beneficial use is expected to be supplemented by stream discharge and/or discharge to the PAWC Scranton WWTP. Explain the facility operational usage provisions to prevent excessive application for dust control, given any unneeded water will contribute pollutant loadings to stormwater runoff and/or infiltration into the groundwater. Explain what adverse weather conditions would trigger prohibition or curtailment of beneficial use of effluent. Address any existing usage of partially treated leachate for use on the landfill working face.
- c. Section 1.4 (Sampling/Monitoring Background), 2.0 (Current Site Monitoring and Sampling Procedures), 3.0 (Proposed Monitoring Locations and Procedures), and 4.0 (Data Reporting): Update per above comments. In addition:
  - i. The plan indicated it would maintain onsite daily records of the amount and location of effluent reused.
    1. Provide sample of proposed daily records.
  - ii. The plan indicated that there are 36 groundwater monitoring wells undergoing quarterly monitoring (Form 19 parameters) per the separate MSW Landfill Permit that can aid in detecting adverse impacts, plus 5

groundwater wells used for water elevation monitoring only. This data would continue to be submitted to the DEP Waste Management Program.

1. Explain any surface water monitoring (basin and/or stream) being conducted under the MSW Landfill permit.
  2. What groundwater and surface water background and monitoring information will be submitted to the DEP Clean Water Program?
- iii. The plan indicated that there is only one (1) existing NPDES stormwater outfall onsite (Eddy Creek), being monitored only for pH, TSS, COD, Ammonia-N, and Total Iron (with EDMR reporting).
1. Please note that additional stormwater outfalls and monitored parameters will be included in the future NPDES Permit.
- iv. The plan indicated effluent monitoring will meet future NPDES Permit requirements via EDMR reporting.
1. Explain the proposed monitoring for the beneficially reused wastewater.
- v. Monthly visual inspections are proposed immediately following effluent beneficial reuse (around groundwater and surface water monitoring points). Visual inspections will include color, clarity, suspended solids, sheen, foam, etc. It is proposed that the monthly inspection copies be sent to the PADEP Clean Water Program Hydrogeologist.
1. Supply a draft copy of the monthly visual inspection report.
- vi. If analytical results or visual inspections reveal any adverse conditions present in the treated effluent, KSL will notify PADEP personnel of any corrective measures taken.
1. Please note that both the DEP Waste Management Program and Clean Water Program will require separate notifications in accordance with the applicable permits & regulations.
- d. Site PPC Plan: Provide updated site PPC Plan addressing beneficial use(s) in terms of pollution prevention, spill & leak contingency planning, inspections/monitoring requirements, etc.

21. Drawings/Figures: In addition to the above:

- a. Figure 3 (Site Plan with Monitoring Points):
  - i. Due to scale, provide full-sized Figure. Show IWTP and proposed/existing outfalls. Show all existing stormwater outfalls and surface monitoring points, plus access roads (receiving beneficial use dust spraying and allowing access to all existing/proposed monitoring points).
  - ii. Given the depicted "Phase III boundary" (presumed to be a Keystone Landfill expansion project boundary), it appears that many existing monitoring points would be covered or relocated. Explain potential impacts on the proposed beneficial use monitoring plans. Verify that depicted topography reflects current conditions. Show the Keystone Landfill property boundary on the drawing.

- b. Figure 4 (Facility Plan): Verify that this figure addresses the entirety of the existing/proposed facility.

After a complete and technically adequate (for review) WQM Permit Application has been received, the Department will be able to proceed to the technical review stage in accordance with the Permit Decision Guideline process and standard permitting procedures. The Department retains the right to deny an incomplete permit application. Alternatively, you can withdraw this WQM permit application. Please note that any technical deficiency letter terminates coverage under the PDG time-frames. If you have any questions, please contact me at 570.826.2308. If you have any hydrogeology-related questions, contact Mr. John Hannigan (DEP Geologist) through 570-826-2511.

Sincerely,



James D. Berger, P.E.  
Environmental Engineer  
Clean Water Program

cc: Earthres Group Inc.  
DEP Waste Management  
DEP Air Quality  
DEP Monitoring & Compliance  
DEP Clean Water Geologist  
DEP File

