

November 26, 2018

Robert Rovner
PA Waste, LLC
1785 Bustleton Pike
Feasterville, PA 19053

Re: PA Waste LLC - Municipal Waste Landfill Application
Camp Hope Run Landfill – Permit # 101719
APS 944978; AUTH 1189259
Boggs Township, Clearfield County

Dear Mr. Rovner:

The Department of Environmental Protection (DEP) has reviewed your Waste Management application for the above-referenced site and has identified the following deficiencies and comments. The deficiencies are based on applicable laws and regulations and pursuant to the Pennsylvania Solid Waste Management Act of July 7, 1980 and the Municipal Waste Regulations most recent effective version. Comments that are noted are inconsistencies within the application or items requiring clarification or additional detail. 25 Pa Code §271.201(2) states that “the permit application is complete and accurate.” Revisions and additional information are needed for the application to meet these regulations.

Of the 183 items noted below, 122 of them are technical deficiencies and 61 of them are comments. However, please keep in mind that all items are to be addressed.

Phase I Deficiencies

Response to Technical Deficiency Letter (TDL) Comment 1 – Form E

1. Comment: The applicant initially responded to this comment on June 6, 2018, and then revised the response in a letter dated August 9, 2018. Please provide updated information as to any resolution of the Camp Rattlesnake Right of Way.

Response to TDL Comment 6 – Form F

2. Deficiency: Attachment F-2 and Attachment 2-3 both indicate cross-section lines that do not match Exhibits 6-1.2 to 6-1.8. There are several soil series that range in thickness from approximately 2’ to 9’ on the site. Exhibits 6-1.2 to 6-1.8 do not indicate soil thickness or series. Please revise all appropriate attachments and exhibits.

Response to TDL Comment 33 – Form 6

3. Deficiency: The Department agrees that TH22 may not provide accurate Lower Kittanning elevation data. TH22 was included in the comment strictly to indicate the location of concern. The Department agrees that the spacing between the Lower Kittanning (LK) and Clarion (CL) coals is variable. However, cross-section D-D’ indicates that the projected LK elevation from CH-2 to NW-3 would be approximately 10’-15’ above the CL3. The LK crop

elevation on Exhibit 6-1.10 and the CL3 elevation on NW-3 lithologic log indicates approximately 18' separation between the LK and CL3. Other site wells that intercepted the LK and CL3 indicate an approximate separation distance of 40'-50' between the LK and CL3. Application cross-sections indicate that the structure of the LK and CL generally agree except for the area of concern (southern S2 area) as shown on cross-sections C-C' and D-D'. Even though NW3 did not intercept the LK, NW3 is a surveyed well that provides additional data that should be incorporated in the generation of the LK structure contours. Please reevaluate the LK structure contours using all available surveyed well data or provide data to explain the deviation of structure of the LK in the southern S2 area.

Response to TDL Comment 38 – Form 6

4. Deficiency: The revised cross-section C-C' includes a section labeled "LKR Hot Zone" on TH17. This is not indicated on the lithologic log for TH17. Please clarify and revise appropriate attachments and cross-sections.

Response to TDL Comment 47 – Form 8

5. Comment: The revisions requested in the May 9, 2018 letter have not been adequately addressed. Please revise this section to reflect that the wells will be sampled after a minimum of one well borehole volume has been purged and stabilized chemistry has been reached. Please revise this section to include the language such as "Stabilization occurs" when, for at least three consecutive measurements, the pH remains constant within 0.1 Standard Unit (SU) and specific conductance varies no more than approximately 5 percent. Please revise this section to reflect that wells that have limited yield will be purged dry and sampled once the well has recovered to sufficient volume for sampling.

Response to TDL Comment 48 – Form 8

6. Comment: Third paragraph of the response states that "Field parameters of pH, specific conductance, and temperature will be collected and recorded..." Please include stream flow as a measured and recorded field parameter.

Phase II Deficiencies

Form 3 – Phase II Map Requirements [25 Pa Code §273.133]**Sheet 2 – Drawing S1: Existing Site Conditions**

7. Deficiency: Form 3 Section B, 5(c), lakes and ponds. The Legend on Sheet 2 includes "Surface Water Impoundment" and "Sediment Basin from Former Mining Operation". It appears that the surface water impoundments shown on the drawing are the sediment basins from previous mining. Sediment Basin (SB) could not be located on the drawing. Please revise the drawing as necessary.
8. Comment: Two wetland hatches are indicated in the legend. These hatches are similar and difficult to differentiate on the drawing. Several wetlands are identified with line types different than those identified in the legend. Please revise the drawing as necessary.
9. Deficiency: There are several items on the drawing that are not in the legend, such as possible tree lines, trails, piles, old drill holes or survey points, fence lines, and utility poles

locations. These items are the same line color and weight as the existing ground contours and make the drawing difficult to interpret. Please revise the drawing as necessary.

10. Deficiency: The Legend lists "Former Surface Mines" but does not indicate a symbol or line type. Drawing Note 3 states "Limits of former strip mine are approximate..." The limits of the former strip mines are not indicated on the drawing. Please revise the drawing as necessary.
11. Deficiency: Drawing Note 13 indicates the Kauffman bore hole mapping, but the legend and note do not identify which bore holes are from the Kauffman maps. Please revise the drawing as necessary to clarify which holes the note is referring to.

Sheet 3- Drawing S2: Proposed Development Plan

12. Comment: There are several items in legend that cannot be found on the drawing. Please revise the drawing and legend as necessary.
13. Comment: Drawing Note 5 refers to a discharge that is being separately permitted but does not identify the discharge location. A reference to Note 5 could not be located on the drawing. Please revise the drawing as necessary.
14. Comment: S1 Stockpile Area refers to Note 3, which makes reference to the Highwall Intercept Drain. This appears to be an error. Please clarify.
15. Deficiency: Several required items are not included on the drawing. These include: the areas of land for which a bond will be posted (25 Pa Code §273.133(a)(4)), location and identification of monitoring wells (25 Pa Code §273.133(a)(13)), and location of weather station (Form 3 Section B (16)). Please revise the drawing to include these items.

Sheet 4 – Drawing S3: Subbase Plan

16. Deficiency: The drawing shows the proposed subbase and extent of excavation in S3 area. Figure J-1.1 – Kauffman Operation Phase VI Field Operation Map and Figure J-1.5 shows the extent of mining cuts in the Kauffman Phase VI area and indicate that the southwest area of Kauffman Phase VI was not mined. Bore hole S3-1 indicates 33' of spoil and then 17' of undisturbed ground above the LK. Based in this information there are several unaddressed concerns regarding the S3 area excavation. See items noted on Form 14, Attachment 14-2 and Form J Attachment J-1. Please revise all necessary drawings to indicate the extent of mining within the S3 area and if necessary the revised extent of excavation in the S3 area.
17. Comment: Phase S3, specifically Cell S3-4, shows a subgrade to subbase fill of as much as 64 feet. There are several technical concerns with such a large amount of fill material and compaction to construct the liner system. See items noted on Form 24.

Sheet 5A – Drawing S4A: Top of Protective Cover Grade and Leachate Detection Piping Plan

18. Deficiency: There are errors on the drawing. There appears to be an extra cell division line between Cell S2-2 and Cell S2-3 at the top of slope that should not exist. The sumps in Cell S2-2 and Cell S3-4 need to be labeled individually, such as S3-4A, S3-4B and S3-4C. Sump

S3-3 is missing contour line at 1730 on the east side. Additionally, to have an accurate depiction of the elevations of the leachate detection zone, piping and slope of the floor, it is recommended that subbase elevations be used instead of the top of the protective cover. The difference in elevation of the subbase and the LDZ is within one inch. The difference between the LDZ and the top of protective cover is at a minimum of 18 inches. Please revise per 25 Pa Code 271.201(2).

Sheet 5B Drawing S4B: Top of Protective Cover Grade and Leachate Detection Piping Plan

19. Comment: There appears to be an extra line located at the cell division line between Cell S2-2 and Cell S2-3 at the top of slope that should not exist. The sumps in Cell S2-2 and Cell S3-4 need to be labeled individually, such as S2-2A and S2-2B. Sump S3-3 is missing contour line at 1730 on the east side. Please revise the drawing as necessary.

Sheet 5C Drawing S4C: Leachate Collection / Detection Piping Plan

20. Comment: Leachate Collection/Detection Piping Plan (Enlargement); 1) A temporary leachate collection and detection pipe termination is shown between Cell S2-3 and Cell S2-5 on the drawing. According to the drawing as depicted by the cell division, numerous temporary leachate collection and detection pipe terminations appear to exist between the two cells identified and between Cell S2-4 and Cell S2-5. If this is the intention, please identify all temporary termination locations on the drawing. 2) Leachate collection and detection pipe terminations exist in the transition of Cell S3-4. If the intention is to split Cell S3-4 in the future, please show a cell division berm on the drawing and revise any other references as appropriate.

Sheet 6 – Drawing S5: Phase S2-1

21. Comment: Construction Sequence Note 16 states that mine spoil will be removed to construct the leachate storage tank. See items noted on Form 14 for material handling procedures.
22. Deficiency: Mine Spoil Excavation Note 2 states that excavated mine spoil will be used for constructing temporary entrance road. This temporary road is not defined or located. Excavated mine spoil has not been proposed to be used for roads, only for use under or on top of lined areas. Please clarify and revise necessary sections.
23. Deficiency: According to Form 14, Operation Plan - Phase II, Attachment 14-2, page 4 of 5, “the excavation floor will drain toward the north and west and be contained by earthen berms”. Drawing S5 does not show the location of the berms around the perimeter of the rough excavated cell S3-1 and the newly graded subgrade contours are outside the proposed cell boundary along the southeast and southwest sides of cell S3-1. Please revise the drawing to include these earthen berms in order to capture all the contact water in Cell S3-1 excavation. Additionally, erosion & Sedimentation (E&S) controls are not identified around Cell S3-1 to capture all sediment-laden runoff from the disturbed/newly graded areas.
24. Deficiency: The Operational narrative should be revised to address how the “collected runoff will be directed to the on-site AMD Treatment Facility”. It is unclear how the water will be conveyed to the AMD Treatment Facility. Please explain in detail and update the Operational Narrative to include this information.

25. Deficiency: Please detail how the temporary stormwater basins, TB-S2-2S and TB-S2-1, will be dewatered and where will the sediment-laden water be directed. Also update the Form I narrative to include this information.
26. Deficiency: Elevations, including proposed subbase contours, intermediate slopes and final slopes, should be added to Cells S2-1 and S2-2 within the disposal boundary.

Sheet 7 – Drawing S6: Phase S2-2

27. Comment: Mine Spoil Excavation Note 1 states that “When the first pod is encountered, bottom excavation will step up to 2’ above pod and non-pod material will be stripped.” Please clarify and further explain pod removal, the non-pod material below the pod, and the extent of excavation to reflect the excavation narrative.
28. Comment: Mine Spoil Excavation Note 3 states that “excavation will proceed to approximately 2’ above former mine floor.” Is this for all of the S3 area? Other sections of the application state that S3 excavation will proceed to the former pit floor. Please clarify and revise all appropriate sections reflect the excavation narrative.

Sheets 7 - 15 – Drawing S6 to S14: Phases S2-2 to S3-4

29. Deficiency: Drawing S6 does not show the location of the berms around the perimeter of rough excavated cell S3-1 and S3-2 and the newly graded subgrade contours are outside the proposed cell boundary along the southeast and southwest sides of cell S3-1 and northwest and southeast sides of S3-2. The drawing should be revised to show the location of these earthen berms to address the contact water from exposed Cell S3-1 and S3-2 during excavation.
30. Deficiency: The Operational narrative should be revised to address how the “collected runoff will be directed to the on-site AMD Treatment Facility”. It is unclear how the water will be conveyed to the AMD Treatment Facility. Please explain in detail and update the Operational Narrative to include this information.
31. Deficiency: Please detail how the temporary stormwater basins, TB-S2-2S and TB-S2-1, will be dewatered and where will the sediment-laden water be directed. Also update the Form I narrative to include this information.
32. Comment: Elevations, including proposed subbase contours, intermediate slopes and final slopes, should be added to Cells S2-1 and S2-2 within the disposal boundary.

Sheets 8-10 – Drawing S7 to S9: Phases S2-3 to S2-5

33. Comment: Mine Spoil Note 1 refers to Sheet 6. This should reference Sheet 7. Please revise as necessary.
34. Comment: Mine Spoil Excavation Note 2 discusses the construction of temporary storage basin TSB-S3-1. This basin could not be located on drawings. Please revise as necessary.

Sheet 10 – Drawing S9: Phase S2-5

35. Deficiency: According to the S3 subgrade contours for Cell S3-4, the floor is pitched north toward temporary basin TB-S2-5. The contact water will pool along the high wall when the pit floor/exposed Lower Kittanning coal runs off. Stormwater and potentially sediment-laden water from north of the high wall is also flowing toward and mixing with the contact water along the base of the high wall. The Operational Narrative should be revised to include how the “collected runoff will be directed to the on-site AMD Treatment Facility”. Please explain in detail how contact water will be directed.

Sheet 11 – Drawing S10: Phase S2-6

36. Deficiency: The phased development depicts the construction of Channel 250 directing flow transitioning from the converted surface water impoundment S4 into the newly constructed Sedimentation Basin 200. Flow is captured by Channel 250 from the pod excavation area, which requires treatment. This flow is contact water and must be directed to the AMD Treatment. Please update to maintain separation of the sediment-laden flow and the contact water. *This comment applies to all future phased development drawings: S3-1 through S3-4.*

Sheets 12-14 – Drawing S11 to S13: Phase S3-1 to S3-3

37. Comment: Construction Notes state that the S3 area will be cleared and grubbed and topsoil will be stripped. It is unclear if there will be topsoil in the S3 area at this stage. Please clarify and revise necessary sections.

Sheets 17-25 – Drawing X1 to X9: Cross-sections

38. Deficiency: Note 8 indicates that “structural fill placed beneath lined/capped areas shall be from the S3 re-excavation. Structural fill in the outer slope areas shall be strictly from the S2 area”. The CQA Plan must be very specific in how the subgrade and subbase will be constructed during 1) lift placement 2) lift compaction 3) alkaline addition, and 4) mending the two different materials together. This area is of serious concern as an interface is created during the construction of the structural layers below the toe-of-slope. Please revise in accordance with 25 Pa Code §273.253 and identify in the Stability Analysis on Form 24 how this was taken into consideration.

Sheet 28 – Drawing L1: Liner System Details

39. Comment: Typical Liner Tie-In Detail - The top GT-C geotextile, situated above the primary liner, is not identified on the detail. Please amend the detail to show the component.
40. Deficiency: Temporary Liner Termination Typical - The edge of the liner is not indicated on the detail. In accordance with 25 Pa Code §273.252(d)(1), for placement of an additional adjacent liner, “waste may not be placed within 25 feet of an edge of the liner.” Therefore, please revise the detail to indicate the edge of liner, which is the inside crest of the temporary berm and the setback distance from the inside crest of the temporary cell boundary berm.
41. Deficiency: Anchor Trench - The edge of the liner is not indicated on the detail. In accordance with 25 Pa Code §273.252(e)(1), if the “design plans do not provide for the placement of additional adjacent liner, waste may not be placed within 15 feet of the inside top of the lined perimeter berm”. Therefore, please revise the detail to indicate the edge of

liner and the setback distance. Additionally, a lined perimeter berm at least 4 feet high shall be constructed and maintained along the edge of the lined disposal area to prevent the lateral escape of leachate.

**Sheet 29 – Drawing LC1: Leachate Collection and Detection System Details
(Sheet 1 of 3)**

42. Deficiency: Type 1 – Toe of Slope Detail - The toe-of-slope LC/LD trench is V-shaped. This type of shaped trench is very difficult to correctly construct. If the V-shaped trench is maintained in the design, please provide testing procedures to verify the structural integrity and compaction of the construction per 25 Pa Code §273.253(b)(1).
43. Deficiency: Type 2 – Landfill Floor - The landfill floor LC/LD trench is V-shaped. This type of shaped trench is very difficult to correctly construct in the field. If the V-shaped trench is maintained in the design, please provide testing procedures to verify the structural integrity and compaction of the construction per 25 Pa Code §273.253(b)(1).
44. Comment: Leachate Collection & Detection Pipe Cleanout Support Details - The transitions/corners into the anchor trench and front & back walls of the anchor trench to floor transitions should be rounded. Transitions of 90° are very difficult to correctly construct in the field. Please provide details on construction to maintain integrity of the design.

**Sheet 30 –Drawing LC2: Leachate Collection and Detection System Details
(Sheet 2 of 3)**

45. Deficiency: Collection & Detection Sump Typical Plan Views - Provisions should be incorporated into the Construction Quality Assurance/ Quality Control CQA/QC manual for the fabrication of all field bends in the collection and detection pipes that do not contain prefabricated elbows. Additionally, incorporate nondestructive testing of all field fabricated seaming around appurtenances, especially boots (prefabricated and field fabricated). Specific attention and procedures must be incorporated in the CQA/QC manual for the testing of sumps.
46. Deficiency: Sump – Typical Cross-section (and Sump Elevation Table) - According to the sump elevations for all fields and trigger elevations in which the LC activate, there is consistently at least 2' of standing liquid in the sump. This also relates to ponding out onto the cell floors, 6" above the crest of the sump. Please revise to conform to the performance standards in 25 Pa Code §273.258(a), specifically, (1) and (2).

Sheet 33 – Drawing LCS1: Leachate Conveyance and Storage Plan

47. Deficiency: According to the drawing and the Form 25 - Leachate Management – Phase II narrative (section 4.2 Storage Tank Farm, page 4 of 8), “three, bolted, glass-lined steel (primary) tanks with a total (nominal) capacity of approximately 1.2 million gallons” will be constructed on-site. The drawing does not show the location of the three storage tanks, nor does it show the piping and ancillary equipment associated with the three tanks in the tank farm. Please revise the drawing to include all the piping and ancillary equipment.

Sheet 38 – Drawing LCS6: Leachate Storage Plan and Section

48. Deficiency: Please provide calculations for the secondary containment for the storage tank farm that meet the requirements of 25 Pa Code §285.122. Additionally, the plan view only shows one tank and the cross-sectional view shows two tanks. Please revise the drawing to show all three proposed tanks and all the piping and ancillary equipment related to the storage tank facility.

Sheet 42 – Drawing SP2: Stockpile S2 Grading & Drainage Plan

49. Deficiency: Plan – S2 Stockpile; During the Phase S2 Development, there is sediment-laden runoff flowing off the southeastern edge of the S2 Stockpile. This flow appears to flow toward Channel 170. Channel 170 is at the outfall of Sedimentation Basin 100 allowing the sediment-laden flow to go offsite. It is recommended that this area incorporate the use of silt fence or other control structures. Please revise to capture sediment as required.
50. Deficiency: Note 1 indicates that “S2 stockpile is intended to store primarily oversized rock material excavated from the S2 area. The stockpile shall be placed as fill which will require controlled compaction to ensure long term stability.” Please provide a narrative and plan details depicting how the slopes of both S1 and S2 stockpiles will be revegetated in accordance with 25 Pa Code §273.235 and §273.235. Attention should be paid towards effective ground cover, reduction of erosion and slope stabilization.

Sheet 43 – Drawing EC1: Stormwater Management Plan

51. Comment: Soil Stockpile Area S1 indicates that flow from the stockpile will be captured via a toe-of-slope channel, which in turn leads to a perimeter channel along the outside footprint of the stockpile, ultimately to a basin. This is in conflict with the design on Drawing 41. Drawing 41 simply shows a perimeter channel along the outside footprint of the stockpile which ultimately flows to the basin. Please clarify which is correct and revise the drawings accordingly.

Sheet 44 – Drawing EC2: Sedimentation Basin 100 Plan – Sections and Details

52. Comment: Sediment cleanout elevations should be permanently marked (i.e. on the principal spillway riser) in the sedimentation basin so that the basins can function correctly and operate in an efficient manner. Please indicate this on the cross-sectional detail. **This comment applies to all Drawings EC2 to EC8: Sedimentation Basin Sections and Details Drawings [100 through 1400].**

Sheet 45 – Drawing EC3: Sedimentation Basin 200 Plan – Sections and Details

53. Deficiency: A portion/area of the existing pond associated with the prior surface mining operations will be situated outside the footprint of Sedimentation Basin 200 along the southeast side. Please describe in detail how the existing pond will be deactivated/dismantled, and Sedimentation Basin 200 constructed, include how all existing contaminated material is removed, including subsoils. Additionally, include an assurance that the interface between the newly constructed sedimentation basin/structural fill embankment/natural soil and the portion of the existing pond located outside the new basin will be prepared/constructed to meet 25 Pa Code § 273.151 and not create short-circuiting.

Sheet 47 – Drawing EC5: Sedimentation Basin 600 Plan – Sections and Details

54. Deficiency: Drawing 43 – Stormwater Management Plan, a channel (not identified) is situated along the eastern perimeter of the landfill footprint, on the downgradient side of the access road that directs flow into Sedimentation Basin 600, on the direct opposite side of the principal & emergency spillways. This channel is not shown on the plan view on Drawing number EC5. Additionally, directing flow into Sedimentation Basin 600 at this location may cause short circuiting. Please revise in accordance with 25 Pa Code § 273.151. Please note Chapter 102 design criteria states “sediment basins should have a flow length to width ratio of at least 2L:1W unless a turbidity barrier or a suitable sediment forebay is provided”. Please provide clarification.

Sheet 49 – Drawing EC7: Sedimentation Basin 900 Plan – Sections and Details

55. Deficiency: The flow from Channel 970 is entering Sedimentation Basin 900 directly opposite of the principal & emergency spillways and may cause short circuiting. Please revise in accordance with 25 Pa Code § 273.151. Please note Chapter 102 design criteria states “sediment basins should have a flow length to width ratio of at least 2L:1W unless a turbidity barrier or a suitable sediment forebay is provided”.

Sheet 50 – Drawing EC8: Sedimentation Basin 1400 Plan – Sections and Details

56. Deficiency: The flow from Channel 1050 is entering Sedimentation Basin 1400 directly opposite of the principal & emergency spillways and may cause short circuiting. Please revise in accordance with 25 Pa Code § 273.151. Please note Chapter 102 design criteria states “sediment basins should have a flow length to width ratio of at least 2L:1W unless a turbidity barrier or a suitable sediment forebay is provided”.

Sheet 53 – Drawing EC11: Stormwater Management Details (Sheet 3 of 3)

57. Deficiency: Typical details are provided for terraces with a 5% and 6.7% inward gradient as part of the final cover system. Several plan views and sections of the application mention the use of outward sloping terraces. If three different final cover system configurations for the terraces are going to be utilized, please provide the following:
- provide a typical terrace cross-sectional detail for an outward gradient terrace
 - indicate on a final cover or ultimate development plan view where the various terraces will be constructed.

Sheet 54 - Drawing Number LFG1: Landfill Gas Management Plan

58. Deficiency: Extraction wells, EW-162 and EW-198 are not shown to connect to the header pipes. Please revise the drawing accordingly
59. Deficiency: The legend does not include a symbol for the condensate pumping station. Additionally, there only appears to be one pumping station, located on the western perimeter of the landfill. Please identify all pump stations and detail how the condensate will be conveyed to the flare.

Sheet 57 – Drawing FC1: Final Cover Details

60. Deficiency: Pipe Boot Through Cap Detail - There appears to be a typographical error on this detail. The weld located at the boot to pipe is supposed to be an extrusion weld. Additionally,

please indicate in the CQA Plan, what methods will be used to test each of the welds around the pipe boot through cap connection.

61. Deficiency: Emergency Gas Relief Valve Detail - Please indicate in the CQA Plan how the ¼" thick HDPE donut to 8" HDPE pipe weld connection will be tested around the pipe through the cap connection to assure the weld integrity.
62. Deficiency: Final Cover at Perimeter Berm Detail - Please specify what type of fill material will be used in the wedge transition from the liner-to-cap connection area. Simply leaving this material as "unclassified fill" is unacceptable as any type of material may be used at this location and may jeopardize the integrity of the cap and/or the liner system.

Sheet 58 – Drawing MD1: Miscellaneous Landfill Details

63. Comment: Typical Waste Cells Detail - If alternate daily cover materials are going to be proposed for use at this facility, the types of materials must be identified in the application, reviewed and approved by the Department. The performance standards in 25 Pa Code §273.232(b) must be met.

Sheet 59 – Drawing E1: Entrance Facilities Plan and Profile

64. Deficiency: Proposed Leachate Truck Loadout Platform and Station: Please provide plan details on the loadout platform such as the slope, collection troughs, and any proposed roofing to collect leachate and wash down/maintenance liquids. Additionally, it appears that the middle of the loadout area collects water and flows away from the platform. Leakage must be collected from vehicles on the platform. Please clarify.
65. Comment: Truck Inspection/Quarantine Area: This area is shown as containing a stone surfacing and no collection troughs. This meets the requirements of the guidance document. However, please be advised that if no containment is provided, there could potentially be environmental impact.

Form 14 – Operation Plan: Phase II [25 Pa Code §273, Subchapter C] – Attachment 14-1, Narrative Responses

Section C – General Operating Description

66. Deficiency: Page 1 of 20 paragraph 4; The narrative indicates that "small loads may be deposited into roll-off containers located adjacent to the facility's scale". The roll-off should be situated on an impervious area with the ability to collect any drippage and litter. Please provide details of where the roll-off is to be located, inspection procedures for the area to avoid operation issues, and a contingency plan to address any incidents that may occur.

Section D – Specific Features

67. Deficiency: Please provide plan details for the following: scales, scale house, maintenance, office building and sanitary sewer holding tank.

Section F – Construction Schedule

68. Comment: Page 8 of 20, Construction Schedule and Sequence of Operation bullet 2 states “Construct Cells S2-1 through S2-5 followed by S3-1 through S3-3”. Design drawings include 6 cells for the S2 area and 4 cells for the S3 area. Please revise this section.
69. Comment: Page 8 of 20, Construction Schedule and Sequence of Operation (1) states that “Construction will begin in the westernmost limits of S2 (Cell S2-1) and generally proceed in an easterly direction.” This does not matchup with the cell layout on the design drawings. Please revise this section.
70. Comment: Page 8 of 20, Construction Schedule and Sequence of Operation (3) states that “... liner subbase elevations are not only above previously “special handled materials”, or “pods” within the mine spoil will be treated as waste.” Please clarify and revise this section.
71. Comment: Page 8 of 20, Construction Schedule and Sequence of Operation (3) states that S3 area non-pod material will be used for construction, landfill operations, or stockpiled. Please revise this section to clarify that S3 non-pod material will only be used as structural fill beneath lined areas, daily cover material, or stockpiled.
72. Comment: Page 8 of 20, Construction Schedule and Sequence of Operation (4) states that the S3 area overburden material excavation will be completed by the end of the 10th year of site operation. Exhibit 14-1.3 lists the duration of S3 mine spoil removal to be 2610 days. Since the landfill is proposed to be in operation 7 days a week (Form 14 Narrative Section I – Operating Hours), the S3 mine spoil removal should be completed in the first 7.15 years of operation. Landfill construction operations are independent of average daily tonnages received. Please revise this section. Please be advised that revisions to the removal time may impact the Environmental Assessment Review.
73. Comment: Page 8 of 20, Construction Schedule and Sequence of Operation (5) states that mine spoil from S3 will be used for constructing and operating in the S3 area. Please revise this section to state that S3 material will only be used as structural fill beneath lined areas or daily cover and will not be used for any construction outside of lined areas.
74. Deficiency: Exhibit 14-1.5 Note 2 states cell construction will start at S3-1 through S3-3 while the drawing shows cells S3-1 through S3-4. Please revise as necessary to comply with 25 Pa Code §271.201(2).

Section J – Access Plan

75. Deficiency: Page 10 of 20; The narrative indicates that “the access roads will be designed to accommodate 80,000 pound loaded refuse transfer trailers. Maximum anticipated loading is approximately 115,000 pounds for fully assembled compaction equipment.” Per 25 Pa Code §273.213(d), an access road shall be capable of withstanding the load limits projected by the applicant.

Section R – Intermediate Cover

76. Comment: Page 18 of 20, paragraph 3; The narrative indicates that “Erosion and sedimentation control for areas being excavated for the intermediate cover will be

accomplished by the detention/sedimentation basins and drainage ditches as defined in the design drawings". Please provide further information.

77. Deficiency: Page 19 of 20, paragraph 1; The narrative states "GRC's will be used on top of intermediate soil cover only where it is necessary to temporarily store runoff (on top of the GRC) and/or prevent infiltration prior to pumping into the on-site stormwater control features." 25 Pa Code §273.233(b)(5) requires that the intermediate cover "control infiltration of precipitation". Please explain why control measures are needed for material meeting intermediate cover requirements.
78. Deficiency: Page 19 of 20, paragraph 2; The narrative indicates the use of intermediate cover that will have a maximum particle size of less than 6". Please provide technical justification how the particle size proposed for use as intermediate cover will meet the performance criteria set forth in 25 Pa Code §273.233(b) regulations. Also, according to the narrative, additional processing (screening, crushing, etc.) may need to be employed if current methods (rake) prove ineffective in limiting over-sized material. Please describe the methods that will be utilized to process the oversized materials and identify where this processing will occur such that nuisances are not created such as dust, sediment-laden runoff, etc.

Form 14 – Operation Plan: Phase II [25 Pa Code §273, Subchapter C] – Attachment 14-2, Mining Special Material Handling Plan

79. Deficiency: Page 1 of 5 states that for the S2 area, the bottom of excavation is the subbase elevation. The design drawings state that the subbase is the bottom of the liner system. Please clarify the extent of excavation in the S2 area, if over excavation is anticipated to achieve subbase requirements, and how blasting will affect the extent of excavation.
80. Comment: Based on drawings and bore information, there a possibility that the Lower Kittanning Rider seam (LKr) may be incidentally encountered during S2 area excavations. Please detail how this encountered material will identified and handled.
81. Comment: Page 1 of 5 states that the surplus and oversized material excavated from the S2 area will be placed in the S1 stockpile. Form F Table F-5.1 indicates that the S2 material will be placed in the S2 stockpile and S3 material will be placed in the S1 stockpile. Design drawing notes state that the S2 material will go to either stockpiles depending on the location of cell development. These materials should be stored separately. Please clarify and revise all appropriate sections and drawings.
82. Deficiency: Page 1 and 2 (of 5) states that surface water runoff from stockpiles S1 and S2 will be collected and treated if necessary. Please identify where this water will be collected and how the determination of treatment will be made. Include the frequency of collection and determination. Please clarify and revise all appropriate sections and drawings.
83. Comment: Page 2 of 5 states that S3 area development will begin in the west and proceed east. The design drawings show that the development will begin in the south and proceed north. Please clarify and revise all appropriate sections.

84. Deficiency: Page 2 of 5 states that the former Kauffman mine floor consists of LK coal binder and LK bottom coal. The former pit floor is identified as high sulfur bearing material. Please revise all appropriate sections to address how this material will be handled when encountered and what measures will be taken to limit the exposure.
85. Comment: Page 2 of 5 discusses the S3 alkaline addition from the Kauffman mine. See items from Form J regarding Kauffman Phase VI Net Neutralization Potential (NNP) calculations. Please make appropriate revisions to this section.
86. Deficiency: Page 2 of 5 states that S3 material is proposed to be used for structural fill under lined areas, daily operational cover within lined areas, and permanently stockpiled. No alkaline addition is proposed for daily operational cover. Please revise the narrative to detail how the structural fill material and daily cover material will be segregated and stored. Please indicate on the design drawings where the separate storage areas will be located.
87. Comment: Page 2 of 5 states that S3 material used for operation cover will not receive alkaline addition since these materials likely have an excess alkalinity. This statement and the table on Page 3 may need to be revised based on Form J revisions. Please revise as necessary.
88. Deficiency: Figure J-1.1 – Kauffman Operation Phase VI Field Operation Map and Figure J-1.5 shows the extent of mining cuts in the Kauffman Phase VI area and indicate that the southwest area of Kauffman Phase VI was not mined. Bore hole S3-1 indicates 33' of spoil and then 17' of undisturbed ground above the LK. Based on this information there appears to be a portion of the S3 area that was not mined. Please include a narrative discussing the southern S3 area and the extent of mining in the Kauffman Phase VI operation. Please include a narrative discussing how potentially acidic material will be identified in the field and how this material will be handled. Please explain to what extent the areas of virgin material will be excavated and how the LKR will be identified and handled if encountered. Please include the proposed alkaline addition rate for excavated S3 area virgin material.
89. Comment: The table on Page 3 of 5 indicates that the S3 non-pod material will be used as cover material. Please revise this table to indicate that S3 non-pod material will only be used for daily cover within lined areas and structural fill below lined areas.
90. Comment: Page 4 of 5 discusses measures to limit the exposure to partially excavated pods due to their high sulfur content. Since the S3 subgrade (former mining floor) has been identified as high sulfur bearing material. Please define how the exposure will be limited.
91. Deficiency: Page 4 of 5 discusses the hauling and placement of S2 and S3 material and alkaline addition material. In accordance with 25 Pa Code §271.3(a), please further explain the alkaline addition procedures. Specifically, the breakdown of how the amount of excavated material and alkaline material will be quantified per truck load and how the amount of alkaline material placed beneath the excavated material will be quantified.
92. Deficiency: Please include information about the alkaline addition material proposed to be used. What is the proposed source(s) of alkaline material? What type of material will it be

and what is the purity? How will the alkaline addition rate be adjusted based on material purity? Will alkaline material be stored on site? If so, where will it be stored? See DEP Technical Guidance Document 653-2112-217 for additional guidance information. In accordance with 25 Pa Code §271.3(a), please provide additional information.

93. Comment: Section 6 on page 5 of 5, states that pods and overburden will be removed from the S3 area by the end of the 10th year of site operation. Exhibit 14-1.3 lists the duration of S3 mine spoil removal to be 2610 days. Since the landfill is proposed to be in operation 7 days a week (Form 14 Narrative Section I – Operating Hours), the S3 mine spoil removal should be completed in the first 7.15 years of operation. Landfill construction operations are independent of average daily tonnages received. Please revise this section. Please be advised that revisions to the removal time may impact the Environmental Assessment Review.
94. Deficiency: Please include a discussion describing the material handling procedures for the mine spoil and virgin material removed to construct support features. This should include details on how the mine spoil will be handled, where it will be placed, and any alkaline addition that is needed.

Form I – Soil Erosion and Sedimentation Controls [25 Pa Code §273.151]

95. Deficiency: Attachment I-3, Temporary Stormwater Management – Phase II; Sheet 6, Drawing S5: Phase S2-1; This drawing seems to be from a previous design and does not match Sheet 6, Drawing S5 in the drawing set. Please submit an updated drawing.

Form J – Soils Information – Phase II [25 Pa Code §273.141]

96. Deficiency: Section B question 2 has not been addressed in Attachment J-1. Please revise as necessary.

Form J - Soils Information – Phase II – Attachment J-1, Narrative Responses

97. Deficiency: The third paragraph on page 2 of 11 discusses how the Kauffman mine Phases II, III, V, and VII coincide with the S2 area of the proposed landfill and references Figure J-1.2. Figure J-1.2 shows the S3 area not the S2 area. Please revise to include the appropriate reference and figure.
98. Deficiency: Figure J-1.1 – Kauffman Operation Phase VI Field Operation Map and Figure J-1.5 shows the extent of mining cuts in the Kauffman Phase VI area and indicate that the southwest area of Kauffman Phase VI was not mined. Bore hole S3-1 indicates 33' of spoil and then 17' of undisturbed ground above the LK. Based in this information there appears to be a portion of the S3 area that was not mined. Please include a narrative discussing the extent of mining in the Kauffman Phase VI operation and the characterization of any virgin material to be excavated in the S3 area.
99. Comment: Page 6 of 11, Section 3.4.2 lists the stratum that was special handled based on OB4 and C2 and states that this is indicated on Figure J-1.2. Figure J-1.2 does not indicate that the siltstone identified in C2 was special handled. The statement following the special handled material (SHM) list on page 7 also states that the siltstone was not special handled. Please revise this section to clarify the material that was special handled.

100. Comment: First paragraph on page 6 of 11 discusses the high sulfur material between the LKr and LK and that this material was not required for special handling due to it being variable and not easily identifiable. Therefore, the calculations in Exhibit J-1.4 Table 1 should not have removed these zones. Based on the material special handling discussions in 3.4.1 and 3.4.2, the following zones were not placed in pods and should not be removed from the overburden calculations when determining NNP for the backfill material around the pods:
- OB4 – the 1' section from 49.17' – 50.17'
 - A1 – the 2' section from 54'-56'
 - C2 – the 2.92' section from 40.75'-43.67'

Please revise the calculations in Exhibit J-1.4 Table 1, Form J narrative, Exhibit J-1.4, and all other appropriate sections.

101. Comment: Table J-1.1 – Note OB4a references PADEP letter dated March 1995. This should be the October 1995 letter. Please revise Table J-1.1 as necessary.
102. Comment: Table J-1.1 – Designation Area A1 lists 2' of special handled material. This zone should not be included in this table. A1 contains a 2' thick section of shale located approximately 11' above the LK. Based on discussions in Section 3.4.1 and 3.4.2 this shale would not have been special handled. Please revise Table J-1.1.
103. Comment: Exhibit J-1.4 calculated the NNP for the Phase VI non-pod material using an alkaline addition application rate of 653 tons per acre (100 tons/acre prior to topsoil, 453 tons/acre backfill, 100 tons/acre pit floor). Based on the S3 excavation plan, it is unlikely that the alkaline material applied to the pit floor will be completely excavated and mixed with the non-pod spoil. Also, since the floor of previous mining has been identified in this application as being high sulfur bearing, any encountered pit floor material should be treated as pod material and landfilled. The NNP for the non-pod material should be calculated using an alkaline addition application rate of 553 tons/acre. Please revise the NNP calculations and all corresponding narrative.
104. Comment: Please include any available documentation of the actual alkaline addition during the Kauffman Phase VI operation. This would be the amount of material received on-site and analysis sheets indicating the purity of the alkaline material. This would likely be found in or accompanying the inspection reports. Please include documentation if available.

Form J Soils Information – Phase II – Figure J-1.6 (The following comments also apply to Figure 24-4.3)

105. Deficiency: Map Note 1 references two bore holes but three distances from the disposal area. Please revise as necessary.
106. Deficiency: The overburden analysis summary table on Figure J-1.6 contains numerous errors. This same table appears in several other locations throughout the application. Table J-1.4 appears correct except for S2-3. This same table is also in Form 24. Please revise Figure J-1.6 and the corresponding tables, including Form J narrative response and Form 24.

107. Deficiency: Figure J-1.6 contains several items that are the same line color and weight as the existing ground contours. These appear to be streams, tree lines, roads, survey points, pile labels, trails, and several other items that are not ground contours. This makes the drawing unnecessarily cluttered and confusing. All items on the drawing should be in the legend or labeled and all items in the legend should be on the drawing. Please revise drawings as necessary.
108. Deficiency: The Department is not in concurrence with the elevation of material with >0.5% sulfur in the OB8 area. This borehole was drilled for the Kauffman mine and located on the application drawings using the previous mining drawings. The LK elevation of OB8 does not match the LK structure contours presented Figure 6-1.10. Please revise the elevation interval of material >0.5% sulfur in the OB8 area using a calculated elevation interval based on LK structure contours and the sulfur bearing materials distance above the LK.
109. Deficiency: The Department is not in concurrence with the area of influence for borehole S2-4. This is a low cover hole with a surface elevation of 1710' and a depth to the bottom of LK of 16', yet the area of influence for this hole encompasses surface elevations up to 1760'. S2-4 cannot characterize overburden up to 50' above its surface elevation. Please revise the area of influence for S2-4.
110. Deficiency: The Department is not in concurrence with the elevation of material with >0.5% sulfur in the A1 area of influence. The elevation of the bottom of the LK indicated in A1 drill log is approximately 13'-20' lower than the LK structure contours in Figure 6-1.10. Please revise the elevation interval of material >0.5% sulfur in the A1 area using a calculated elevation interval based on LK structure contours and the sulfur bearing materials distance above the LK for A1.
111. Deficiency: Borehole C-3 did not encounter the LK_r. However, boreholes located within C-3 area of influence, TH65, W5A, and MW5A, did encounter the LK_r at elevations above the >0.5% sulfur elevation indicated in C-3. Throughout the site the LK_r has been shown to be associated with high sulfur bearing rock. Also, the occurrence of LK_r has presented to be extremely variable and changing over short distances. Please detail how the LK_r will be identified and handled if encountered.
112. Deficiency: Borehole OB-1 indicated a bottom elevation of LK to be approximately 10' lower than LK structure contours indicate. Therefore, the interval of material >0.5% sulfur could be 10' higher than indicated on Figure J-1.6. The sulfur bearing material could possibly be higher in the northern end of OB-1 area of influence as the LK structure contours rise to the north of OB-1. Please reevaluate the interval of material >0.5% sulfur for this area.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] – Attachment 24-2 Technical Specifications

113. Deficiency: Section 02222 Excavation, Section D Construction, page 3, item 12; The construction narrative indicates that “proof-rolling shall be conducted with appropriate equipment”. Please specify the type of equipment that will be used and the procedure from beginning to finished proof-rolled.

114. Deficiency: Section 02222 Excavation, Section D Construction, page 3, item 13; The construction narrative indicates that “the Contractor shall scarify the subgrade soils to a minimum depth of 6 inches”. Please specify the type of equipment that will be used to scarify the subgrade and the procedures that will be implemented to prepare the subgrade surface for subbase placement in order tie the lifts together.
115. Deficiency: Section 02222 Excavation, Section D Construction, page 4, item 17b – Trench Excavation; The ultimate dimensions of the trench should be concise and not left up the discretion of the contractor in the field. If a wider trench is needed for “installation of and work within sheeting and bracing”, then specific design dimensions should be outlined in the permit application and adhered to during construction. Please modify the narrative so that anchor trench construction dimensions are defined for field construction.
116. Deficiency: Section 02240 Geotextiles, Section D. Construction, page 02240-3, item 4.a.&c., Seams; Please provide pass/fail criteria for the heat bonded seams for the geotextiles. Additionally, if overlapping of seams is proposed in lieu of physical seaming, please specify the following:
- a. the maximum slope that the overlapping of geotextiles will be allowed without jeopardizing the continuous layer/leaving gaps
 - b. please specify the minimum overlap for heat bonded seams as well as sewn seams.
117. Deficiency: Section 02240 Geotextiles, Section D. Construction, page 02240-3, item 4.d. Seams; Please provide ASTM methodology for the use of hot plate, hot knife and ultrasonic methods proposed for use in fabricating the geotextile layer.
118. Comment: Section 02253 Subbase, Section C. Submittals, page 02253-4, item 4, Survey Results; The narrative requires correction. The narrative should read as follows “Survey results for subgrade shall be submitted...”
119. Deficiency: Section 02253 Subbase, Section D. Construction, page 02253-6, item 6; Please provide in detail how any cracks that may occur in the subbase will be repaired. Materials used, and detailed methods should be specified in the repair procedures.
120. Comment: Section 02607 High Density Polyethylene (HDPE) Manholes, Section D. Construction, page 02607-2, item 3.a.; The narrative indicates that “a successful leak test is defined as less than 5% leakage after a period of 48 hours”. The introductory statement for Section 02607 is that “manholes and appurtenances be installed leak and defect free to minimize the potential for groundwater contamination.” Please revise the construction portion to reflect the introductory statement and to follow all applicable industry standards. [25 Pa Code §273.3(a)].
121. Deficiency: Section 02710 Drainage Aggregate (Leachate Management), Section B. Materials, page 02710-3, item 2.c.; According to the gradation criteria, 100% is passing the 1 ½” sieve, 95-100% is passing the 1” sieve and 25-60% is passing the ½” sieve. Please provide technical justification as to how this gradation criteria and ultimately the material that will be used at this facility based on these criteria, will meet 25 Pa Code §273.255(a)1-

- 6 and (b)1-4. Additionally, an Equivalency Request (Form Q) must be submitted to support these criteria.
122. Comment: Section 02710 Drainage Aggregate (Leachate Management), Section D. Construction, page 02710-3, item 2.; According to the narrative, "...Test areas to evaluate potential damage due to equipment operations may be required by the Engineer to assess equipment to be used by the Contractor at the Contractor's sole expense. Test area parameters shall be determined by the Engineer and Contractor in advance of construction of the leachate collection system". The following comments pertain to the test area:
- a. Identify the type of equipment used and the number of passes to prepare the lift.
 - b. Identify the testing parameters/criteria and methodologies to be used to evaluate the material and the pass/fail criteria that will apply.
 - c. Also note that additional information will be required for the construction certification. These items include, but are not limited to:
 - i. Identify where the "test areas" will be located at the facility on the drawing set.
 - ii. Provide design details of the "test area" on the drawing set. Details should include at a minimum, the following: dimensions, prepared base soils, thickness of layers, etc.
123. Deficiency: Section 02712 Drainage Geocomposite, Section D. Construction, page 02712-5, item 4b, Geonet Drainage Core; A minimum overlap for seams in the machine direction has been specified for the geonet. Please specify a minimum overlap for the transverse direction (buttseam).
124. Comment: Section 02712 Drainage Geocomposite, Section D. Construction, page 02712-9, Table 3 Notes; The notes indicate that "If there are material differences in the surface of any of the geosynthetic materials from one side to the other, then all possible combinations of interfaces shall be tested. This testing shall be performed at Contractor cost by an independent GAI accredited laboratory and submitted to the Engineer for review prior to shipping. Upon review of the test results, the Engineer may allow exceptions to the above criteria." If there are material differences, all possible combinations of interfaces shall be tested and submitted to the Department for review. Adequate testing required for proper design and construction is to be completed by the Applicant. No exceptions to the design criteria are permitted, unless otherwise approved by the Department.
125. Comment: Section 02775 HDPE Geomembrane, Section A. Description, page 02775-2, item 4a, Quality Control (QC); According to the narrative, "the Contractor shall perform Quality Control tests in accordance with Table 2". Normally, the manufacturer provides QC certificates for the geosynthetics that are manufactured at the plant. Please provide clarification to this section.
126. Deficiency: Section 02775 HDPE Geomembrane, Section C. Construction, page 02775-6, item 3, Subgrade Preparation; The subgrade is not a regulated layer per the Municipal Waste Management Regulations. If this section is intended to refer to the subbase as the narrative discusses placement of the HDPE-GM immediately above it, and is a regulated layer, please change all references to the subgrade to refer to the subbase.

127. Deficiency: Section 02776 Geosynthetic Clay Liner (GCL), Section D. Construction, page 02776-4, item 3a, installation of GCL; The narrative indicates that the GCL will be placed on "the surface of the subgrade". According to the liner system details, the GCL is positioned above the secondary liner. Please amend the procedures for installation of the GCL.
128. Deficiency: Section 02778 LLDPE Geomembrane, Section B. Materials, page 02778-3, item 2 a & b, LLDPE-GM Materials; Please provide resin and sheet properties (as referenced by Geosynthetic Research Institute GM17) for the LLDPE - GM materials which are proposed for use in the cap system. Table 1 only specifies Interface Shear Strength. Additionally, please provide specifications in Table 1 of the CQA Plan for all Very Flexible Polyethylene (VFPE) materials proposed for use in the cap construction. If the specifications are the same as those of the LLDPE, please indicate this in the plan.
129. Comment: Section 02778 LLDPE Geomembrane, Section D. Construction, page 02778-11, item 9, Cover Placement, Table 2 Notes; The notes indicate that "If there are material differences in the surface of any of the geosynthetic materials from one side to the other, then all possible combinations of interfaces shall be tested. This testing shall be performed at Contractor cost by an independent GAI accredited laboratory and submitted to the Engineer for review prior to shipping. Upon review of the test results, the Engineer may allow exceptions to the above criteria." If there are material differences, all possible combinations of interfaces shall be tested and submitted to the Department for review. Adequate testing required for proper design and construction is to be completed by the Applicant. No exceptions to the design criteria are permitted, unless otherwise approved by the Department.
130. Deficiency: Section 02782 Geosynthetic Rain Cover, Section D. Construction, page 02782-4, item 3c, Pipe Penetrations; The plan calls for pipe penetrations through the GRC to be booted unless otherwise shown on the Contract Drawings. Please define what circumstance would the rain tarps require a boot installed. The drawings do not indicate such a scenario. Please explain and provide details.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] – Attachment 24-3 Construction Quality Assurance (CQA) Manual

131. Deficiency: Attachment 24-3, CQA Manual, Section 3.4, Deficiencies, page 15, Table 3.2, indicates that the minimum test frequency for in-place density is 20,000 ft² per Lift & 1 per 500 LF/Lift of Berms (<200 ft. Base Width). Attachment 24-2, Technical Specifications, Section 02223, Embankment, page 02223-5, Table 1 indicates that the maximum lift thickness (compacted inches) for an embankment beneath structures (and roads) to be 8 inches. Phase S3, specifically Cell S3-4, shows a subgrade to subbase fill of as much as 64 feet, for at least 96 lifts of compacted subgrade material. Please increase the testing frequency to compensate for the additional compaction that will be necessary for the highwall transition area. Additionally, during the construction of the subgrade, alkaline addition must be performed according to the Material Handling Plan. Taking the structural concerns into consideration with this mixing, please provide a higher frequency (i.e. 1 per 100 ft² grid system) in Table 1 in which the subgrade will be tested for compaction. Also, please specify how, outlining procedures in the narrative, the alkaline addition will be performed during the subgrade construction.

132. Deficiency: Section 4.0 Subbase CQA, Subsection 4.4 Subbase Construction, 4.4.1 Construction Monitoring, H, page 17; Please specify the type of equipment that will be used to scarify the subbase and the procedures that will be implemented in order to prepare the subbase surface. More specifically, please describe in detail how the subbase lifts will be blended or tied together and finally proof rolled so that it is ready for liner placement. The final surface of the subbase must be hard, uniform, smooth, free of debris, rock, plant materials, foreign material and MOST IMPORTANTLY, free of cracks. If the subbase is drying out and beginning to desiccate, cracks may begin to form, and the surface or entire layer may begin to crack. Cracking is unacceptable in most any form, whether it is 1/8", 1/4", etc. because it is difficult to detect the depth of the crack through the prepared subbase lift. Cracks jeopardize the integrity of the 6" prepared lift and it may no longer be a 6" lift nor may it meet the requirements of 25 Pa Code §273.253(b)(2). Therefore, please revise this section to address these concerns.
133. Deficiency: Section 4.0 Subbase CQA, Subsection 4.4 Subbase Construction, 4.4.5 Perforations in Subbase, page 19; Section 4.4.1.H does not address repairing holes in the prepared/final lift. Therefore, please explain in detail how perforations in the prepared/final lift will be repaired following testing. Include all materials (i.e. type of granular bentonite), hydration procedures, equipment used, etc.
134. Comment: Section 5.0 Geomembrane CQA, page 22; Please correct the narrative as this section does not address the final cover system and mentions subgrade approval. Reference to subgrade is believed to be in error. The narrative must be referring to subbase as this is the layer, according to the liner system details, that the secondary liner is in contact with.
135. Deficiency: Section 5.0 Geomembrane CQA, Subsection 5.3, 5.3.6.2 Field Destructive Seam Testing, D, page 27; Hole repair procedures for the geomembrane are referenced as being in Section 5.4.7. This section of the CQA is not included. Therefore, please correct any references and provide a section of the CQA Plan that documents the repair and testing of holes in the geomembrane.
136. Deficiency: Section 6.0 Leachate Management System CQA, Table 6.1 CQA Testing Program for Leachate Management System, page 34; The notes indicate that "in the case of a failed permeability test value within 20% of the specified value, an additional three tests may be run on the proposed material". This value is a very large percentage and may allow for the material to improperly function as designed. Therefore, per 25 Pa Code §273.255(b)(3), please revise the percent deviation such that additional testing is required and passing criteria be set in the CQA Plan.
137. Deficiency: Section 8.0 Drainage Geocomposite CQA, Subsection 8.2 DGC Installation, page 39; Section 8.2.2 specifies that "adjacent rolls of DGC will be joined according to construction drawings and project specifications". Attachment 24-2 – Technical Specifications, Section 02712 Drainage Geocomposite, subsection D, page 02712-4, number 4c indicates that "seams to be heat bonded shall be bonded using hot plate, hot knife, ultrasonic, or other approved devices". If the applicant is proposing to heat bond the geocomposite then the CQA must be modified to include specifics regarding the seam

fabrication/construction. For example, the type of machine that will be used, temperature settings, seam strength, pass/fail criteria, etc. must be included in the plan.

138. Deficiency: Section 9.0 Geosynthetic Clay Liner (GCL) CQA, Subsection 9.3 Installation, 9.3.1 Surface Preparation, page 42; The subgrade surface is referenced as being covered by the GCL. The subgrade surface is not a regulated layer. Additionally, Subsection 9.3.5 specifies that "all soil materials located on top of the GCL shall be in accordance with the project specifications". The primary liner is located directly above the GCL in the liner configuration. Please revise this section.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] - Attachment 24-4 Liner System Design, Exhibit 24-4.2 Cushion Geotextile Analysis

139. Deficiency: The conclusion to the cushion geotextile analysis is that a 16 ounce per yd² geotextile along the Base and Slopes is proposed for installation in the liner system construction. This would be acceptable provided the interface soil-to-fabric and fabric-to-geomembrane shear strength parameters can be achieved. Based on actual interface friction angle testing results for other Municipal Waste Management facilities utilizing similar materials and site conditions (i.e. interior liner system slopes, 3:1), the geotextile-to-geomembrane interface did not meet design criteria. Therefore, interface friction angle testing must be performed on the proposed materials using site conditions to determine if the proposed liner system profile is acceptable. Should the test results indicate that the materials are not stable, the design drawings must be amended as well as all related liner system documents (i.e. CQA/QC) and forms (i.e. Form 24).

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] – Attachment 24-7 Leachate/Geosynthetic Compatibility

140. Deficiency: Section 2.6 Comparison of Leachate Quality and Conclusions, page 4 of 7; Table 24-7.4, which is the results of analytical tests on the leachate used in the EPA 2100 testing of the GCLs, was not included with the submission. Please provide the table.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] – Attachment 24-7 Leachate/Geosynthetic Compatibility, Exhibit 24-7.4, Leachate Compatibility Information – HDPE and LLDPE Geomembranes and HDPE Geonets

TRI/Environmental, Inc., Solmax 60-mil Textured LLDPE Geomembrane

141. Deficiency: The raw data numbers for several test parameters and exposure times are not legible. For example, most of the test properties; tensile stress at yield, tensile stress at yield, tensile strength at break, elongation at yield, etc. are not legible. Please submit legible results per 25 Pa Code §271.201(2) so the material can be evaluated.
142. Deficiency: The date of this final report regarding the chemical compatibility for the LLDPE is August 17, 1998. On December 20, 2017, Groupe Solmax, a Canadian-based company acquired GSE Environmental based in Houston, Texas. Please provide a statement from Solmax/GSE regarding the chemical composition and resin used in manufacturing of the 60-mil LLDPE geomembrane, specification sheets and any other documentation to support the proposed use of this material since the Solmax and GSE merger.

TRI/Environmental, Inc., Solmax 60-mil Textured HDPE Geomembrane

143. Deficiency: The date of this final report regarding the chemical compatibility for the HDPE Geomembrane is August 17, 1998. On December 20, 2017, Groupe Solmax, a Canadian-based company acquired GSE Environmental based in Houston, Texas. Please provide a statement from Solmax/GSE regarding the chemical composition and resin used in manufacturing of the 60-mil HDPE geomembrane, specification sheets and any other documentation to support the proposed use of this material since the Solmax and GSE merger.
144. Deficiency: The report provides a table which identifies a few typical municipal waste leachate parameters from the stock leachate that was used in the testing of the Solmax 60-mil Textured HDPE Geomembrane. A full leachate analysis, listing all the inorganic and organic parameters of the stock leachate, should have been provided. Therefore, it is impossible to determine if the stock leachate that was used in the 9090A testing is an adequate representative sample of a municipal waste management landfill leachate.

TRI/Environmental, Inc., GSE 6-ounce Nonwoven Needle-punched Polypropylene Geotextile

145. Deficiency: The date of this final report regarding the chemical compatibility for the Polypropylene (PP) Geotextile is May 2001. On December 20, 2017, Groupe Solmax, a Canadian-based company acquired GSE Environmental based in Houston, Texas. Please provide a statement from Solmax/GSE regarding the material used in manufacturing of the 6-ounce geotextile, specification sheets and any other documentation to support the proposed use of this material since the Solmax and GSE merger.
146. Deficiency: The raw data numbers for the following test parameters are not legible, they are as follows:
- a. Mass (g)
 - b. Grab Tensile Properties: Elongation @Maximum Strength, TD
 - c. Permittivity
- Please submit legible results so the material can be evaluated.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] – Attachment 24-8 Slope Stability, Settlement and Bearing Capacity Evaluation

147. Comment: Section 3.2 Deep-Seated Failure Surfaces, Subsection 3.2.1 Material Properties, page 3 of 12; According to the Deep-Seated Slope Stability Analyses in Exhibit 24-8.1, a value of 70 lbs./ft³ unit weight for MSW was used to perform the analyses. However, 75 lbs./ft³ unit weight for MSW was referenced in the narrative. Please correct as appropriate.
148. Deficiency: Section 3.2 Deep-Seated Failure Surfaces, Subsection 3.2.1 Material Properties, page 4 of 12, paragraph 1; According to the narrative, Smith & Gardner recommends the use of a reinforced GCL to satisfy minimum slope stability factors of safety. These requirements should also be listed in the CQA, detailing the minimum criteria/strength properties that the reinforcing geotextile component of the GCL layer is required to meet. Additionally, GSE Bentoliner NSL & NWL are listed in table 24-7.1 as products that proposed as potential products for use in the liner system construction. If this material is to be utilized, please note

that on December 20, 2017, Groupe Solmax, a Canadian-based company acquired GSE Environmental based in Houston, Texas. Please provide a statement from Solmax/GSE regarding the material used in manufacturing of the GCL products, specification sheets and any other documentation to support the proposed use of these materials since the Solmax and GSE merger.

149. Comment: Section 5.3 Calculation Methods, page 8 of 12, paragraph 4; The last sentence of the narrative is incomplete. The sentence is most likely supposed to state that "these small changes in the slope". Please complete the narrative to indicate what changes were made.
150. Deficiency: Please distinguish on Figure Nos. 24-8.3A and 24-8.3D, which cross-sections are which. Additionally, in reviewing the values that were used for unit weights and shear strength properties (cohesion/adhesion and friction angles) in the deep-seated failure calculations, it is absolutely CRITICAL that these values are verified in the laboratory (friction angle) and achieved in the field during construction. A large volume of soil (6,957,580 yd³ for S2 & S3 – Attachment F-5) is required for the construction of the facility, specifically the structural subsoils and perimeter berms. The reason for this comment is in part due to the fact that the minimum Factors of Safety for the Static and Final are just meeting the minimum Factors of Safety that were set (i.e. Cross-section I2 (interim grades) Block Along Liner, Factor of Safety = 1.30). Therefore, have any soils been collected at the site and tested in the laboratory, for such properties as unit weight (pcf) or cohesion/adhesion (psf) that the applicant is planning on specifically using for this facility construction, to verify the numbers used in the analysis? If the information exists in the application, please indicate where it can be found. If the soils have not been thoroughly tested at the proposed facility, the soils should be tested, and properties verified to confirm that this volume of soil exists at the facility.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] - Attachment 24-8 Slope Stability, Settlement and Bearing Capacity Evaluation, Exhibit 24-8.5 Settlement Analysis

151. Comment: The settlement analysis identifies the following: stations within cells, fill thicknesses, liner elevations, final cover elevations and waste thickness. Please identify all the plan view and cross-sectional drawings in the drawing set (full scale and legible) that were used to determine the stations, thicknesses, etc.
152. Comment: According to the Pre-Settlement and Post-Settlement Pipe Slope, there are numerous locations that just meet the requirements of 25 Pa Code §273.258 (b)(5). The regulation states that "the pipes shall be installed primarily perpendicular to the flow and shall have a post-settlement grade of at least 2%". The locations that have a 2% post-settlement grade are primarily located in cell S3-3 and S3-4. Please identify the factor of safety that is built into this design that assure that the post-settlement pipe design will be maintained. If there is not a factor of safety, it is unclear that the subbase [25 Pa. Code §273.253(b)(4), leachate detection zone [25 Pa Code §273.255(b)(5)(ii)] and leachate collection zone [25 Pa. Code §273.258(b)(5)], after loaded, will meet the minimum requirements of the regulations and function properly. Please provide a detailed explanation.

Form 24 – Liner System – Phase II [25 Pa Code §273.161 and §273.251 to §273.260] - Attachment 24-9 Geosynthetic Specification Sheets

153. Deficiency: According to the ** footnote, the following statement is made: “due to the concern of a lower pH leachate due to disposal of AMD material in the landfill, Resistex DN will be utilized in the liner system until actual leachate values are available and can be used to support the application and approval of the other GCL products included herein”. This statement lends itself to the following technical concerns:
- a. With the anticipated disposal of the pod waste in the disposal cells, the true acidity (pH) of the leachate generated at the facility is unknown. This in turn raises numerous questions and concerns about the validity of the chemical compatibility testing information of the geosynthetics in Attachment 24-7. If the pH of the leachate is unknown, how can the applicant say in fact that the leachates used to test the geosynthetics are “representative” of the leachate that will be generated at the proposed facility.
 - b. Albeit the GCL is not in direct contact with the leachate generated at the proposed facility, but it is proposed as the backup to the primary liner should a breach in the primary liner occur. So, in effect, the GCL should be able to function without failing due to chemical attack, physical failure, or a combination of both, as result of the chemical attack on the component. If the pH of the leachate is unknown, how can the applicant say in fact that the leachates used to test the geosynthetics will not result in the leachate chemically affecting the liner system geosynthetics.
154. Deficiency: Based on the previous deficiency concerning the footnote in Attachment 24-8, the compatibility of the other liner components, in which compatibility information was submitted for, is in question. Please submit technical information, including, a worst-case leachate analysis, which represents the leachate that will potentially be generated at the facility, accounting for the acidity (pH) of the pod waste. Additionally, the worst-case leachate should be compared to all of the chemical compatibility testing leachates to demonstrate that the compatibility is valid.

Form 25 – Leachate Management – Phase II [25 Pa Code §273.162, §273.163 and §273.271 to §273.275] – Attachment 25-1 Narrative Responses

155. Deficiency: Section 4.2 Storage Tank Farm, page 5 of 8, paragraph 2; The narrative indicates that “no sludge removal schedule is proposed at this time. However, if sludge accumulation becomes necessary, a schedule will be developed at that time”. In accordance with 25 Pa. Code §273.162(d), please prepare a schedule and method for cleaning sludges from the leachate storage and treatment system, and a plan for disposing the sludge.
156. Deficiency: Section 4.3 Leachate Removal by Trucking, page 5 of 8, paragraph 1; The Wallaceton-Boggs Municipal Authority/PA Waste, LLC Letter of Intent in Exhibit 25-1.5, is not valid as it is in conflict with the Act 537 Planning and cannot accept the projected flow from Camp Hope Run Landfill. As required by 25 Pa. Code §273.162(b)(1), please provide a copy of a signed contractual agreement with the operator of a primary offsite treatment facility that provides for treatment of leachate at the facility, and which covers the period of time that offsite treatment will be provided; or provide a signed letter of intent from the operator of the offsite facility to enter a contractual agreement for leachate treatment if the permit application is approved by the Department.

157. Deficiency: Section 4.3 Leachate Removal by Trucking, page 5 of 8, paragraph 1; The Wallaceton-Boggs Municipal Authority/PA Waste, LLC Letter of Intent in Exhibit 25-1.5, is not valid as it conflicts with the Act 537 Planning and cannot accept the projected flow from Camp Hope Run Landfill. As required by 25 Pa. Code §273.162(b)(2), please provide a copy of a signed contractual agreement with the operator of a second offsite treatment facility that provides for backup treatment of leachate at the second treatment facility if leachate cannot be treated by the primary treatment facility operator; or a signed letter of intent from the operator of the second offsite facility to enter the contractual agreement if the permit application is approved by the Department.

Form K – Gas Management – [25 Pa Code §273.171, §273.292 and §273.293] - Attachment K-1 - Narrative Responses

158. Comment: Section B, item 9, page 1 of 2; indicates that gas collection wells will be installed 11 years from initial waste placement. This is in conflict with the Air Quality Program Regulations, 40 CFR Part 60 Subpart XXX Section 60.763(a)(1-2) & 60.765(b) which require wells at 5 years from placement if it is an active cell and 2 years from placement if it closed or at final grade. Please revise the narrative.
159. Deficiency: Section B, item 15, page 2 of 2; According to the narrative, “condensate will be removed from conveyance pipes at various locations and, depending on the location, will either be drained into the waste mass or will be collected at the flare station. The condensate will be tested on an annual basis to classify the liquid as hazardous or non-hazardous based on appropriate toxicity or ignitibility.” The following comment applies: the design of Condensate Trap 2, which is most of the trap design utilized across the landfill footprint, shows the condensate being captured and flowing to the leachate collection system cleanout. This design does not allow for the testing of the condensate, should the condensate be hazardous, prior to mixing with the leachate generated from the landfill. Please provide clarification as to how the condensate will be captured and tested, prior to discharge to the LC system.
160. Deficiency: Section B, item 19, page 2 of 2; It is unclear if the design of the side slope risers incorporate the mechanics and hardware to collect landfill gas from the leachate collection system. Please explain the system and how it is designed to function in order to effectively and efficiently remove the gas.

Form K – Gas Management – [25 Pa Code §273.171, §273.292 and §273.293] - Attachment K-3 – Landfill Gas Monitoring and Control Plan

161. Deficiency: Section 3 – Landfill Gas Control Plan, Subsection 3.2 Proposed Landfill Gas Management System, page 4 of 10; If horizontal collectors “may be installed to facilitate aggressive capture of LFG generated during the first year or two of cell operation”, please provide details of the system, including calculations and design drawings.
162. Deficiency: Section 3 – Landfill Gas Control Plan, Subsection 3.3.8 Final Cover, paragraph 1, page 7 of 10; The narrative indicates that the final cover thickness situated above the cap will be a 1 foot of vegetative soil layer. Per 25 Pa. Code §273.234(a)(3), 2-foot of soil shall be placed over the drainage layer. Please revise as appropriate.

163. Deficiency: Section 3 – Landfill Gas Control Plan, Subsection 3.3.8 Final Cover, paragraph 2, page 7 of 10; According to the narrative, “geocomposite strips running perpendicular to the direction of the slope, installed approximately every 100 feet” may be added to the LFG recovery system. The following comments apply to this proposed design:
- a. If this is the proposed design, the Department is requesting design details and specifications for the entire system. The design details and specifications must include, but not be limited to, the, geocomposite specifications [i.e. product type, design calculations (AOS top and bottom geotextile), geocomposite strip dimensions (width, length, thickness), etc.]
 - b. If the strips are going to be connected at the toe of the slope via a manifold pipe and connected to the main header pipe through a wellhead, or connected directly to the header through individual wellheads, then details of this configuration must be added to the drawings. Additionally, please indicate where these strips will be installed in relation to the waste lifts and the cap system. If the strips are not going to be connected at the toe, then please provide information on the alternative system.
 - c. The narrative indicates that, in order “to increase slope stability during periods of collection system downtimes, emergency relief vents may be added to strips to activate once positive pressure reaches a set point, e.g., 6 inches water column. If the emergency relief vents are added to the system, please provide design details on the drawings.
164. Deficiency: Section 3 – Landfill Gas Control Plan, Subsection 3.3.10 Treatment and Conditioning System, paragraph 2, page 8 of 10; The narrative indicates that “the LFG treatment process may include filtering, de-watering and compression to minimize the effects of corrosion”. The LFG system should include these measures in order to minimize the effects of corrosion. The narrative also goes on to indicate that the treatment process may include one or more of a list of additional elements listed under 3 separate bullet items. The LFG system should include these measures in order to work more efficiently and effectively. The narrative indicates the LFG system may include a number of components, but do not indicate that they will be included as part of the overall system. Therefore, please propose a definitive LFG system with exact components (narrative, calculations, and design drawings) so that the Department can evaluate the system in its entirety. Additionally, the narrative will require modification to remove the word may throughout.

Form R1 – Waste Analysis and Classification Plan – Attachment R1 [25 Pa Code §271.613]

165. Comment: Section 2.0 – New Waste Streams, page 4 of 14; All FC-1 submissions, independent of tonnage must be submitted to the Department for review and approval prior to any waste being accepted on site. Please modify the narrative.
166. Comment: Section 2.0 – New Waste Streams, page 4 of 14; All asbestos containing waste must be submitted through on a Form U to the Department for review and approval prior to any waste being accepted on site. Please modify the narrative.
167. Comment: Section 2.0 – New Waste Streams, page 4 of 14; All residual waste, independent of volume, must be submitted through on a Form U to the Department for review and approval prior to any waste being accepted on site. All generators are to include a hazardous waste determination. Please modify the narrative.

168. Deficiency: Section 2.0 – New Waste Streams, page 5 of 14; All characterization frequencies, analytical requirements, and acceptance levels are to be established within the plan and reviewed by the Department. Please provide a detailed table with this information.
169. Deficiency: Section 2.0 – New Waste Streams, page 11 of 14; the narrative states “HDPE is not effectively resistant to greater than one percent halogenated aromatic hydrocarbons, greater than ten percent nitric acid solutions, and greater than five percent chlorosulfonic acid solution.” Based on this statement the Department requests that the Waste Acceptance Plan be modified to include a notification to the Department for review and determination prior to acceptance if these wastes in greater than one, ten, and five percent respectively in solution are proposed to be disposed of at the facility.
170. Deficiency: Section 2.0 – New Waste Streams, page 11 of 14; Please update the leachate treatment concentrations to reflect the current on-site leachate treatment plan and address the dilution factors, if any, that are relevant to the proposed system.
171. Deficiency: Table 1A; The limit for reactive sulfide must be justified on a technical and chemical merit basis. Per the footnote, the Department is requesting more information on the referenced laboratory data.
172. Deficiency: Table 1A; The limit for reactive cyanide must be justified on a technical and chemical merit basis. Per the footnote, the Department is not accepting a meeting from 1992 as reasoning. Please provide justification for this limit.

Form 28 – Closure/Post-Closure Land Use Plan – [25 Pa Code §273.191, §273.192, §273.321 and §273.322] – Attachment 28-1 – Narrative Responses

173. Deficiency: Section 2.0 – Closure Plan, Subsection 2.1 Final Cover System, page 1 of 3; Previously in Form K, the cap system profile incorporated 1.5 feet of sub-base layer with a maximum permeability of minimum 10-5 cm/sec. The cap system profile in Form 28 does not include this in the profile. Please indicate which profile is the correct profile and amend the appropriate narrative section.
174. Comment: Section 3 – Post-Closure Plan, Subsection 3.1 Post-Closure Land Use Plan, page 2 of 3; Following closure and prior to the post-closure phase, if the facility is going to propose use of anything other than a grass covered hill, such as a nature center or park land, the proposal must be formally submitted to the Department for review and approval.

Form 28 – Closure/Post-Closure Land Use Plan – [25 Pa Code §273.191, §273.192, §273.321 and §273.322] – Attachment 28-1.1 – Bonding Worksheets

175. Deficiency: The bonding worksheets submitted do not include any information on how the quantities and prices were determined. Third party quotes should be provided for items such as waste disposal, site decontamination, and water monitoring. The costs used should be direct quotes from third party vendors or justified narratively using time and material assumptions and prevailing wages. Provide a bonding narrative that includes detailed references to how the costs and quantities used were calculated. Provide supporting documentation on how the costs provided were calculated.

176. Deficiency: Bonding Worksheet A - Decontaminating the Facility, General Comment; All costs present on the worksheet, associated with decontaminating the facility, should reference the source and documentation should be provided that supports the cost. Additionally, per footnote 1, please list the areas/equipment that will need to be decontaminated and include any assumptions made. For example, how and where does the unit cost to treat/dispose on contaminated liquids (including any transportation) derive from.
177. Deficiency: Bonding Worksheet B – Cap and Final Cover Placement, page 1; The worksheet requests the applicant to select a likely “worst case” scenario where a maximum amount of the facility is open and in need of closure. The applicant is asked to provide a description of the scenario with references to site development stages. This information is not included. Please select a “worst case” scenario and provide references to drawings which support the scenario. Include a description of the scenario which supports the values present on the worksheet.
178. Comment: Bonding Worksheet C Groundwater Monitoring System – Item 4; Number of wells to be installed. The value listed for this item does not match the proposed number of groundwater monitoring points discussed in Form 8. The proposed groundwater monitoring network discussed in Form 8 includes 18 uninstalled wells. Please revise to make this item consistent with Form 8.
179. Comment: Bonding Worksheet D Surface Monitoring System – Item 1; Number of surface monitoring points. The value listed for this item does not match the proposed number of surface monitoring points discussed in Form 8. The proposed surface water monitoring network discussed in Form 8 includes 7 monitoring points. Please revise to make this item consistent with Form 8.
180. Deficiency: Several Bonding Worksheets include the line item “Number of years of sampling (30 + years to close).” On Worksheet C this value is 32. On Worksheets D, E, and F this value is 30. On Worksheet G this value is 20. Please revise these values to equal 30 + years to close.
181. Deficiency: Bonding Worksheet K – Facility Maintenance Costs, page 17; All costs on the worksheet associated with items that cover facility maintenance should reference the source and documentation should be provided supporting the costs.
182. Deficiency: Bonding Worksheet L – Summary Cost Worksheet, page 19; Please provide a breakdown of costs associated with the AMD interceptor and treatment system located west of S3-1. The bond amount for the treatment system should be sufficient to cover all costs associated with the system including, but not limited to, operation and maintenance, water treatment, water quality analyses, electricity, labor, sludge removal, and full replacement in perpetuity.
183. Deficiency: Bonding Worksheet L – Summary Cost Worksheet, page 19; Please provide costs for the permanent passive AMD treatment system associated with wetland mitigation site located north of the landfill access road. The bond amount for the treatment system should be sufficient to cover all costs associated with the system including, but not limited

to, operation and maintenance, water treatment, water quality analyses, labor, sludge removal, and full replacement in perpetuity.

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. DEP 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.

You must submit a response fully addressing each of the significant technical deficiencies set forth above within 45 business days of the date of this letter or DEP may deny the application.

If you believe that any of the stated deficiencies is not significant, instead of submitting a response to that deficiency, you have the option of asking DEP to decide based on the information regarding the subject matter of that deficiency that you have already made available. If you choose this option regarding any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application may be denied.

Should you have any questions regarding the identified deficiencies, please contact me at 570.327.3752 or lhouser@pa.gov and refer to Application No. 944978, Authorization No. 1189259 to discuss your concerns or to schedule a meeting. The meeting must be scheduled within the 45-business day period allotted for your reply, unless otherwise extended by DEP.

Sincerely,



Lisa D. Houser, P.E.
Environmental Engineer Manager
Waste Management Program

Cc: Clearfield County Commissioners
Boggs Township Supervisors
Field
File