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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 22, 2011

Mr. Alfredo J. Riera
Director of Public Works
U.S. Army Garrison, Fort Bliss
Building 777
Fort Bliss, TX 79916

Re: Fort Bliss Solid Waste Landfill – El Paso County
Municipal Solid Waste (MSW) - Permit No. 1422
Permit Modification – Evapotranspiration (ET) Final Cover Notice of Deficiency (NOD)
Tracking No. 15013496; RN100210095/CN600126262

Dear Mr. Riera:

The MSW Permits Section of the Texas Commission on Environmental Quality (TCEQ) has reviewed your application for a municipal solid waste permit modification dated October 19, 2011 and received on November 1, 2011, requesting modifications to the existing site development plan to allow for use of an alternative ET final cover.

Our review indicates that insufficient information has been provided to demonstrate compliance with Title 30 of the Texas Administrative Code (30 TAC) Section (§)305.70. Therefore, we are unable to complete processing of your request at this time. Please review and address the following comments:

1. The application binder cover page and the inside title page list the U.S. Army Corps of Engineers' Fort Worth District and its address. Please explain the role of the U.S. Army Corps of Engineers' Fort Worth District in this application.
2. Please provide the payment receipt confirmation information for the \$150.00 application fee. Or please follow the instructions included in Section H of the Part I form to submit the payment and provide the confirmation information.
3. Appendix A of this application is the TCEQ Core Data Form. Submittal of this form is not required for this type of permit modification application. Please explain the inclusion of the Core Data form or remove the form from this application. If a piece of information required in a Core Data Form and previously submitted for this facility has changed, please identify and explain the change (depending on the type of changed information, certain procedures may need to be followed in submitting and obtaining approval of the changes).
4. Fort Bliss Solid Waste Landfill is the facility name listed in Section A of the Part I form included in this application, while other facility names are also used in this application (for example, Final Closure Plan cover page lists the facility as Fort Bliss Municipal Solid Waste Landfill Facility). The facility name currently listed in the agency's central registry is USAADACENFB Fort Bliss. Please explain the facility naming in the application or revise the application (including the Part I form) to use the correct facility

name (please ensure that the facility is referred to consistently throughout the application). Or please submit the Core Data Form to specify a facility name for the facility operated under MSW Permit No. 1422 and use that name consistently in all submittals to the TCEQ (please revise this modification to use the same name identified in the new Core Data Form). The following web page may be viewed for the current and prior names listed for this facility:

http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.showSingleRE®_ent_id=533381592001134.

5. Section B of the Part I lists the internet web site (page) where the application documents are posted as <https://www.bliss.army.mil/DPW/Environmental/EISDocuments2.html>. Access to the listed URL seems to require some type of security certificate. Please note that rule §330.57(i) requires posting the application documents at a publicly accessible internet web site. Please make proper arrangement to make the URL readily accessible to the public or please post the documents at a different URL that is accessible to the public and submit the revised Part I form listing the new URL. If the application contains any confidential information, please follow applicable requirements and procedures described in §1.5. The TCEQ rules can be viewed and downloaded from the agency's website at <http://www.tceq.texas.gov/rules/indxpdf.html>.
6. The tables of contents of the appendixes revised or added in this application do not have the responsible engineer's seal and signature. The tables of contents pages that are revised by this application must be signed and sealed by a professional engineer licensed in the State of Texas in accordance with the requirements of 30 TAC §330.57(g)(3). Please also revise page ii of this application to list the firm registration numbers for all the professional engineers whose signatures and seals are shown in this application.
7. The summary table in Appendix C - 1 of this application lists the replacement pages or newly added pages. Most of the pages listed under Closure Plan are not identified in the summary table as replacement pages, but the pages included in the redline portion are all replacement pages revising previous document pages. The same discrepancy also exists in the pages listed for Post-Closure Plan. Please explain the discrepancy or revise the application as appropriate.
8. Please update the contact information in Section 1 of the Closure Plan by specifying Municipal Solid Waste Permits Section or consider deleting all the contact information on this page as it is not required by the rule. If included, the permittee has the responsibility to keep the contact information current. Please also address the same issue for Section 1 of the Post-Closure Care Plan.
9. Some of the acreages for cells/areas listed in Section 2.1 of the Closure Plan have been revised. Please explain the revisions.
10. Section 2.1 of the Closure Plan refers to the ET final cover as an alternative cover design. Please clarify whether the ET cover will be the only final cover design for the parts of the landfill that have not received a permitted final cover. Please revise this section and other relevant parts of the application as necessary.
11. Please revise Drawing No. C-2 or other pertinent drawings to identify the cells/areas listed in Table 2-1 of the Closure Plan. Please also revise the drawing(s) to identify the cells/areas that will have ET final cover as specified in Section 2-2 of Closure Plan.

12. Rule §330.70(k)(10) cited in Section 2-1 of the Closure Plan does not exist. The intended rule citation might be §305.70(k)(10). Please revise this section as necessary.
13. Section 2-1 of the Closure Plan cites rule §330.457(a)(2). Please note that §330.457(a)(2) is regarding landfill units without synthetic bottom liner. Please clarify the type of liners required by permit and/or revise this paragraph as appropriate (or simply replacing §330.457(a)(2) with §330.457(a)(1) as the application indicates that ET cover will be built over all cells/areas that have not be closed).
14. Section 3 of the Closure Plan was revised to state that a 2008 permit modification for the 10-foot height increase in the Sub-D cell added additional 180,000 cubic yards of landfill capacity. Our records indicate that a 10-foot height increase was authorized through a temporary authorization (TA) in May 2008. Please provide a copy of the 2008 modification authorizing the 10-foot height increase. Please note that a TA is not supposed to be part of the permit beyond the 180 days specified.
15. The revised Section 3 of the Closure Plan states that the ET final cover grading will not significantly alter the final grades presented in the 2008 modification. Please clarify whether the modifications authorizing the height increase and presenting the final grades are the same 2008 modification. A research into our records did not reveal any modifications for final cover grades or height increase around 2008. Please provide more information to help identify this specific 2008 modification. Please revise this application to add discussions and drawings to compare the ET final grades with the final grades presented in the 2008 modification.
16. The revised Section 3 of the Closure Plan indicates that the maximum in-place waste at closure will be 5,285,200 cubic yards, roughly 10 percent less than the 5.9 million cubic yards as determined based on the 1995 approved final landfill contour. Please explain the causes leading to this reduction.
17. Please clarify whether the remaining capacity stated in Section 3 of the Closure Plan is consistent with the data reported to the TCEQ.
18. Please discuss the differences between the ET cover descriptions in Section 2-1 and Section 4-3 of the Closure Plan or please revise the description(s) for consistency to avoid any possible confusion.
19. Section 4-3 and other parts of the Closure Plan state that the fourth layer in the ET cover system will consist of the 12-inch thick intermediate cover layer and/or additional materials. Section 4-3 also specifies a 75 percent compaction rate for the fourth layer materials. The specifications listed on page 5 of Appendix Q for the fourth layer stipulates a 75 percent compaction rate only for the additional materials. Please revise Sections 4 and 5 of the Closure Plan and the relevant parts of Appendix Q to be clear that before the intermediate cover materials can be counted as part of the fourth layer, they will be tested and/or re-worked to have a 75 compaction rate. Or please explain why a compaction rate is unnecessary for the intermediate cover materials to be used as part of the fourth layer. If the ET's fourth layer will be composed entirely of the additional materials, please revise the application for clarity and consistency.

20. The first paragraph in Section 5-1 of the Closure Plan states that Sub-D cell final cover will be constructed using equipment suitable for completing the construction in accordance with current TCEQ standards. Please revise this paragraph to be more specific about the TCEQ standards. Please explain why this equipment requirement is not specified for constructing the ET cover at other cells/areas or revise this paragraph as appropriate.
21. Please revise Section 5.2.2 of the Closure Plan to discuss whether (and how) the vegetation including the roots will be removed during the intermediate cover re-work. Please also revise this section to include measures to be followed when the existing intermediate cover materials cannot be re-worked to the desired conditions.
22. Discussions regarding the intermediate cover in Section 5.2.3, Capillary Break Layer, of the Closure Plan seem to be a repeat of the same discussions in Section 5.2.2. The same discrepancy also exists in other sub-sections of Section 5, Construction Quality Assurance. Please explain the repeated discussions or revise the sections as appropriate.
23. Please discuss how the construction quality assurance activities described in Section 5 of the Closure Plan will ensure and confirm that the constructed ET cover layers have the properties specified on pages 4 and 5 of Appendix Q, ET Cover Design Report. Please revise Section 5 as necessary.
24. Please discuss why measures included in Section 5.3, Vegetation Planting Plan, of the Closure Plan are deemed feasible (opinions from a vegetation expert will suffice in addressing this comment).
25. Section 5.4.4 of the Closure Plan specifies a 50 percent vegetation cover. The actual soil bare areas will be greater than 50 percent if the definition of bare soils is considered. Please discuss whether erosions due to wind and surface runoff will be an issue and, if necessary, include the control measures to be used.
26. Section 6, Schedule for Closure Activities, of the Closure Plan is apparently prepared for closing all cells/areas in accordance with §330.457. Please add one paragraph in Section 6 of the Closure Plan (preferably before Section 6.1) to state that the closure schedule and other closure related activities shall follow the requirements of §330.457(f) and (g). The actual wording may differ as long as the same meaning is expressed.
27. The rule citation §330.5 in Section 7 of the Closure Plan seems incorrectly cited. Please explain the purpose of this citation or revise this section as necessary. Please also address the same issue for Section 3 of the Post-Closure Plan.
28. Section 2.1.1 of the Post-Closure Plan mentions a 5-year post-closure care period, while other parts of this application stipulates a 30-year post-closure care period. Please explain why the 5-year period is applicable or revise this section to remove the reference of 5-year period. If the 5-year period is not applicable, please revise Section 2 of the Post-Closure Plan and/or other relevant portions of the application to remove all references to any requirements of §330.463(a).
29. Please note that land use over a closed landfill is subject to the requirements of Subchapter T of the TCEQ MSW rule Chapter 330. Please review Subchapter T and revise Section 4 of the Post-Closure Plan as appropriate.

30. The proposed final cover conditions listed on page 4 of Appendix I, Slope Stability and Settlement Analysis, appear to be different than the ET cover specifications included in Appendix O and Appendix Q. Please explain the discrepancies and/or revise Appendix I and other pertinent parts of the application as necessary. Please also clarify whether the slope stability analysis has been conducted to satisfy a specific regulatory requirement or for general engineering considerations.
31. Section 5.1.1 of Appendix I states that the slope stability analysis was conducted based on an assumption that no external loads are applied to the selected cross section after the final grades have been achieved. Please clarify whether the assumed scenario is the worst case scenario of the landfill development from filling to completion of the final cover construction, including the periods when the slopes are under impact of waste hauling vehicles and cover construction equipment. Slope stability analysis for this section should consider all external loads unless the exclusions are explained and justified. Please revise Appendix I as necessary.
32. Section 5.1.1 of Appendix I indicates that Slope-W 2007 Version 7.17 by Geo-Slope International, Ltd was used to perform the slope stability analyses; and the General Limit Equilibrium (GLE) method developed by Fredlund was used in the analyses. Please confirm that the software and the GLE method are suitable for slope stability analysis in the landfill environment.
33. Section 5 of Appendix I discusses stability analyses for two slope scenarios at one selected cross section, Cross Section B. The second paragraph in Section 5.1.1 states that “the selection of the cross section analyzed was based on considering slope heights and slope inclination for the proposed final landfill grading plan.” Please clarify and explain whether the two slope scenarios at Cross Section B represent the worst case scenarios of Cross Section B and all possible cross sections. Please revise this section as necessary.
34. Please confirm and explain whether the stability analyses, referred to as global stability analysis in Section 5, contain sliding failures along ET layers; and if not, please demonstrate that the two analyses represent the worst case scenarios of all possible slope stability conditions. Otherwise, please revise this section to include an analysis for the worst case scenario of all possible sliding failures along ET layers out of all possible slopes.
35. Please clarify whether the friction angles listed on page 6 of Appendix I are internal or between certain surfaces or other type of frictions (please briefly explain the friction angles with respect to the analysis type or method). Please clarify whether the listed degrees are determined by testing; and if not by testing, please explain the basis for the assumptions of the effective friction angle degrees for the solid waste and other materials/interfaces. Please revise this section as necessary.
36. Please clarify whether the settlement analysis results presented in Appendix I have been properly considered in the design, construction, and maintenance of the ET final cover or revise this application as appropriate.
37. Section 1 of Appendix L, the Facility Surface Water Drainage Report, suggests that Appendix L has been prepared as a new drainage report. The summary table included in Appendix C-1 of this application indicates that the included drainage report is a replacement of a March 2008 Facility Surface Water Drainage Report. Please clarify

- whether the 2008 drainage report was approved by the TCEQ and has been a part of the permit. Please discuss the major differences of the two drainage reports.
38. Section 1 of Appendix L lists the types of waste disposed of at the facility. Please clarify whether the listed types of waste are the same wastes authorized in the current permit or please revise this section for consistency. Or please remove these listings. Please revise this section as appropriate.
 39. Please revise Section 2 of Appendix L to discuss the existing or planned perimeter drainage systems (for example, a drainage ditch, etc.), if any. Please also revise drawing C-3 or another drawing to show the perimeter drainage systems (if the perimeter drainage system is already shown in the drawing, please revise the drawing to include a proper legend). Please also revise drawing C-3 or another drawing to show the locations where the surface drainage discharges offsite (drawing C-3 appears to show that offsite discharges take place at the southeast and southwest corners of the landfill). Please revise drawing C-3 to depict the permitted site boundary (or please confirm whether the boundary line dotted by the boundary posts shown in drawing T-1 is the site boundary specified by the permit).
 40. Section 2 of Appendix L states that “the surrounding drainage pattern will not be adversely altered as a result of this alternative cover design and grading plan.” Please expand this section or other parts of the drainage report to discuss how this conclusion has been reached (if the requested information has already been included in the report, please identify the locations where the relevant information is contained. It was noticed that Table 2-5 shows some comparisons between pre-and post-development conditions). Please revise Table 2-5 to show comparisons between pre-and post-development conditions at the locations where the surface discharges leave the site.
 41. Section 2.1 of Appendix L includes a rule citation §330.63(c)(i)(C) that does not exist. Please check this citation and revise the section as necessary.
 42. Table 2-5 identifies the pre-development conditions as 2005 permitted. Please elaborate on the 2005 authorization or provide a copy of the 2005 authorization.
 43. Section 1.3 of Appendix L, Facility Surface Water Drainage Report, indicates that surface water runoff may flow downstream to the stormwater retention basin located approximately two miles south of the landfill. Please clarify whether all surface runoff from the landfill site will flow into the stormwater retention basin; please also clarify whether all the ditches leading to the stormwater retention basin and the stormwater retention basin itself are located on the permittee’s property and controlled by the permittee.
 44. The fourth paragraph in Section 3 of Appendix L states that the active internal slopes within Sub-D cell are not subject to the erosion and sediment control requirements. Please note that the active portion of a landfill including the working face is subject to the requirements of §330.305(b) and (e) for surface run-on and runoff control. Contaminated water as defined by §330.3(36) generated at the working face needs to be contained and properly managed in the same or similar manner as leachate is managed. Please clarify if the current permit document includes measures to comply with §330.305(b) or revise the application to include proper measures.

45. (Comment Nos. 45 through 49 are regarding Section 3.2, Interim Construction Stages, of Appendix L) The last paragraph in Section 3.2.1 of Appendix L states that drainage swales in Sub-D cell will convey runoff off-site to the existing perimeter topography. Please briefly discuss the existing perimeter topography (please also refer to Comment Nos. 39 and 40 of this letter).
46. Please clarify whether (and where) the temporary soil berms mentioned in Section 3.2 of Appendix L are shown in the drawings of this application or revise drawing C-3 or other relevant drawings to show the locations of the temporary soil berms.
47. Rule §330.305(d)(1) states, “Estimated peak velocities for top surfaces and external embankment slopes should be less than the permissible non-erodible velocities under similar conditions.” Section 3.2 does not appear to include calculations to demonstrate compliance with §330.305(d)(1). Please explain how this requirement is satisfied or revise this section as necessary. Please calculate the velocity for worst case slopes with justification for choosing the worst case slopes.
48. Please explain how the slope lengths and the slope angles used in the soil loss calculations of Section 3.2 .2 were determined (please refer to Comment Nos. 46 and 47 of this letter). Please describe how the cover and management factor was determined for the soil loss calculations of Section 3.2 .2. Please calculate the soil loss for worst case slopes with justification for choosing the worst case slopes. Please consider using on-slope swales (and down chutes) to limit the uninterrupted surface flows along the slope when the results from velocity and/or soil loss calculations require control measures (please refer to Comment No. 47 for velocity calculations). Please note that the permissible soil loss of 50 tons/acre/year is the maximum loss of soil leaving the slopes (the amount of soil intercepted off-slope and returned to the slopes may not be subtracted from the calculated loss of soil leaving the slopes). In general, the interim erosion control measures should be consistent with the guidance on the interim erosion control found at <http://www.tceq.texas.gov/assets/public/permitting/waste/msw/interimdrainageguide.pdf>.
49. After re-calculations of the surface velocities and soil losses in response to the comments of this letter, the downward swales (or down chutes) described in Section 3.2 of Appendix L may need to be redesigned to consist of a more erosion resistant component (for example, a layer of geomembrane) and to incorporate energy dissipating measures, as necessary.
50. Please revise Section 3.3, Final Cover Stage, of Appendix L to address the same or similar deficiencies described in Comment Nos. 45 through 49 of this letter.
51. Please clarify whether Attachment 5, 2005 Stormwater Pollution Prevention Plan, of Appendix L has been previously reviewed and approved by the TCEQ and included as a part of the current MSW permit document. Please explain the meaning of “For Reference Only” shown under the Attachment 5 title. Please note that if Attachment 5, 2005 Stormwater Pollution Prevention Plan was prepared to comply with the stormwater permit requirements, it will not be reviewed during this modification review process.

52. After revising Appendix L in response to the comments on erosion control measures, please update or revise the attachments to Appendix L accordingly.
53. Pages 4 and 5 of Appendix Q, ET Cover Design Report, list the parameter values for the constructed ET cover layers. Please specify the ranges of the parameter values within which the ET cover can be expected to meet the performance limit (please refer to Comment No. 23 of this letter). It was noticed that a brief discussion on the model sensitivity was included on page 6 of Appendix Q; the brief sensitivity discussion may be expanded to address the concerns of this comment.
54. Page 5 of Appendix Q states that "Dr. Rafal Corral of the Fort Bliss Environmental Division and Leah Markiewitz with Zia provided an optimum vegetative design to utilize indigenous species of the area such as alkali sacaton and sand dropseed." Please refer to Comment No. 24 of this letter and revise this page as necessary.
55. Page 6 of Appendix Q states that "potential transpiration and evaporation were generated from empirical cheatgrass data published by Hinds (1975)." Table 1 of Appendix Q lists the PET, transpiration, and evaporation for the 30 years modeled in the ET cover design. Please clarify whether the methods used in generation of the PET, the transpiration, and the evaporation are consistent with the procedures described in the UNSAT-H guidance or revise the application as appropriate.
56. Page 6 of Appendix Q indicates that the 6-inch thick capillary break layer consists of well graded, fine to coarse sand. Please discuss whether or not the capillary breaking function of the capillary break layer might be reduced by silts/fines from the storage layer and the vegetative surface layer and/or revise the ET cover design as necessary. In addition, please model the performance of a final cover with a storage layer of 18 inch thick and without the capillary break layer (for this modeling purpose, the material specifications and the thickness of the other layers should stay the same as currently designed).

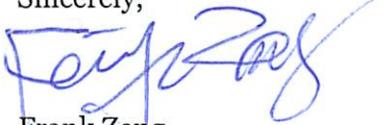
Please revise your permit modification request and submit the revisions within 30 days from the date of this letter or your request may be considered withdrawn. In accordance with 30 TAC §330.57, please ensure that each page has a header or footer that indicates the revision number and date. Your revised and/or additional pages should be in a form suitable for replacement and/or inclusion in the initial permit modification application. In accordance with 30 TAC §305.44, please include an original certification statement with the revision. Along with the original signature, the certification statement should indicate the name, title, and address of the responsible official.

To facilitate our review, please submit one original, two unmarked copies, and one marked copy (for example, in redline/strikeout format) of the revisions in conformance with 30 TAC §305.70(f). Please send one of the unmarked copies directly to the Texas Commission on Environmental Quality Region 6, to the attention of Mr. Kent Waggoner, Waste Program Manager, at 401 E. Franklin Ave., Ste. 560, El Paso, TX 79901-1212. Also, please include the tracking number referenced above in the subject line of your response.

Mr. Alfredo J. Riera
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Failure to submit a satisfactory response to the item(s) listed above may result in a recommendation to deny this modification request. If you have questions regarding this letter, please contact me at (512) 239-1132. When addressing written correspondence, please use mail code MC 124.

Sincerely,



Frank Zeng
Municipal Solid Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality

FZ/sm

cc: Mr. Francisco X. Urueta, P.E., Zia Engineering & Environmental Consultants, LLC, Las Cruces, New Mexico