



STATE OF TENNESSEE
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
JOHNSON CITY ENVIRONMENTAL FIELD OFFICE
2305 SILVERDALE ROAD
JOHNSON CITY, TENNESSEE 37601-2162
(423) 854-5400 STATEWIDE 1-888-891-8332 FAX (423) 854-5401

April 20, 2017

Mr. Stephen Robbins, P.E.
City of Kingsport
225 W. Center St.
Kingsport, Tennessee 37660

RE: Construction Quality Assurance Report – Notice of Deficiency
City of Kingsport Demolition Landfill, Registration Number 82-104-0016

Dear Mr. Robbins:

On November 14, 2016, the Division of Solid Waste Management (DSWM) received the *Construction Quality Assurance*, (JCFO file number 82-8-1 EXT PM 82). After my review of the document, the CQA report document has been found deficient. The deficiencies are listed below.

1. Identify on the Construction Quality Assurance (CQA) certification coversheet and drawings, which disposal area as described in the facility’s permit was constructed and is being submitted for review/approval.
2. CQA reports for construction require a signed certification statement by the responsible official/owner/operator for the facility. The text of the certification statement is as follows:

Any Person signing a document under part 7 or 8 of this subparagraph shall make the following certification:

“I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete.

As specified in T.C.A 39-16-702(a)(4), this declaration is made under penalty of perjury”

Please submit the signed certification statement referencing the submitted CQA Report for the City of Kingsport Demolition Landfill, which was received on November 14, 2016.

3. Provide a project summary(i.e. written narrative) describing at a minimum the following information:
 - a. Work that was completed in the construction of the new disposal area
 - b. Size (acres) of the newly constructed disposal area
 - c. What contractors were used to complete each phase of the project and their role in the project
 - d. Surveying completed of the original and as-built areas, disturbance/cell limits, extent of base grades and trenches
 - e. Work stoppages, beginning and completion dates for each the rock removal, clay liner, shale drainage layer, underdrain trench and leachate collection system
 - f. On-site and off-site soil testing and compaction testing
 - g. Volume of the material that was hauled in from each borrow site, for the construction of the new disposal cell
 - h. Volume of material used to construct the clay liner and drainage layer (separate volumes by 2ft and 5ft clay liner thickness areas).

4. Please clarify and/or revise the drawings submitted with the CQA report. The items that need to be clarified and/or revised are:
 - a. Previously submitted 11” x 17” and 24” x 36” drawings appear to be permit/design plans. Please clarify if these drawings are permit, construction or as-built drawings and how they were generated.
 - b. Clarify why the submitted 11” x 17” and 24” x 36” drawing have conflicting information. The 24” x 36” sheets are shown to be revised on 10-19-2015 and the original submitted 11” x 17” drawings do not have any revision listed. The revision date is after the PE stamp of certification on the drawing. Please submit the drawings you would like to include in the CQA Report, construction/design drawing are not required but as-built drawings are required.
 - c. If either set of drawings are resubmitted, please recertify the drawings due to the conflicting dates of the revision and the date of certification.
 - d. Index contours and labeling are not visible on some of the drawings. Please include index and intermediate contours and index contour labeling for all drawings submitted in the future.

5. The drawings appear to be design plans for the new disposal area. Provide certified as-built drawings, profiles and cross-section for the sub-grade, clay liner and shale drainage layer of the newly constructed disposal area.
6. Certify and show that the newly constructed clay liner connects and ties into with the adjacent disposal area clay liner, to ensure a continuous clay liner along the base of the landfill with a minimum thickness.
7. Daily Field Reports and Construction Monitoring Results indicate that material was used from five borrow sites (one on-site and four off-site). Please provide clarification on the number of borrow sites and provide information for each borrow site to certify the hydraulic conductivity and moisture/density of material used from each borrow site, as required by the CQA Plan.
8. The compacted clay liner must have a maximum hydraulic conductivity of 1×10^{-6} cm/sec. Please provide documentation that the constructed cell was constructed with a clay liner with a maximum hydraulic conductivity of 1×10^{-6} cm/sec. If the borrow site testing was not completed before the material was used in the construction of the new disposal cell, please provide soil tests showing the type and hydraulic conductivity of the material from in-place soil tests and documentation showing the type, thickness and hydraulic conductivity of material in the newly constructed disposal area.
9. Daily Field Reports and Construction Monitoring Results indicated that on January 18th, 2016, that fill placement operations stopped due to inclement weather, wet conditions and frozen ground conditions and started back on April 11th, 2016. Please provide clarification in the project summary if any work stoppage occurred (see item 3.e above).
10. As mentioned in the above deficiency, if fill placement operations stopped, please certify what steps were taken to protect the low permeability clay liner from drying, erosion, frost and freezing during this work stoppage, what damage occurred to the low permeability clay liner and what repairs were taken before fill placement operations resumed in the new disposal cell.
11. Provide documentation on what protection was used for the clay liner before and after the work stoppage, to protect clay liner from drying, erosion, frost and freezing during construction.
12. Provide a drawing/map or other information to help correlate the provided grid points of the top of the subgrade, top of clay liner and top of shale drainage layer elevations in the report.
13. Please clarify how the in-place field density test locations were chosen. It appears that very few samples were taken in the northeast sideslope area of the project, where the shale material was removed and the slopes were reestablished.
14. The CQA report for the newly constructed cell should include and document the following for each day construction activity took place:

- a. Large rocks are removed,
- b. Roots, stumps and other debris are removed,
- c. Loose soil lift thickness is 8 inches, and
- d. The appropriate compaction (minimum number of passes) was observed.

Please provide documentation or certification that these inspections were completed on a daily basis during the construction of the new disposal cell.

15. Certify to what extent the drainage trench was constructed in the new disposal cell. (No details were provided in the Daily Field Reports and Construction Monitoring Results on completing construction inspections, documentation, as-built drawings, as-built length and type and lengths of each pipe used in the construction of the drainage trench.)
16. Certify to what extent the leachate collection system was constructed in the new disposal cell. (No details were provided in the Daily Field Reports and Construction Monitoring Results on completing construction inspections, documentation, as-built drawings, as-built length and type and lengths of each pipe used in the construction of the leachate collection system.)
17. Provide documentation on the installation/construction of the drainage layer over the clay liner in the newly constructed disposal area. Provide type of material placed, how the material was placed, thickness of material, etc.
18. It appears from the Division's inspection of the newly constructed disposal area that the lower end of the disposal area needs to be repaired and brought back up to QA/QC specs, before final approval can be given for the new disposal area.

If you have any questions concerning this letter or the attached comments, please not do hesitate to contact me at (423) 854-5431.

Sincerely,



George M. Thornsby, P.E., JCFO
Division of Solid Waste Management

c: Nick Lytle, DSWM Nashville, email
DSWM, JCFO File 82-8-1 Ext PM 83