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RE: RESPONSE TO COMMENTS, CITY OF ELKO LANDFILL, ELKO, NEVADA

Jon,

This letter is being provided by Vector Engineering, Inc. (Vector) in response to your comments regarding the Modification to Class I Permit for the City of Elko. The Permit documents have been updated, and your comments have been addressed below. A revised Groundwater Monitoring Plan has been provided as part of this update.

Your comments are in italics, and our responses are in a regular 12 point font.

Comments

Plan of Operations -- Report of Design City of Elko Landfill (April 2007)

1 *As this landfill is for all intents and purposes in the middle of town and certainly will be in 20 years, considerably more effort should be made to assure it "blends well", and is protective of the adjacent residents. Therefore in accordance with NAC 444.678 Location restrictions: Generally. (NRS 444.560) The location of a Class I site must...*

"Not be within one-fourth mile of the nearest inhabited dwelling or place of public gathering or be within 1,000 feet of a public highway, unless special provisions for the beautification of the site and the control of litter and vectors are included in the design and approved by the solid waste management authority."

A beautification plan has been established, which includes additional trees along the northern property boundary, and guidance on smooth contouring and landscaping for the final cover, including boulder placement and reseeding of native grasses. This has been added to the Plan of Operations, pages 6 and 7.

- 2 *As this expansion will incorporate a liner please provide a QA/QC plan pursuant to NAC 444.645 Program for quality assurance and control for construction of required liner system. (NRS 444.560) The owner or operator of a municipal solid waste landfill unit shall:*
 1. *Develop and carry out a program for quality assurance and quality control for the construction of all liner systems required by NAC 444.681; and*
 2. *Submit a summary of this program to the solid waste management authority before waste may be placed in the municipal solid waste landfill unit. This will be required for both the liner and the cap.*

A CQA Plan has been developed. It is presented with the Closure and Postclosure Plans.

- 3 *There are quite a few channels with supercritical flow, as this is "in the middle of town" controls for runoff/run-on should be fairly robust.*

The hydrology has been revised. Each channel will be lined to control erosion during peak storm events, reducing the number of supercritical channels. The remaining three channels that are still supercritical have been analyzed for hydraulic jump depths, and these are within the downstream channel freeboard. Appendix E "Surface Water Hydrology for the Closure of the City of Elko Landfill" in the Closure Plan has been revised to reflect the changes in the channel design.

- 4 *The "cap" is presented as having 18 to 24 inches of "clay" but it is unclear whether there is sufficient clay available, most site soils seem to be silts and sands with cobbles. Perhaps a GCL, or a "Pilot Plot" to use as a demonstration project for the cap using available soils. The Pilot Plot would also have the advantage of providing a presumptive approach to demonstrate equivalency to the prescriptive of NAC 444.6891. It has also not been included in the closure cost analysis if importation or significant soil conditioning is necessary. Also please include soil losses for the Post Closure period and include these in the soil balance for the site (Universal Soil Loss Equation)*

The soils available at the site meet the permeability requirements for the final cover. Due to this amenable soil characterization, low precipitation, and positive results from a conservative HELP model, we do not consider the Pilot Plot necessary.

Importation of soil or significant soil conditioning is not anticipated to be required.

The Universal Soil Loss Equation has been used to estimate soil loss, which is less than two tons/acre/year. This information is included in the revised Postclosure

Maintenance Plan. This amount is not expected to adversely affect the soil balance, as there is a large surplus of soil from the excavation.

5 *Please provide more cross section (E- W, N-S) as the site goes to closure (rather than just at closure), this will help provide some detail on the infrastructure needs for the site.*

Revised sections are provided indicating the completion of each cell, and are included in the Report of Design drawings 200-09 and 200-10, and in the Closure Plan as drawings 200-9 and 200-10.

6 *The NDEP cannot find a Post Closure Plan for the site in any of the documents provided to date (Volumes I, II or III March and Ian of 1994 and 1995)*

Please provide one that meets the following:

NAC 444.6894 Program for postclosure for each municipal solid waste landfill unit within the Class I site. (NRS 444.560)

After the closure of each municipal solid waste landfill unit of a Class I site, the owner or operator of the site shall conduct a program for postclosure for that unit. Except as otherwise provided in subsection 2, the program must be conducted for 30 years and consist of at least the following:

- (a) The integrity and effectiveness of any final cover must be maintained, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion or other events, and preventing runoff and runoff from eroding or otherwise damaging the final cover.*
- (b) The system to collect leachate must be maintained and operated in accordance with the requirements in NAC 444.681, if applicable. The solid waste management authority may allow the owner or operator to stop managing leachate if the owner or operator demonstrates that leachate no longer poses a threat to public health and safety and the environment.*
- (c) The ground water must be monitored in accordance with NAC 444.7481 to 444.7499, inclusive, and the system for monitoring the ground water must be maintained, if applicable. (d) The system for monitoring gas must be maintained and operated in accordance with NAC 444.667.*

The Postclosure Maintenance Plan, included in Volume II of the March 1994 submittal, has been revised. It is included in the current Closure Plan document, and meets the requirements for NAC 444.6894.

8 *Please provide the groundwater monitoring data acquired to date for review by the NDEP. The NDEP will be establishing a ground water Detection Monitoring program pursuant to: NAC 444. 7487 Constituents required to be monitored; establishment of list of alternative parameters for inorganic materials. (NRS 444.560)*

1. *An owner or operator shall monitor constituents at all wells monitoring ground water pursuant to NAC 444.7483. At a minimum, the constituents listed in Appendix I must be monitored.*
2. *The solid waste management authority may delete any of the parameters for monitoring constituents listed in Appendix I for a municipal solid waste landfill unit if it is shown that the deleted constituents are not reasonably expected to be contained in or derived from the waste contained in the unit.*

&

NAC 444.7492 Establishment of standard for protection of ground water. (NRS 444.560)

The Administrator shall establish a standard for the protection of ground water for each constituent listed in Appendix II detected in the ground water as follows:

- (a) *For a constituent for which a maximum contaminant level has been set forth pursuant to the Safe Drinking Water Act (42 u.s. C. § § 300f et seq.), and 40 C.F.R Part 141, as those sections existed on November 8, 1993, the maximum contaminant level for that constituent.*
- (b) *For a constituent for which a maximum contaminant level has not been adopted, a level equal to:*
 - (1) *The background concentration of the constituent; or*
 - (2) *An appropriate level that is based on the protection of public health and safety and complies with the following requirements...*

The groundwater monitoring data collected to date has been supplied to NDEP, and is provided in this submittal. A revised Groundwater Monitoring Plan representing current practice is included with this submittal.

- 9 *Please use a LandGEM analysis specific to the methane component rather than the NMOC portion (which applies to the Air Permit). This will assist in establishing the methane monitoring locations and number of wells necessary. The NDEP is concerned with the lack of current monitoring in light of the proximity of private residences to the landfill. There are not enough Gas Monitoring Probes at this landfill. Due to the proximity of residences it is likely more will be needed.*

Eighteen additional monitoring wells have been sited around the perimeter of the property on approximately 1000' centers, eleven with tighter spacing near structures on the south and west sides of the landfill. Roughly half of these closely spaced wells will be installed in the first budget year following approval of this plan, with the remaining wells installed the following year. These wells are presented on Report of Design Drawing 100-04, and on Closure Plan Drawing 200-01.

- 10 *Please include in the drawing set elevation details at various stages of operational life of the facility (i.e. at 20, 30 and 50 years for example).*

Sections are provided to indicate the completion of a phase. This item is covered in item 5 above.

- 11 *This expansion has increased the landfill capacity by some 30% to 40% and thereby the costs of closure and post closure as identified in the revised cost analysis. As the City of Elko is in the Nevada Landfills Public Assurance Pool, Elko must update the Insurance coverage to reflect this.*

Costs for the largest areas that are likely to be exposed at any time have been included in the Closure and Postclosure Cost Estimate. A drawing set (Closure Plan Drawings 300-01 through 300-08) and table (Closure Plan Table 1) have been provided to present the sequence of closure, and the areas that will be closed and that will remain uncovered as the various phases are completed.

- 12 *It is stated but unclear whether this facility will be accepting C&D materials for disposal. If C&D will be accepted then Elko should provide a plan within the application that meets the requirements of NAC 444.652 Disposal of special wastes: Construction and demolition wastes. (NRS 444.560) Landfills incorporating large quantities of construction and demolition wastes of combustible nature must be cross-sectioned into cells by compacted cover material to prevent spread of accidental fires.*

This topic is addressed in Section 6.4 (page 28) of the Plan of Operations: "Construction and Demolition wastes are accepted at the Elko Landfill". A discussion of how small and large amounts of C&D material are to be handled is included in this section.

13 *The installation of additional Groundwater Monitoring wells will have to follow the development of the landfill as it progresses towards closure. Please include a schedule for installation of monitoring wells in the application.*

There are four new wells proposed. Proposed well locations are indicated on the Report of Design site map (Drawing 200-01 Phase I & II Existing Conditions), the closure Plan site map (Closure Drawing 200-01), and the Groundwater Monitoring Plan (Figure 2). These wells should be in place two years prior to the first placement of refuse on the Phase III area, to develop a good background dataset. Section 2.6 on page 8 of the Final Closure Plan has been revised to reflect the installation schedule.

14 *The application discusses 7 phases of disposal; please provide detailing the attachment/joining of the respective phases of the liner and details on the anchor trench design and drainage details for each of the phases showing the run-on and run-off components.*

The tie-in detail is included on the Report of Design Drawing 200-11 Details. Refuse will be placed no closer than 10' from the liner edge and the area will be ripped, blended, and compacted to tie the liners together. The run on and run off details have been included on the Lateral Expansion Report of Design Drawings 200-01 – 200-08.

Thank you,



Rich Peevers
Vector Engineering