



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

February 7, 2011

Erin Merrill
Recology
50 California Street, 24th Floor
San Francisco CA 94111-9796

Reference: With respect to Recology and the correspondence dated;
9/27/2010 (Recology to NDEP)
4/19/2010 (Recology to NDEP)
4/16/2010 (Recology to NDEP)
5/29/2009 (Recology to NDEP)

Subject: Technical Review Comments on Jungo Permit Application

Dear Mr. Merrill:

Please note the Nevada Division of Environmental Protection (NDEP) will not issue the permit without the Conditional Use Permit in place pending the outcome of the lawsuit between Humboldt County and Recology. Please find comments from the NDEP on the Jungo application. Please respond to these comments by April 4th 2011.

Any questions regarding this may be directed to the undersigned at 775-687-9477 or jtaylor@ndep.nv.gov.

Sincerely,

Original Signed

Jon Taylor PE CEM
Staff Engineer III
Solid Waste Branch
Bureau of Waste Management

JT:cb

Enc: Review comments from NDEP
Draft Trust Agreement
Groundwater Monitoring Guidance

cc: John Frankovich, 100 West Liberty Street, 10th Floor, Reno, NV, 89501
Kenneth Haskell PE, 1000 Enterprise Way Suite 190, Roseville, CA, 95678

ec: Colleen Cripps
Eric Noack
Art Gravenstein

General Comments

1. The Nevada Division of Wildlife has commented on the Jungo Landfill. Please summarize their comments within the context of the Application. Namely, noting those areas of the Application that incorporated their comments and have been modified accordingly.
2. Please note that NAC 444.677(2) requires proof of ownership of the land be specifically owned by Jungo Land & Investments Inc. (JLII) for the purposes of establishing the responsibility of Financial Assurance. The current documentation (Appendix A Operations Plan) shows Nevada Land and Resource Company LLC (NLRC) as the current owner. Prior to issuance of the Permit NLRC must either transfer the property to JLII, or NLRC would be identified as the owner and JLII will be identified as the operator. In this event, NLRC would be the responsible financial party and necessitate submission of Financial Assurance for the Closure and Post Closure for the Site.
3. In the March 4, 2009 letter from NDEP to Recology the NDEP noted the inability to determine whether settlement was taking place in the subsurface. The net effect of drainage across the ~1600' distance remains of concern as each phase of the landfill progresses. Accordingly, please provide the "...settlement monitoring program..." alluded to in the May 29, 2009 response for review and approval to the NDEP.
4. The NDEP is requiring further information on the area from the landfill boundary (where the height of the waste mass is effectively zero) to approximately 400 ft. inside the landfill boundary (where the height of the waste mass is ~ 175 ft. Given the estimated settlements of 1) at the sump of 4.5 ft., 2) at the crest of the slope of 7 ft., and 3) at the center of the landfill 10 ft. Please provide an evaluation from the landfill toe to the landfill crest for grade reduction and from the landfill crest to approximately 400 feet inside the landfill perimeter for grade reduction. As the settlement calculations have estimated a flattening of the drainage grade by 0.2% to 0.8% (over the entire distance) the NDEP would like this additional analysis (for *i.e.* settlement, stresses drainage¹ etc. in this area).
5. Given the estimated settlement at the Sumps (4.5 ft.), assuming the anchor trenches are properly sized, and a fixed point, this may/would create additional strains not anticipated in the seismic analysis. Additionally, in the Slope Stability Calculations (App F), the reference to the "permanent" displacement while a component, should as well, include an analysis of the maximum "temporary" displacement under predicted seismic conditions. In the Methodology and Assumptions for the settlement analysis; include an analysis that captures the final estimated settlement of the sumps (given the sumps would be installed long before final settlement had taken place, the liner system, at the sumps, may/would already be under stress prior to a seismic event, with approximately one foot of pre-elongation) and the anchor trench design calculations within the analysis for the shear strength needs for the bottom liners. Include an analysis of the materials that will necessitate this shear strength and/or proposed design changes to accommodate this.
6. Also please reconcile the 4.5 ft. settlement at the sump with the Notes on sheet 3A, *i.e.* include consistent statements that maintain the 25 ft. to groundwater separation.
7. While NAC 444.7483 references the "...boundary of the waste management unit", the NDEP will require additional wells interim to the build out of the facility in accordance with NAC 444.678. They should be placed in such a way that they will be downgradient to the upper North-Eastern quarter of the landfill footprint. Please provide proposed locations for review and approval.

¹ please provide estimated head on the liner given both the 0.8% the 0.2% grade (using Girouds, Moores or McEnroe's Method...

8. The current Groundwater Monitoring program provides for one up-gradient background well. The NDEP is also requiring the installation of an additional well, in the proximity of upgradient Well MW-2, to provide for both pooled data (i.e. two sets of background data) and additional spatial information for integration into the background data for the Detection Monitoring program for the site. Please provide a schedule for installation of this well.
9. The Table of Contents in Volume III does not list the Groundwater Monitoring program, please provide an updated Table of Contents and a tabbed index for that section for inclusion into Volume III.
10. With respect to the content of the Groundwater Monitoring Report, the NDEP is providing a guidance document for the format and outline of the report. Regardless of whether the facility is performing assessment monitoring or detection monitoring the NDEP would like a consistent report style and format. Please use the format provided.
11. In reference to Appendix E of the Report of Design, please provide some discussion for the Upper Silty Clays and Clayey Silts at the excavation depth of the landfill. Specifically, please provide a Factor of Safety against liquefaction at the site given the design earthquake using Cyclic Resistance of the soil from blow counts. However in performing future site investigations please incorporate testing for liquefaction into the analysis.

Specific Comments

Plan of Operations

Section 2.1.4 Availability of Cover Material

Please describe the Alternative Daily Cover (ADC) in detail. Include a description of under what conditions ADC would and would not be used. Remove "...not limited to..." Include only those things that will be used as ADC within the Application for approval. Also please provide some criteria for using and not using ADC, for example in inclement weather, high winds etc.

Section 2.6 Seismic Impact Zones

Please note that Section 2.3(Containment System an Environmental Controls) and 2.3.1 (Liner Design and Base Grading) of the Report of Design do not include Seismic Evaluations. They contain a description of the Liner design, base grading and description of the Construction Quality Assurance Plan (CQA). Please include the engineering seismic impact evaluations in these sections as described in section 2.6, last sentence for review.

Section 2.8 Proof of Compliance

Please revise this section to state compliance with NAC 444.678 via evaluation of the Groundwater Monitoring Plan. Please remove the sentence "...will meet the criteria for approval of the NDEP...". The NDEP will be using a combination of site source evaluations to determine whether the landfills' design meets the requirements of NAC 444.678, (namely the Groundwater Protection Evaluation Plan submitted April of 2010, the Groundwater Monitoring and Construction Quality Assurance Plan) for the site.

Section 3.0 Waste Management Equipment and Personnel

Please provide an estimation of the number and a description of each piece of Waste Management Equipment, i.e. number of tippers, compactors etc. It is not necessary to include personnel equipment. Also please provide a hierarchical description for the personnel on site starting with the General Manager and working downward in conjunction with the number of people expected to fulfill that job.

Section 5.0 Waste Handling Procedures

As this site will be the terminus for waste received from sources not within the state of Nevada please include a notification process for the origination facility/sites that details the waste acceptance criteria identified within the application and therefore the Permit. Specifically onsite personnel may not have knowledge of any particular shipment whether it be Construction & Demolition (C&D) or Municipal Solid Waste (MSW) accordingly the Jungo facility would then be dependent upon the training and knowledge of the personnel at the point of origination. The waste handling and acceptance must be consistent with the requirements of the permit and application regardless of where the waste originates from.

Please include within the Plan of Operations a provision for complying with NAC 444.702(4) and recording such in the operating records for the site.

Section 5.8 Hazardous /PCB Waste Exclusion Program (See comment on Section 5.8.5)

Please include in this section a reference to the 262.34 requirements that includes;

1. § 262.30 Packaging.
2. § 262.31 Labeling.
3. § 262.32 Marking.
4. § 262.33 Placarding.
5. § 262.34 Accumulation time

Section 5.8.2 Random Inspections of Incoming Loads

This section does not provide any type of inspection schedule or criteria. Please include some regular inspection procedure, by example;

5 inspection points for every train load arrival, every other container, every tenth container etc.

Section 5.8.3 Records Maintenance

Please identify the exact location of the records that will be maintained for the site. This location should contain all records for the site inclusive of;

1. Training
2. Waste Records
3. Groundwater Monitoring
4. Personnel
5. Activation of the Contingency Plan
6. Etc.

Section 5.8.5 Handling Procedures for Hazardous or PCB Wastes

Please remove the regulatory citation. The NDEP is aware of the contents of the regulations. To paraphrase, the requirement is to detail a program for the detection and prevention of disposal of unpermitted waste².

Section 6.0 Control of Explosive Gas

Please remove Figures 14 and 15 from Volume I Report of Design and place them in Volume II at scale. In the second paragraph, please replace (in all cases) "...permanent on-site structures..." with "...any structures used for occupation by site or visiting personnel..."

Section 9.0 Cover of Compacted Waste (and by reference Section 7.0 Vector Controls)

This regulation was revised in 2008. Operating day was revised to state;

As used in this section:

(a) "Continuous operation" means that at all times throughout each 24-hour period:

(1) Waste is being received, placed, spread or compacted on the working surface of the site; and

² It appears that section 5.8.1, 5.8.2, 5.8.3, 5.8.4 (which will be incorporated in to the ISCP upon submittal), 5.8.5, 5.8.6 and 5.8.7 overlap and may describe the "program" as noted above. Please review these sections and clarify to resolve overlapping and/or conflicting requirements

(2) At least one piece of heavy equipment is operating on the working surface of the site to spread or compact the waste.

(b) "Operating day" means the portion of a day during which a site is accepting or managing solid waste

Please provide a revised plan for the covering of waste. The NDEP will not approve a timeframe of 24hrs between "daily" cover events. Also, all cracks and erosion of the cover must be promptly repaired. Please provide an inspection protocol for this as well as criteria for determining when a "crack" will be repaired i.e. greater than 3" deep etc.

Section 11.0 Operating Records

Please remove the regulatory citation. The NDEP is aware of the contents of the regulations.

With respect to item 1, the application would satisfy this. Please merely state where the records will be kept. With respect to the required notification, the NDEP provides an alternative schedule in accordance with NAC 444.7025 for notification as required by NAC 444.7025(2) as follows;

Within 30 days of the end of each calendar year after this permit is issued, the Permittee shall provide in conjunction with any other reporting requirement, a summary of the records placed in accordance with NAC 444.7025.

Please remove this section in favor of Appendix D (or move Appendix D here). In this event remove the second paragraph the proximity to local groundwater wells is not relevant. Remove the word

Section 14.0 Closure and Postclosure and Financial Assurance

Please find enclosed language for the Trust Fund. Recology may establish a Trust Fund for both Closure and Post-Closure either combined or separate. As funding for the trust must occur simultaneously the NDEP would recommend separate Trusts as the funding for the Post Closure monies will extend out past the life of the landfill. The language for the Trust Fund must be submitted in conjunction with the response to this review.

Appendix C Closure and Post Closure Monitoring and Maintenance Plans

Section 2.2, please include a notification that meets the requirements of NAC 444.6893.

Section 3.3 Postclosure Inspection and Maintenance Activities

Please define what a small depression would be, for example in both areal extent and depth "greater than 10 ft² and deeper than 2 inches.

Please define what a large depression would constitute using the guidance above. As a matter of note it may difficult to determine "large" without a survey of the cover to identify areas that no longer have a 5% slope. The NDEP would also suggest that the inspection schedule vary with the length of time in post closure.

For example;

For the Cover:

In the first 5 years, when most settlement is predicted to occur, the landfill will be inspected bi-annually and a topographic survey taken to determine it still meets final grade design. Should the cover meet grade then inspections will occur every year with a topographic survey taken at the end of the 5 year period. Should the cover meet grade then inspections will occur every 2 years with a topographic survey taken at the end of the 10 year period etc. This can be used to determine the "large" depression above. With respect to the remainder of the inspections for the groundwater sampling, the NDEP would suggest something similar, with a flexible schedule given no reports of releases from the site.

Report of Design

Section 2.3.4.1 Base Settlement

Third paragraph, the numbers cited here do not reflect Appendix E. Please reconcile this. Also please note that while a factor safety of 75 may be correct it does not guarantee drainage is occurring. The primary concern for the NDEP is this drainage and a head of less than 12" on the secondary liner. The NDEP is concerned with a drainage slope that has the potential to essentially flatten and create a pooling effect either between the sump and slope crest or crest and landfill center.