New York State Department of Environmental Conservation
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Alexander B. Grannis
Commissioner

February 4, 2008

Frank LaVardera
Clough, Harbour & Associates LLP
III Winners Circle
P.O. Box 5269
Albany, NY 12205-0269

Re: DEC #4-0101-00171/00001
City of Albany Rapp Road Landfill Facility Expansion
Notice of Incomplete Application
Additional Comments on Fourth Supplement to DEIS
City of Albany, Albany County

Dear Mr. LaVardera:

As part of the Department's completeness review of the Part 360 permit application and the associated DEIS, the following comments by staff on the solid waste application are being sent for your review and response. Staff has been working as expeditiously as possible to provide a complete response to this application. Included are comments on the solid waste and air permit Title V applications as well as the DEIS and the Final EIS Scope. This constitutes the final set of Department comments on the application submittals before us.

Part 360 Solid Waste Permit Application

The following comments were prepared by Region 4 Division of Solid and Hazardous Materials staff:

Part 360 Permit Application - Section 4: Engineering Report

1. Section 1.0 Introduction, 1.1 History - The second and third paragraphs of this section are confusing. It is not entirely clear why a discussion has been included which attempts to take away the history of the expansions of the original Albany Interim Landfill (AIL). The discussion has dropped the individual names for subsequent expansions then calling the collective area AIL. The original 1991 Part 360 Permit had intended for the "AIL" to only have 5 cells that would cease accepting waste by

December 31, 1995. If this discussion is titled "History", then it should describe an accurate history of the landfill with each expanded operation distinctly described and identified by their respective names.

2. Section 1.0 Introduction, 1.3 Description - Second paragraph, need to be careful when discussing use of the Rapp Road Landfill, this facility does not only serve the ANSWERS Planning Unit with capacity, discussions should not give this impression, the current operation is a merchant facility.

3. Section 1.0 Introduction, 1.4 Current Landfill Operations and Capacity, last paragraph, most individuals outside of City and/or DEC staff would be familiar with the term "monitor" as it is used in this discussion. This statement would leave most readers thinking that there is no DEC oversight of landfill operations for purposes of monitoring regulatory compliance.

4. Section 2.0 Proposed Site Analysis, 2.3.10 Geotextiles - Was the 10 oz. non-woven geotextile that has been selected evaluated on the basis of the requirements contained in 360-2.13(n)(2) for filtering properties?

5. Section 2.0 Proposed Site Analysis, 2.3.11 Gas Collection Trenches and Piping - Is it proposed that stone will be the only acceptable material for bedding the 6 inch slotted HDPE pipe as stated in this section?

6. Section 2.0 Proposed Site Analysis, 2.5 Leachate Storage System, 2.5.1 General - Under the circumstances of the potential of a permit being issued for an expansion area that would significantly increase the active life of the current operations, it is necessary to renew the letter of understanding with the Albany County Sewer District for the continued direct discharge of the landfill's leachate.

7. Section 2.0 Proposed Site Analysis, 2.6 Geotechnical Evaluation, 2.6.1, Landfill Stability Analysis - This section needs to provide a discussion with reported results of calculation/evaluations in terms presented in 360-2.7(b)(6) demonstrating that the landfill's design will meet each of the requirements of this paragraph. While this information is for the most part, or in its entirety, presented in the Appendices, it needs to be presented in the Engineering Report discussions.

8. Engineering Report, general comment, - does not require addendum/revision of discussions in application, the Engineering Report too often made statements that would have been better supported/understood if some portion of the calculations contained in the Appendices had been included. It is very difficult when reviewing this material if all the time you are diving back into the highly technical calculations to determine regulatory requirements are being satisfied.

9. Section 3.0 Closure and Post-Closure Maintenance and Operation, 3.1 Closure Design, documentation relating to the Department's approval to eliminate the gas venting layer from the closure design needs to be included as part of the Eastern Expansion's Part 360 Permit Application.

10. Appendices, Calculation, formulas used in the calculations should provide the references, and all symbols in formulas should be defined. This work must not assume everyone reviewing this work has an immediate familiarity. It is recognized that reference materials have been provided following the

calculations; as a minimum, there needed to be a statement reference material follows the formulas/calculations. An example why this causes difficulty in reviewing this work: calculation of wall Buckling, the value given for E' = 3,000 psi, no reference, no qualifier for this value. Later in the document you are able to find information supporting this choice, but not with the calculation itself.

11. Appendices, Calculations, Evaluation of static loading on primary leachate collection pipes, why was the waste height used in the calculation 90 feet when the "max. waste height" was given as 350 feet?

12. Boring Location Plan and Boring Logs, the map provided does not appear to include all the borings in place related to this project.

13. General comment, would have been very helpful to have had tabs and/or color pages to define the various Appendices. A small item, but just adds to frustration that is typically associated with review of a document like a Permit Application.

14. Appendix D, Technical Specifications, general comment, it would have very helpful if this appendix had a table of contents. Considering it's content, lacking a table of contents resulted in a significant amount of wasted time "searching" for information to review in relation to specific regulatory requirements for compliance with the Part 360 regulations.

15. Appendix D, Technical Specifications, was there an effort made to compare the requirements of this appendix with the those contained in the CQA/QC Plan for inconsistencies? The frequent duplication of requirements between these two sections causes concern that there will be inconsistencies (at least one was found; if they exist, which requirements/criteria governs?)

16. Appendix D, Technical Specifications, Low Permeability Soil, 2.1 Materials, 360-2.1(j)(1)(ii) limits maximum particle size to 1 inch.

17. Appendix D, Technical Specifications, 3.1, Material Tests, where in the specifications is the requirement for developing a permeability- moisture-density curve pre 360-2.13(j)(3)?

18. Appendix D, Technical Specifications, Leachate Collection Soil, 2.1 Materials, percent passing a No. 200 sieve is stated as 0-10%, the regulatory limit for this specification is 5% maximum passing a No. 200 sieve.

19. Appendix D, Technical Specifications, Leachate Collection Soil, 3.4 Clean Up, be specific regarding what measures will be taken to protect newly filled areas against damage (i.e. fines intrusion). Provide a description of the potential damage to correlate with measures to protect.

20. Appendix D, Technical Specifications, Structural Layer, 3.2 Placement and Compaction, B. Structural Layer and Compaction, 1., shouldn't the requirement be for "a minimum lift height of 12"" rather than the use of the word "maximum" in this statement?

21. Appendix D, Technical Specifications, Synthetic Geomembranes, 2.1 Material, tabulated specifications, under Thickness, the Requirement needs to be stated as 60 mils. Elsewhere in the

application the geomembrane has been correctly specified as a 60 mil material. The Part 360 Solid Waste Management Facilities regulations states a required thickness of 60 mils with no tolerance for what has evidently become an industry standard of +/- 10% on this thickness specification. The 60 mil minimum thickness standard has been required to be met at other similar projects in Region 4.

22. Appendix D, Technical Specifications, Synthetic Geomembranes, 2.1 Material, tabulated specifications, these tabulated values are not exactly the same as those listed in the CQA/QC Plan.

23. Appendix D, Technical Specifications, Synthetic Geomembranes, 3.3 Installation, B. Sheet Placement, 4., would like this statement to better reflect the language contained in 360-2.13(k)(2)(vi), especially requirements for attention to seam orientation with slope.

24. Appendix D, Technical Specifications, Synthetic Geomembranes, 3.4 Field Quality Control, B., 1. Textured Synthetic Geomembrane, same comment as in No. 22 above.

25. Appendix D, Technical Specifications, Synthetic Geomembranes, 3.4 Field Quality Control, D., will the inspection of seams and then marking/recording of defects only involve the Quality-control technicians employed by the installation contractor? Won't the "Engineer", or one of his representatives be involved in this activity?

Part 360 Permit Application - Section 5: Construction Quality Assurance/Quality Control Plan

1. Construction Quality Assurance/Quality Control Plan, 3.1 Engineer's Role, A. Project Engineer:, need a better definition of the direct role this individual will have with the execution of the CQA/QC Plan.

2. Construction Quality Assurance/Quality Control Plan, 3.1 Engineer's Role, B. Engineer's Project Representation:, need minimum qualifications for this position.

3. Construction Quality Assurance/Quality Control Plan, 3.4 Contractor's Personnel, are there any minimum qualification requirements for the contractor's CQC staff? It appears there will be both contractor and engineer's CQC staff on site involved in CQA/CQC activities, how will control conflicts be avoided, how will final say on defects/approvals happen, what's the resolution process if disagreement occur?

4. Construction Quality Assurance/Quality Control Plan,3.6.1 Qualifications of Installer of Geosynthetic Membrane Liner, B., 5., "The Installation Supervisor or Master Seamer will be on-site whenever seaming is being performed."; this statement contradicts item No. 1. under this section of the application in which it is stated the Installation Supervisor will be on site...in charge throughout...seaming... It is a requirement of Part 360 that a person be on site during all geomembrane installation that has the experience defined in item No. 2 of this section (50 acres...on a minimum of 5 different jobs).

5. Construction Quality Assurance/Quality Control Plan, 3.7.1.1 Inspection Schedule, it is not clear from these discussions who will be responsible for these inspections. Only the inspections themselves are described, not the individual(s) from which CQA/QC team that will have the responsibilities for

performing them. This is a general problem throughout this Plan, it is not always clear who has what responsibility, or if a particular task will be shared or done in tandem. More clear definition of specific responsibilities needs to be provided.

6. Construction Quality Assurance/Quality Control Plan, 3.7.1.2 Tests, will the Engineer's CQA/QC staff be involved with any aspects of the testing (observation of any on-site testing performed, or acquiring samples for laboratory testing.)

7. Construction Quality Assurance/Quality Control Plan, 3.7.1.3 Completion Inspection, no one from the Engineer's CQA/QC staff will attend the second completion inspection to document deficiencies have been corrected? If it is considered important to have the Chief Construction Observer present on the initial completion inspection, why isn't it equally as important for this individual to be present during a second inspection of corrections of detected deficiencies?

8. Construction Quality Assurance/Quality Control Plan, 3.7.1.4 Documentation, would like to see a copy of the form to be used by the Engineer's observation staff for maintaining daily reports. If not a form that might represent a "final" form, at least one that could be presented to have minimum information requirements.

9. Construction Quality Assurance/Quality Control Plan, 3.7.2.3 Corrective Action, would like a more detailed description of the procedures for taking this action, requirement for corrective action based on what testing performed by who, notification, and procedure for re-testing and ultimate approval.

10. Construction Quality Assurance/Quality Control Plan, 3.7.3.2 Quality Control Testing During Construction, need to include the requirement for moisture-density-permeability contained in 360-2.13(j)(3)(I).

11. Construction Quality Assurance/Quality Control Plan, 3.7.3.3 Quality Assurance Testing During Construction, again, need to reference testing requirement for moisture-density-permeability contained in 360-2.13(j)(3)(ii).

12. Construction Quality Assurance/Quality Control Plan, 3.7.4 Geomembrane, 3.7.4.1 Quality Control Testing During Manufacture, additional specification requirements not apparently listed (i.e. water vapor transmission rate or chemical compatibility testing), refer to 360-2.13(k)(1). In addition, refer to requirements contained in 360-2.13(k)(3)(i)(b & c).

13. Construction Quality Assurance/Quality Control Plan, 3.7.4.2 Quality Assurance Testing During Installation, C. Non-Destructive Testing, 2., the sample length for this testing is stated as "4 feet", in the Technical Specifications this test sample length is stated as "3 feet" long. This is not a significant difference except such discrepancies create concern there might be differences that could be critical to the CQA/QC program.

14. Construction Quality Assurance/Quality Control Plan, 3.7.4.2 Quality Assurance Testing During Installation, E. Inspection and Acceptance, often in this plan the term "engineer" is used to perform tasks/activities that it is felt will be the responsibility for the Chief Construction Observer. Actual

responsibilities by title/specific individual needs to be defined in this plan so it will be clear during construction inspections by Department staff who should be involved with what CQA/QC task/activities.

15. Construction Quality Assurance/Quality Control Plan, 3.7.4.2 Quality Assurance Testing During Installation, E. Inspection and Acceptance, need a statement in these discussions reflective of the requirements of 360-2.13(k)3)(ii)(c)(1-4).

Part 360 Permit Application - Section 6: Operation and Maintenance Manual

1. Permit Application - Section 6 Operation and Maintenance Manual, there needs to be a comprehensive landfill gas management plan included that goes beyond the discussions included in the sections in this manual regarding landfill gas monitoring and/or odors. In the gas monitoring section of the manual the only concern appeared to be for explosive gases. The City is performing a number of routine tasks for the monitoring and control of landfill gas at the landfill that need to be incorporated into this document as a guarantee they continue to be "routine."

Part 360 Permit Application - Section 7: Contingency Plan

1. Contingency Plan, general comment, review this plan against the requirements of 360-2.10(b)(1), found that several items required by this regulatory citation were not mentioned in the submitted plan.

2. Contingency Plan, Event/Response Summary - Section 2.5 Leachate Rejected by Albany County Sewer District, - would like to see this discussion expanded to provide specific scenarios under which it is likely the Sewer District would refuse the leachate, and discuss alternatives in these terms. The discussion that was provided came across as so general, it seemed there is the likelihood if the leachate got refused, more time would lapse before finding an alternative than there is adequate on-site storage for the leachate.

3. Contingency Plan, Section 7.0 Landfill Remediation Alternatives, 20-30 gpad, 6th bullet, need to specify a period of time if the ALR remains above 20 gpad that sampling for leachate parameters will be mandatory (i.e. 45 days). This same type of approach should be applied to the requirement for inspection of the collection lines by closed circuit television, but with a further out time as a trigger (i.e. 90 days)

4. Contingency Plan, Section 7.0 Landfill Remediation Alternatives, 30-40 gpad, measures are overall acceptable, but without the consideration that is associated with an asterisk. Could state cease accepting waste in the area of the cell that has exceeded ALR in this range when directed by the Department. There are situations during which this range could happen that unconditioned ceasing to accept waste would not be the required immediate alternative.

5. Contingency Plan, Section 7.0 Landfill Remediation Alternatives, > 40 gpad, change language to read "Design and submit remedial construction plan when directed to by Department for approval and, implement upon approval."

Engineering Drawings

1. General comment, many of the drawings would have been assisted by including footnotes to better describe features, specifications, construction detail.

2. G-4, are either of the two benchmarks referenced to a USGS benchmark as required by 360-2.13(b)? If not there needs to be an explanation why not and why these benchmarks will be secure throughout the project and in the future (through initial post closure period).

3. G-4, are the coordinates given according to the New York Transverse Mercator (NYTM) system according to 360-2.1 (c)

4. G-4, lands to the immediate East of the active cell identified as owned by Alfred & Carol Ann Landees were believed to be owned by New York State. This drawing does not identify any surrounding properties being owned by the State of New York, contrary to my understanding.

5. G-7, wells on the properties identified as owned by Alfred & Carol Ann Landees, these wells are not identified in any manner. This is an example of one of those features that a footnote would be valuable.

6. G-8, only two leachate collection laterals are indicated to have a clean out. The labeling does have "(typ.)" indicated, is this to mean each lateral will have a clean out? The drawing should make it clear where and how the leachate collection system will be accessed for maintenance.

7. G-11, has there been an analysis of runoff from closed 3:1 (Horizontal:Vertical) slopes to determine erosion potential over the relatively long slopes.

8. G-12, there needs to be a footnote on this drawing that qualifies the high ground water elevation. What data/information was used to establish this reference point, which is a critical aspect of regulatory compliance for the proposed expansion's liner system.

9. G-16, manhole detail; piping, material specifications.

10. General, for future reference, print on a drawing should not be so small that it is difficult or impossible to read.

11. G-16, need to provide detail for pump houses 1 and 2. When they are relocated, will they be placed as is or modified? Providing detail will address this questions as well as show any changes/modifications that have been made since they were first constructed/ installed.

12. G-17, Detail 6 Anchor Trench, would like to discuss extension of GCL and immediate area surrounding where liners are welded together.

13. G-17, would like to have a footnote for the stone specification on this drawing.

Part 360 Permit Application - Section 8: Hydrogeologic Investigation Report

1. Section 4 Geology and Hydrogeology, Section 4.2 Regional Hydrogeology - A discussion of the Colonie Channel needs to be included in this section.

2. Section 4.3 Site Geology, section 4.3.1 Surficial Geology and Overburden Stratigraphy - A discussion of the thickness of the Deep Clay Unit must be included in this section. Logs for the MW-12 cluster are not included.

3. Section 4.4 Site Hydrogeology, Section4.4.3 Groundwater Elevation and Flow Direction - Seasonal high and low water tables must be depicted on geologic cross-sections.

4. Section 5.0 Groundwater Quality section 5.2 Existing AIL/ Wedge/ P-4 Water Quality - The source of the Chloroform and Chloromethane in MW -12S must be identified with additional investigation.

5. Section 5.3 - Proposed Eastern Expansion Water Quality - 5.3.3 Preliminary Water Quality Evaluation -

   The source of the Ammonia in MW-14S and MW-15S must be identified. Elevated Ammonia has also been found in the small streams east of the expansion area.

6. Section 5.4 Environmental Monitoring Plan -
   Based on the previous comment, the surface water flowing to the east must be monitored. Existing water quality must be established prior to stream relocation. At some point after construction, once the area has returned to equilibrium, monitoring can resume.

   The well spacing between well cluster MW-10 and MW-14 exceeds the maximum distance of 500 feet.

   Logs for MW-A16A, MW-A16B, and MW-A17 are included. Where are they located and what is their significance?

7. As per 6 NYCRR Part 360-2.11(d), Landfills - Hydro geologic Report - a Site Analytical Plan needs to be included.

The following comments on the 360 solid waste permit application were prepared by staff from the department's headquarters office in Albany:

1. The facilities to be relocated, including the offices, recycling building, detention pond, other accessory uses, and the access to the relocated landfill operations, should be included on the drawings in their proposed new locations along with identification of the parcels where they will be located.

2. Comparing the settlement calculations for the two points on cross-section A-A' in Appendix B of the Engineering Report with drawing G-10, it appears that the grades indicated on that drawing are before settlement. Therefore, after settlement the grades on the drawing indicated as 2% slope would be less than the minimum 2% slope required by 360-2.13(l)(2)(iii), 360-2.13(k)(2)(iv) and 360-2.13(i)(2).

3. A review of the Albany Landfill secondary leachate collection and removal system 30-day average leakage rates for the period from 11/23/06 through 10/02/07 reveals only 13 days when those values for cell 10 were equal to or below the 20 gallons per acre per day required by 360-2.7(b)(9)(iv). For approximately six and a half months there were no readings provided and for approximately two months the leakage rates exceeded 20 GPAD, mostly in the range of 40-100 GPAD. There were also significant exceedences of the 20 GPAD limit in cells 8, 9 and 11 during this time frame. Cell 11 also lacked data for about one and a half months. This should be addressed in some way, such as by constructing an overfill liner in part or all of the area where the overfill expansion is proposed.

4. Temporary and permanent stormwater controls and facilities should be included on the drawings.

5. Section 2.3.1 on page 10 of the engineering report should apparently refer to Technical Specification Section 02206, not 02208.

6. 2.1 A of Technical Specification Section 02206 specifies particle sizes up to three inches, while 360-2.13(j)(1)(ii) requires soil particles to pass a one inch screen.

7. 2.1 A of Technical Specification Section 02206 refers to standard Proctor, while elsewhere in that specification and in the engineering report the modified Proctor is referenced.

8. 3.1 B 7 b on page 4 of Technical Specification Section 02206 should apparently refer to testing the interface friction angle at 1 psi, 2 psi and 4 psi, not at 1 psi, 1 psi and 4 psi.

9. 3.3 C on page 6 of Technical Specification Section 02206 indicates in the first sentence that one Shelby tube sample will be taken per acre per lift for laboratory permeability testing, as required by 360-2.13(j)(3)(ii). However, the last sentence states that "Samples shall only be obtained of the upper lift." This seems to indicate that only the final, uppermost lift will be sampled. Changing the wording of this last sentence to "Samples shall only be obtained of the most recently constructed lift and each sample shall penetrate only one lift." might make it more clear that while each lift must be sampled, the Shelby tubes should not be driven through more than one lift for each sampling, which appears to be the intended meaning.

10. 3.7.3.1 A on page 18 of the CQA/QC plan should apparently refer to ASTM D854, not ASTM D584.

11. Although 3.7.3.3 on page 19 of the CQA/QC plan states that the placement of the low permeability liner materials will be in six inch lifts as shown on the drawings, this does not appear to be shown on the drawings.

12. In Section 2.3.7 on page 11 of the engineering report, the primary geomembrane thickness should be 60 mils instead of 60 millimeters. It is also unclear what the reference to "new" HDPE geomembrane means.

13. 3.4C.1.c.5)a) of Technical Specification Section 02212 does not seem clear. Should it read something more like, "When two (2) passing samples are located, the length of seam not bounded by the two (2) passing test locations will be considered non-complying. The overlap left by the wedge welder shall be heat tacked in place along the entire length of seam and the entire length of [non-complying portion of] seam will be extrusion fillet welded." (added wording underlined, deleted wording in brackets)

14. Should line 11 of 3.4E in Technical Specification Section 02212 read, "Trial weld samples shall be archived for potential subsequent laboratory strength testing..."?

15. 5. B. on page 26 of the CQA/QC plan indicates that geomembrane fusion seams will be tested for peel adhesion on both sides of the weld. However, 3.4 G. 2. and 3. on page 12 of Technical Specification Section 02212 indicate that only the inner track welds will be tested in peel. These references in the specifications should be changed to require testing both tracks.

16. Sections 3.5.4.2.B. and 3.5.4.2.D., referred to on pages 25, 27 and 28 of the CQA/QC plan, cannot be found.

17. The calculations on which the design of the gas collection system were based should be provided.

18. A drawing detail of the construction of the vertical gas collection wells should be provided

19. The existing active gas collection system has had significant problems from such causes as the gas collection lines watering out. How will this be avoided in the proposed gas recovery system?

20. A variance could be applied for to eliminate the structural fill layer below the GCL in the primary composite liner. Similar variances have been approved for other landfills.

21. The following components required by 360-2.10 should be either addressed or, if they exist in some other document, referenced in the contingency plan:

    construction related contingency plan
    access to confined spaces
    dust
    litter
    odor
    equipment breakdown
    unusual traffic
    leachate pumps
    loss of electrical power

post-closure contingency plan

Comments on CQA/CQC Plan

Comment #1 - Section 2.0 Why is there a separate "Contractor's Quality Control Plan"? All CQA/CQC measures should be contained in one document that has been reviewed and approved by the Department. This should be the CQA/CQC Plan submitted with the Permit Application. Please clarify.

Comment #2 - Section 3.1 (A) Add the underlined to the last sentence. "The Project Engineer and his construction observation staff will act independently, and without influence from the Contractors, or the City of Albany."

Comment #3 - Section 3.6.1 (A) Specify who will be reviewing and verifying that the field crew foreman (Installation Supervisor) has the experience required in 360 - 2.13(k)(2)(x).

Comment #4 - Section 3.7.4 Address ambient air temperature. Include a statement regarding how it will be assured that seaming will occur during proper air/sheet temperatures, what the temperature range is, and what will occur in the event that seaming must be performed in temperatures outside the specified range.

Comment #5 - Section 3.7.4.1 (F)(1-3) These provisions, which appear to have been inserted into the CQA/CQC Plan based on 360 - 2.13(k)(3)(ii)(a-c), are only necessary if geosynthetic rolls are pre-fabricated into geomembrane sheets at the factory, as opposed to on site. If these provisions were meant to apply to factory pre-fabrication of sheets, then this section of the plan should be clarified.

Comment #6 - Section 3.7.4.2 (C)(6) and (9) The test methods referred to, GRI GM6 and ASTM E1066 are field tests. A copy of these test methods, as well as any other published field tests that will be used for CQC/CQA purposes, should be included in the Plan.

Comment #7 - Section 3.7.4.2 (D)(4)(b), 3.7.4.2 (D)(7), 3.7.4.2 (E)(2)(b)(1-2), 3.7.4.2 (E)(3)and(6) contain incorrect references. The Plan citations are mislabeled.

Comment #8 - Section 3.7.3, 3.7.4, 3.7.5, 3.7.6, 3.7.7, 3.7.8, 3.7.9 For clarification, a statement should be included at the beginning of these Sections that the material testing results will be submitted to the Project Engineer for evaluation and approval.

Comment #9 - Section 3.7.5.4 Include a statement about protection of the leachate collection pipe network. (e.g. Pipes will not be driven over by heavy equipment until covered by ___ feet of gravel/sand etc.)

Comment #10 - Section 3.7.7 Include a statement regarding geosynthetic clay liner (GCL) overlap. Proper GCL overlap must be verified through construction inspections in order to ensure proper functioning of the landfill liner system.

Comment on Seismic Analysis (Section 2.6.3)

This comment is based on information contained in EPA Publication "RCRA Subtitle D Seismic Design Guidance for Municipal Solid Waste Landfill Facilities" dated April 1995. (Guidance)

The 1982 Seed and Idriss curve used in the analysis to determine free field acceleration at the site is outdated and can under-predict site amplification of bedrock motion by the local soil deposits. The more recent 1990 diagram by Idriss, which is located below the 1982 diagram in the attachment, or the diagram by Kavazanjian and Matasovic (Figure 4.5 in the Guidance) should be used. Also, in determining permanent displacement of the landfill mass and liner system the upper bound of the design earthquake magnitude (not the lower bound) of the Makdisi and Seed (1977) curve diagram should be used. The source of the design earthquake magnitude is not referenced. According to 1982 USGS seismic source zone mapping the design earthquake Richter magnitude should be 6.7. For a conservative analysis, the Makdisi and Seed (1977) curve upper and lower bounds should be interpolated/adjusted; or provide a more recent reference or additional reasoning for using the specified magnitude in calculating displacement.

SDEIS

The following comments by Region 4 staff apply to the Fourth Supplemental Draft Environmental Impact Statement (SDEIS);

Section 4.0 Unavoidable Adverse Impacts:

The proposed landfill expansion project is north and northeast/east of the existing active landfill. This expansion project will locate the new active landfill closer to the Fox Run mobile home park and businesses which are situated off of Whitestone Rd and Lincoln Ave.

Section 4.8 (Air Quality & Odor Control) states "The odor results show that odor concentrations decrease as distance increases from the active landfilling area." This statement appears to support that there will noticeably be more odor issues to the mobile home park and businesses located north and northeast of the proposed expansion.

Section 9.0 - Appendices - Appendix I - Air quality and Odor Study:

LandGEM model Summary Report):

It is anticipated that the existing landfill would reach maximum capacity during 2010. LandGEM modeling shows that in 2010, the maximum gas levels at the existing landfill to be reached and the total landfill gas and methane components is estimated to be at 6.425E+07 m3/yr and 3.212E+07 m3/yr respectively. The proposed landfill was modeled with a projected maximum capacity to be reached in 2017. The model shows the landfill (both existing and proposed combined) in 2017 to have peak levels of total landfill gas and methane at 7.609E+07 m3/yr and 3.804E+07 m3/yr. If the proposed landfill is approved, the LandGEM modeling shows an overall increase of these gases beyond the year 2010 existing landfill anticipated closure date.

Section 5.0 Conclusion and Recommendations (Page 28):

Only one set of data was developed from odor and air quality samples which were taken at the landfill on May 3, 2007. I concur with CHA that a larger database will be needed to define a potential worse-case as well as an average odor and air quality impact profile. Furthermore it was noted that there were several

discrepancies in the ambient VOC results and sampling methods which will need to be addressed in future sampling.

Attached please find additional staff comments on the SDEIS and the revised Final EIS Scope.

Should you have any questions regarding this correspondence please feel free to contact this office. For future submittals including all written and electronic correspondence please send them to Angelo Marcuccio of my staff who will be working with me on this project and serving as Project Manager for the Department staff review and permitting of this application. His phone number is 357-2446 and e-mail address is aamarcuc@gw.dec.state.ny.us.

Sincerely Yours,

William J. Clarke

William J. Clarke
Regional Permit Administrator
Region 4

ALBLFEXSWNOIA002012520081a.wpd
Attachments: SDEIS Comments, Final SDEIS Scope
CC: E. Kelly
R. Ostrov
T. Cullen
R. Forgea/T. Reynolds/T. Robak
D. Spencer/G. McPherson
J. Schmidt/G. Ribeiro/R. Dimino
W. Bruce, City of Albany/R. Leistensnider