



October 10, 2011

103-94596

Steve Odil, PE
MSW Permits Section, MC-124
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

**RE: RESPONSE TO FIRST TECHNICAL NOTICE OF DEFICIENCY
MUNICIPAL SOLID WASTE
PROPOSED PERMIT APPLICATION
BRAZOS VALLEY DISPOSAL FACILITY
TCEQ PERMIT NO. MSW-2376
COLLEGE STATION, BRAZOS COUNTY, TEXAS
TRACKING NOS. 14722105; RN106152614/CN603110115**

Dear Mr. Odil:

On behalf of CCAA, LLC (CCAA), we hereby submit this response to the First Technical Notice of Deficiency for Proposed Permit Application No. MSW-2376 submitted on June 3, 2011. The Texas Commission on Environmental Quality (TCEQ) provided these comments on the application in a letter dated August 17, 2011.

The responses presented herein are cross-referenced to the TCEQ comments using the comment numbers in the notice of deficiency (NOD) letter and quoting the original comments. We have also included an itemized list of the revised pages just prior to the comment responses.

One original and three (3) copies of the revised application materials and one (1) copy of the redline-strikeout text revisions are included with this letter. This response package will be posted to a publicly accessible website as indicated in the Part I form of the permit application.

We trust this response is sufficient to address the technical deficiencies identified by the TCEQ. Upon review of this material, if you or any of your staff has questions, please contact the undersigned at 281-821-6868.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in blue ink, appearing to read 'Jay Winters'.

Jay A. Winters, PG
Principal

A handwritten signature in blue ink, appearing to read 'Charles G. Dominguez'.

Charles G. Dominguez, PE
Principal

Attachments

p:\103-94596 ccaa type iv lf\first nod\tceq first nod submittal letter.docx



Golder Associates Inc.
500 Century Plaza Drive, Suite 190
Houston, TX 77073 USA

Tel: (281) 821-6868 Fax: (281) 821-6870 www.golder.com



Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

LIST OF REVISED/NEW PAGES

- Revised binder cover pages and spines (4 sets to reflect permit number)
- Revised interior cover pages
- New cover page for Redline/Strikeout version
- Revised Part I/II Report
- Revised Part 1 Form (pages 1, 9A, 9B and 10 only)
- New TCEQ Core Data Form (Kelly Burt Dozer, Inc.)
- Revised Part I/II Documentation Section (the following listed items only)
 - Revised Legal Description Boundary Map (excludes metes and bounds description)
 - Revised TPDES Certification
- Revised Part I/II Figures (flyer sheet and Figures 1-3, 1-4, 1-5, 2-1-1 through 2-1-8, and 3-6)
- Resealed Part I/II Figure to include geosciences registration number (Figure 3-5)
- New Part I/II, Appendix A-4 (TxDOT response letter and flyer sheet)
- New Part I/II, Appendix A-6 (documentation from BVCOG and flyer sheet)
- Revised Part III Report
- Revised Part III, Attachment 1 (flyer sheet and Figures ATT1-1 and ATT1-2)
- Revised Part III, Attachment 2 (entire report text, excluding all figures and appendices unless specifically itemized below)
- New Part III, Attachment 2 (Figure ATT2-2A)
- Revised Part III, Attachment 2, Appendix A (design brief, pages 1 through 7 only)
- New Part III, Attachment 2, Appendix A (Figure 2A)
- Revised Part III, Attachment 3 (entire report text, excluding all figures and appendices unless specifically itemized below)
- Revised Part III, Attachment 3 (Figures ATT3-1, ATT3-2, ATT3-3, and ATT3-4)
- Revised Part III, Attachment 3, Appendix 3C (entire report text, excluding all figures and appendices)
- Revised Part III, Attachment 4 (entire report text, excluding all figures and appendices unless specifically itemized below)
- Revised Part III, Attachment 4 (Figures ATT4-4, ATT4-6, ATT 4-10, ATT 4-11 through ATT 4-14, ATT 4-15A, and ATT 4-15B)
- Resealed Part III, Attachment 4 Figures to include geosciences registration number (Figures ATT4-1, ATT4-2, ATT4-3, ATT4-5, ATT4-7, ATT4-8A, ATT4-8B, ATT4-8C, and ATT4-9)
- New Part III, Attachment 4 (Figures ATT4-15C through ATT4-15F)
- Revised Part III, Attachment 4, Appendix A (replacement photo pages)
- New Part III, Attachment 4, Appendix C (soil classification keys, 2 pages to be inserted in front of boring logs)

- Revised Part III, Attachment 4, Appendix C (replace full set of boring logs with revised and paginated set)
- Revised Part III, Attachment 4, Appendix D, Laboratory Data Summary Sheets (replace full set of sheets with revised and paginated set)
- Revised Part III, Attachment 4, Appendix D (replace full set of individual test result sections with paginated sections. This includes individual Atterberg Limits, Sieve Analysis, Unconsolidated undrained triaxial, consolidated undrained triaxial, vertical permeability, horizontal permeability, and slug test results located behind the corresponding yellow flyer sheets)
- Revised Part III, Attachment 4, Appendix E (includes additional water level data)
- Revised Part III, Attachment 5 (entire report text and Figures ATT5-2, ATT5-3, ATT5-4A, and ATT5-4B)
- Resealed Part III, Attachment 5 Figures to include geosciences registration number (Figures ATT5-1 and ATT5-5)
- New Part III, Attachment 5 (Figures ATT5-4C through ATT5-4F and Appendix B)
- Revised Part III, Attachment 5, Appendix A, (entire report text and a yellow replacement flyer sheet for Appendix A, excluding contents of Appendix A)
- Revised Part III, Attachment 6 (entire report text, Figure ATT6-2, and Appendix A)
- New Part III, Attachment 6 (Figure ATT6-4)
- Revised Part III, Attachment 7 (entire report text, excluding figures except those specifically listed below)
- Revised Part III, Attachment 7 (Figures ATT7-1, ATT7-4, and ATT7-5)
- Revised Part III, Attachment 8 (cover page and table of contents only, to include permit number. No revisions were made to this attachment)
- Revised Part III, Attachment 9 (entire report text, Table 9-2, and Appendix B only)
- Revised Part IV (report text, excluding all appendices)

TCEQ COMMENTS AND RESPONSES

1. This application has been assigned the permit application number 2376. Please add this number to all appropriate locations throughout the application.

The permit number has been added to the cover pages of all the individual reports throughout the application. Four new sets of binder cover pages and spines reflecting the permit number have also been included with this submittal to update the original binders.

2. (David Dippel) The firm registration number indicated on parts of the application sealed by a licensed geoscientist appears to be the engineering firm registration number. Please include the geoscience firm registration number on these sections in accordance with Texas Board of Professional Geoscientists rules in Title 22 of the Texas Administrative Code (TAC), Part 39, Chapter 851, Section (§)851.152(i).

Golder's geosciences firm registration number has been added to the applicable reports and drawings located in the Part I/II report, the Part I/II Figures, and Part III, Attachments 4 and 5 which were sealed by Mr. Jay Winters, registered professional geologist.

PARTS I & II OF THE APPLICATION

3. Page 9 of the Part I form provides a Property Owner Affidavit. The affidavit is signed by you as Operating Manager/President on behalf of CCAA. Section 1.2 of Parts I & II indicates that a 27.67-acre tract of the 42.24-acre permit boundary is owned by Kelly Burt Dozer, Inc. with which CCAA has a lease-to-own agreement. Figure 1-4 indicates that the large majority (significantly more than 27.67 acres of the 42.24-acre permit boundary) of the property within the permit boundary is owned by Bucket Holdings, LLC. Please explain these apparent contradictions, and to meet the requirements of §330.59(d)(2), provide *additional* Property Owner Affidavits signed by all *current* owners that are not CCAA. Please provide a Core Data Form for all landowners.

The information regarding Bucket Holdings, LLC, which was included on the adjacent landowner map and list, was not updated to reflect the lease-to-own agreement between CCAA, LLC and Kelly Burt Dozer, Inc. Part I/II, Figure 1-4 has been revised to reflect the current ownership status of the proposed permit property.

Page 9A and 9B of the Part I form are being resubmitted with both CCAA and Kelly Burt Dozer, Inc. as property owners. Also a TCEQ Core Data form for Kelly Burt Dozer, Inc. is included as requested.

Please review all figures for north arrows and bar scales as required by subparagraphs within Title 30 TAC §330.57(h)(4) and (5). Specifically, Figure 1-3 has no visible north arrow and Figure 1-4 has no north arrow or scale. Please do not assume that this list is complete.

A north arrow and/or bar scale have been added to several figures, as requested. Please note that due to the graphical representation of some figures (i.e. wind rose, flow diagrams, schematics, sections, etc.), that this regulatory requirement is not applicable to all figures included in the application.

4. Page 4 of the Part I form includes a website URL to meet the requirements of §330.57(i)(1). Please consider reorganizing this information. The information is spread across three webpages entitled "Home," "Permits Continued" and "Permits Continued." Each page automatically opens several large parts of the application. It is not clear what is located on each page until it has completely opened. With the NOD response process these postings are likely to become more complicated. Please consider having the URL site simply list the parts of the application (and subsequent responses) as links on the page, allowing desired parts to be opened individually. This would greatly simplify use by the public.

The website has been modified as requested.

5. In accordance with §330.59(b)(2), Section 3.2.1.1 discusses access road availability. There is no discussion of the path between Farm-to-Market Road (FM) 60 and the facility, except that it is across the Brazos Valley Recycling facility, which is apparently operated by CCAA. It is not clear if the entrance will be limited to adjacent property owned by CCAA or will include property that is owned by Bucket Holdings, LLC. Finally, there is a gate illustrated at the northeast corner of the property on Lacy Well Road. No explanation was located regarding the plans for this gate, and no discussion of access is included to address Lacy Well Road. Please address these concerns.

Part I/II, Section 3.2.1.2 states that direct access to the facility is from FM 60 to Old Jones Road and then to the entrance gate of the Brazos Valley Recycling facility. The adequacy of both FM 60 and Old Jones Road for landfill traffic is addressed in this section.

Please refer to the response to Comment #3 regarding the reference to Bucket Holdings, LLC.

The gate located at the northwest corner of the property at Lacy Well Road will be used only for emergency vehicles or equipment used during the construction of the facility. This is not a second entrance for waste vehicles and is therefore not discussed in the traffic study. The function of this secondary gate is discussed in Part I/II, Section 2.2, Part III, Section 2.1, and Part IV, Section 4.4. A note explaining this gate has been added to Part I/II, Figures 2-1-1 through 2-1-7, Part III, Attachment 1, Figure ATT1-2, Part III, Attachment 3, Figures ATT3-1 and ATT3-2, and Part III, Attachment 7, Figure ATT7-1.

6. In accordance with §330.67, the applicant is responsible to possess or acquire a sufficient interest in or right to the use of the access route to the facility. While it appears that CCAA owns the western portion of the land southeast of the permit boundary, through which the landfill will be accessed, this access must be documented in the application and it must be clear in Parts I & II and in closure and post-closure plans that this access will remain throughout the life of the permit. Please address this concern.

Part I/II, Section 1.4 has been revised to address long-term access to the landfill as requested.

7. Figure 2-1-8 illustrates that a scale and gatehouse will be located southeast of the landfill permit boundary on the property on which the recycling center is operated. Please explain how access to the landfill will be controlled at the gatehouse, which is located outside the permit boundary, approximately 450 feet from the landfill site entrance, and where line of sight may be obstructed by the recycling center building. Please consider making the currently optional locations of the gate house and scale within the permit boundary as required locations.

The reference on Part I/II, Figure 2-1-8 should have denoted that the gatehouse location shown inside the permit boundary is permanent and the additional scale is optional. This error has been corrected on Part I/II, Figures 2-1-1, 2-1-4 through 2-1-8, Part III, Section 2.1, and Part IV, Section 4.4.

8. Table 1-2 indicates that National Pollutant Discharge Elimination System (NPDES) permitting will be accomplished before site opening. References to NPDES should be changed to indicate the Texas Pollutant Discharge Elimination System (TPDES) as Texas has taken authority over the program in Texas since the rule was written. Other parts of the application, such as the TPDES Certification Statement indicate that CCAA will obtain a TPDES permit "upon receipt of the permit or when otherwise required." Please change this text to indicate that a TPDES permit will be obtained before the facility may accept waste.

Part I/II, Table 1-2 and the TPDES Certification have been revised as requested.

9. To meet the requirements of §330.59(d)(1)(C) and (D), a survey plat is provided behind the "Documentation" tab. This figure is roughly duplicated as Figure 1-5. The figures need bar scales and legends should be provided to explain the line hatches provided. The permit boundary is not clearly defined. The southeast boundary is presumably the bolder dashed line, but nothing is labeled as such and two possible boundary lines are labeled as an electrical easement. The apparent southwest permit boundary appears to provide the metes and bounds path for only

1114.44 feet of the approximately 1,300-foot path. Please address these concerns and make certain that the permit boundary is clearly illustrated.

The legal boundary map and Part I/II, Figure 1-5 have been revised as requested.

Please note that the referenced southwest permit boundary consists of a straight line and a curve which is the reason for the shorter length of the straight line portion. The curve information is noted on the drawing. No revisions were made in response to this portion of the comment.

10. In accordance with §330.59(e), the application must include all persons with greater than 20% ownership in the proposed facility. Under Chapter 3, §3.2(25) defines a person as an individual, corporation, organization, government or governmental agency, business trust, partnership, association, or any other legal entity. Page 2 indicates that the facility will be owned and operated by CCAA. If any individual owns more than 20% of CCAA, that individual would own more than 20% of the proposed landfill. Please provide the name of all persons who would own more than 20% of the proposed facility in accordance with this rule.

A statement has been added to Part I/II, Section 1.5 indicating that Mr. Mancuso is the sole owner of CCAA.

11. Section 1.6 addresses the requirements of §330.59(f)(3); however, the text includes a statement that a licensed solid waste facility supervisor will be employed "on or before September 1, 2009." The purpose of this now passed date restriction is unclear. Please explain or delete the reference to "on or before September 1, 2009."

The reference to September 1, 2009 located in Section 1.6 of the Part I/II report has been deleted as requested.

12. Evidence of competency information is required by §330.59(f) and is addressed in the application in Section 1.6. This section includes a reference to an equipment list provided under "Evidence of Competency" behind the "Documentation" tab. Section 1.6 indicates that "personnel and equipment may vary throughout the life of the facility . . . and that these lists are not intended to limit the personnel or equipment at the facility." Please be aware that lists of equipment and personnel, provided here and in the Site Operating Plan (SOP), are minimum requirements. They do not prevent the applicant from hiring *more* staff or operating *more* equipment, but the facility may not operate below these levels. Please alter this text to clarify this limitation.

Both references to the equipment in the Evidence of Competency and the Site Operating Plan indicate that the personnel and equipment listed in the application are minimum requirements. The entire sentence in Part I/II, Section 1.6 discussing the limitations has been deleted instead of revised since it has already been defined in two other locations within the application.

13. In accordance with §305.45(a)(1), signatory authority is granted to a corporate officer. The application includes an appointment for you by you. As President of CCAA, you are recognized to speak on behalf of CCAA and no appointment is needed. Please delete this appointment.

The appointment has been removed and Part I/II, Section 1.7 has been revised as requested.

14. Please note under "Other environmental permits" in Table 1-2, provided to meet that requirements of §305.45(a)(7)(J), that air emissions will be authorized in accordance with Chapter 330, Subchapter U.

The rule citation has been added to Table 1-2 in Part I/II as requested.

15. In accordance with §330.61(b)(1)(A), the application must include an estimate of the population served. Section 2.1.2 provides a calculation, but the information is confusing. Please provide a calculation that uses the estimated daily acceptance rate and divides by 5 pounds per person per day (presumed average generation rate) to estimate a population served.

The calculation in Part I/II, Section 2.1.3 has been revised as requested.

16. In accordance with §330.61(b)(1)(C), please provide estimated maximum annual waste acceptance rates for *each* of the first five years of landfill operation.

Table 2-1 has been inserted into Part I/II, Section 2.1.2 to include the information as requested.

17. Sequencing figures 2-1-4 through 2-1-8, required under §330.61(d)(5), are confusing. The use of light and dark lines is confusing across the sequencing information. Initially it appears that dark lines are showing variations from the natural grade, but in subsequent figures some of these areas are shown in a light line giving the appearance of discontinuities in development. It is unclear what is being illustrated southeast of the permit boundary in these figures (and Figure 2-1-2) but it appears to include constructed contours. Please address these concerns.

As indicated in the legend on Part I/II, Figures 2-1-4 through 2-1-7, the “light” lines are existing contours and the “dark” lines are proposed contours. The existing contours throughout the sequencing drawings are a combination of the existing topographic contours on the permit property from the aerial flyover mapping and completed construction (i.e. the change from light to dark indicates an area that is being constructed or filled in a particular phase and the change back to light in the next phase indicates that the construction is complete). The proposed contours throughout the sequencing drawings are a combination of constructed areas or areas where active waste filling is occurring in a particular phase.

For example, Figure 2-1-4 “dark” lines indicates that the liner in Phase 1, a portion of the perimeter road and channel, the gatehouse, fencing, gates, specific gas probes and monitoring wells are constructed. In addition, any perimeter slopes required to tie-in to the surrounding existing topography are also shown as constructed. The existing contours on the remainder of the property are indicated by light lines. When transitioning to the next sequence on Figure 2-1-5, the Phase 1 shows active filling and Phase 2 is under construction. The features that exist from the previous sequence drawing (channels and perimeter slopes) have been changed to “light” contour lines. Please note that the sequence of site development is also discussed in Part I/II, Section 2.2.

The contour lines southeast of the permit boundary are demonstrating construction to tie-in to existing grade. Please note that the sand mining pit extends southeast of the permit boundary and requires fill in order to construct the landfill perimeter in this area.

No revisions have been made in response to this comment.

18. In accordance with §330.61(d)(7), please provide a figure that illustrates windbreaks, greenbelts and visual screening or add a note to an existing figure to indicate which of these features are not present at the facility.

A note has been added to Part I/II, Figure 2-1-1 as requested.

19. In accordance with §330.61(d)(9)(B), please illustrate fill directions within each Phase.

Arrows demonstrating the general sequence of filling have been added to Part I/II, Figures 2-1-3 through 2-1-7 as requested.

20. Data on availability and adequacy of roads that will be used to access the facility, required by §330.61(i)(1), is provided in Section 3.2.1.2; however, some of this discussion is limited to within one mile of the proposed facility. While paragraphs §330.61(i)(2) and (3) are limited to roads within one mile of the facility, paragraph (1) is not. Please address availability and adequacy of all roads that will be used to access the facility.

FM 60 is the main access road to the facility and it extends outside the one-mile radius from the site. The availability and adequacy of this road is discussed in Part I/II, Section 3.2.1.1. No revisions were made in response to this comment.

21. To meet the requirements of §330.61(i)(4), Appendix A-4 provides a coordination letter to the Texas Department of Transportation (TxDOT). No response letter was provided. Please provide a response letter from TxDOT in Appendix A-4.

The response letter and the associated flyer sheet have been included with this submittal. Part I/II, Section 3.2.5 has been revised to include the TxDOT response.

22. Paragraph §330.61(m)(1) requires a statement as to whether the facility is within the 100-year floodplain. The statement provided in Section 3.6.1 indicates that the facility will not be located in the 100-year floodplain, but is based on a map from the Federal Emergency Management Agency (FEMA), provided in Appendix B-2. The map is dated 1992 and the floodplain in the vicinity of the proposed facility is estimated, as no base elevations have been determined. A more recent FEMA map viewed by staff online continues to indicate that no base elevation has been determined. It appears that floodplain modeling will be required to allow the executive director to have confidence in the floodplain statement. Please address this concern.

According to §330.63(c)(2)(B), FEMA maps are prima facie evidence of floodplain locations. The FEMA map provided in Part I/II, Appendix B-2 is the most current published floodplain map for this location and should be taken as prima facie evidence for the floodplain limits located near the vicinity of the proposed landfill facility. As indicated by the reviewer, the more recent FEMA map, that is not yet approved, also shows the facility outside of the 100-year floodplain, further supporting the demonstration in this application. As shown in Part I/II, Appendix B-2, the proposed permit boundary is located entirely outside of the floodplain limits. Therefore, the requirements of §330.61(m)(1) have been addressed and no revisions have been made in response to this comment.

23. An endangered or threatened species assessment is required by §330.61(n). This study is provided in Appendix A-5. The report was prepared by Brown & Gay Engineers, Inc., and signed by Jim Gregory, Director. Please explain if the assessment was performed by a qualified biologist as required under the rule.

A reference to the assessment being performed by a qualified biologist has been added to Part I/II, Section 3.7, Part III, Section 2.3, and Part IV, Section 4.17.

24. In accordance with §330.61(p), the application must demonstrate that Parts I & II were sent to the Brazos Valley Council of Governments (BVCOG). The letter sent to BVCOG is provided in Appendix A-6. Please provide a response letter or return receipt to demonstrate that BVCOG received the letter.

A copy of the certified mail receipt from the BVCOG and an appropriate flyer sheet has been added to Part I/II, Appendix A-6 as requested.

25. Figure 3-6 provides a geologic map of the area surrounding the proposed facility. Based on the bar scale provided, the line labeled "5 Mile Radius" is not 5 miles from the permit boundary. Also, it appears from this figure that the Bryan Airport may be less than six miles from the permit boundary but was not discussed in Section 3.2.4, Airport Locations. Finally, the figure has no north arrow. Please address these concerns.

Part I/II, Figure 3-6 has been revised to include a north arrow and the corrected 5-mile radius line. These two items have also been addressed on Part III, Attachment 4, Figures ATT4-4 and ATT4-6.

The Bryan Airport airport shown on Part I/II, Figure 3-6 is obsolete, but is still part of the base map. As shown on Part I/II, Figure 1-1 that area is now the Texas A&M University Riverside Campus and is no longer classified as an airport. According to the website for the TTI division of A&M, this facility is used for research related to pavement, crash testing, traffic engineering, erosion control, vehicle performance etc. No revisions have been made in response to this comment.

26. A Supplementary Technical Report is required by §305.45(a)(8). The report is provided in Section 4.0. This text provides little to describe the facility and systems, required by §305.45(a)(8)(A). References that this information can be found in Part III and Part IV of the application are not appropriate, as the required information should be provided within Parts I & II. Please provide a brief description of the facility, as required by §330.45(a)(8)(A), within Parts I & II. Information to address the requirements of §330.45(a)(8)(B) is provided as a reference to other parts of the application. It appears that the reference to Section 2.0 of *this report* should be to Section 2.0 of Parts I & II.

Part I/II, Section 4.0 has been revised as requested.

PART III OF THE APPLICATION, SITE DEVELOPMENT PLAN (SDP)

Attachment 1:

27. Attachment 1-2 illustrates facility access controls in accordance with §330.63(b)(1). Please illustrate the gatehouse on this figure. Also, please illustrate fill directions to this figure to satisfy the requirements of §330.63(b)(2)(A).

Part III, Attachment 1, Figure ATT1-2 has been revised as requested.

28. Attachment 1-1 provides a waste flow schematic diagram in accordance with §330.63(b)(2)(B). In the right column of the diagram, the second decision block from the top addresses a "Yes" result, but does not address what action will occur if the result is "No." Please alter your diagram to address this concern.

The referenced portion of the diagram on Part III, Attachment 1, Figure ATT1-1 should not have been decision block and it has been corrected as requested.

29. Section 2.2 is provided to address the requirements of §330.63(b)(2). The fourth and fifth paragraphs describe various activities that will occur within the permit boundary that are associated with other businesses. The details of these activities are not clear. The fourth paragraph indicates that recyclables are not expected at the landfill, as they are screened at the recycling center located adjacently to the landfill, but the fifth paragraph indicates that property will continue to be used as a "lay down area for the concrete recycling and mulching activities, and portable toilet storage associated with the adjacent recycling center and the portable toilet businesses." The fifth paragraph then indicates that sand mining will continue. These activities, occurring within the permit boundary, must be described in greater detail. It must be clear whether recycling, processing, or mulching will occur within the permit boundary. Any of these activities will require additional information. Storage of waste will require additional information. If chemical toilets will be stored with liquids, secondary containment will be required. Sand mining will presumably create excavations that will collect rain water that could lead to odors or encourage vectors. Figures must clarify where these activities will occur. Please address these concerns and be aware that should it become clear that recycling, processing, or mulching activities will occur within the permit boundary, other requirements must be addressed.

The reference to the current activities (lay down area and storage for the concrete recycling and mulching activities, and portable toilet storage associated with the adjacent recycling center and the portable toilet businesses and the sand mining operation) continuing at the site has been deleted from Part III, Section 2.2, Part III, Attachment 1, Figure ATT1-2, and Part IV, Section 4.5.1. These activities will not occur at the facility.

Attachment 2 – Facility Surface Water Drainage Report:

30. In accordance with §330.63(c), please provide a statement that the facility design complies with the requirements of §330.303 or direct staff to its location.

Rule citation §330.303 has been added into a statement in Part III, Attachment 2, Section 1.0 to confirm compliance with the rule requirement.

31. In accordance with §330.303(a), the application must indicate that storm water conveyance structures are adequate to handle the 25-year/24-hour storm event. Section 3.3 indicates that storm water conveyances will handle this event with a 0.5-foot freeboard. Table 9 includes estimated flow depths within each channel, as well as minimum channel depths. This table, on page 2 of 2, indicates that in the East Perimeter Channel, once in Sub-basin Ed3 and once in Sub-basin DC-3, there is a 0.6 foot flow depth in a one-foot-deep channel, which indicates less than a 0.5-foot freeboard. Please explain.

This particular channel flow location occurs when discharges from downchute DC-3 cross the perimeter access road (refer to Detail 1, Section B, and Section C on Figure ATT2-3). The estimated flow depths in Table 9 were approximated based on normal depth calculations from Manning's Equation and the results were used to determine times of concentration for the Rational Method computations. Based on the Rational Method results, HEC-RAS was then utilized to determine water surface profiles within each perimeter channel and downchute. Table 20 shows the results from the HEC-RAS analysis for the downchutes. As shown in this table for reach DC-3, at river station 66 (where the perimeter access road begins), the flow depth is calculated as 0.52-feet, which indicates 0.48-feet of freeboard at the convergence of DC-3 with the perimeter access road crossing. Although this is the only location where freeboard is less than 0.50-feet within the downchutes, Part III, Attachment 2, Section 3.4 and Appendix A have been revised to state that downchutes are designed with a minimum of 0.48-feet of freeboard. All other stormwater conveyance structures (perimeter channels, add-on berms, detention pond) are still designed with a minimum of 0.50-feet of freeboard for the 25-year, 24-hour storm event.

32. A demonstration of no significant change to drainage patterns, required by §330.305(a), is primarily summarized by attachments ATT2-1 and ATT2-2 which illustrate pre- and post-development drainage patterns, respectively. The figures are challenging to compare, as ATT2-1 illustrates a large area with complete drainage areas while ATT2-2 is mostly limited to the permit boundary and the figures are oriented differently. Please explain why the permit boundary is also a sub-basin boundary on ATT2-1. More information is needed to justify the conclusion that there is no significant alteration of drainage patterns. From pre- to post-development, discharges at "Control or Analysis Points" CP-1 and CP-2 are eliminated, discharge rates for CP-3 increase by a factor of nearly 30 and discharge volumes increase by a factor of over 60. While pre- and post-development discharges appear to be very similar by the time they reach FM 60, this is not illustrated on ATT2-2, which as noted is largely limited to the permit boundary area. There is no demonstration that existing off-site drainage paths to FM 60 under the post-development conditions. It is possible that these drainage pattern changes are limited to property owned by you, but it is not clear that this is the case. It is also not clear that the requirement that drainage pattern not be altered is met where alterations are mitigated on off-site property, even if the property is owned by an officer of the applicant, without a drainage easement. A drainage easement should be acquired for the apparent drainage feature into which the pond discharges. Provide a design drawing for this feature. Please address these concerns.

A new figure, Part III, Attachment 2, Figure ATT2-2A, has been created to show complete drainage areas on the post-development map to assist with the comparison of pre- and post-development drainage patterns. Figure ATT2-2A is also duplicated as Figure 2A in Part III, Attachment 2, Appendix A.

The permit boundary is considered as a sub-basin boundary on Part III, Attachment 2, Figure ATT2-1 in order to determine the peak run-on rates contributing to the site at run-on locations along the permit boundary.

The new Figure ATT2-2A should address the concern that more information is needed to justify the conclusion that there is no significant alteration to existing off-site drainage patterns. As shown on this Figure, existing off-site drainage patterns within Brushy Creek and downstream of the permit boundary have not been adversely altered. Although there is an increase in discharge rates and volumes at control point CP-3, the relocation of the primary outfall (from CP-1 in pre-development to CP-3 in post-development) is not

considered significant since the flows ultimately converge to Brushy Creek in both the pre- and post-development conditions.

A drainage easement has been obtained for the detention pond outfall channel. This easement discussion is included in Part I/II, Section 1.4.

A design detail for the detention pond outfall channel has been included on Part III, Attachment 2, Figure ATT2-2A.

33. Section 4.0 discusses some of the requirements of §330.305(d). Please alter the second paragraph to indicate that slopes not addressed earlier that drain into active areas, excavations, areas under construction *that have not received waste*, or areas that have received only *intact* weekly cover, are not considered external slopes and are not required to maintain the outlined erosion management practices.

The second paragraph of Part III, Attachment 2, Section 4.0 has been revised as requested.

34. Please clarify, to address the requirements of §330.305(g), that contaminated water is leachate, condensate, or water that has contacted waste, not just water that has contacted the active face, and that contaminated water, including water stored in portable tanks will be disposed at an authorized facility.

The second paragraph of Part III, Attachment 2, Section 5.1 has been revised to include the full rule citation of §330.305(g) and to also include the definition of contaminated water found under §330.3(36). Additionally, a reference to the contaminated water management practices discussed in Part III, Attachment 3, Section 6.0 has been inserted at the end of Part III, Attachment 2, Section 5.1.

35. In Appendix A, Sheet 2 of 7, the third bullet indicates that pond capacity and peak outflow requirements are based on the *pre*-development conditions. This appears to be a typographical error, as the pond should address *post*-development conditions. Please correct or explain.

This was not a typographical error. The pre-development peak outflow rate was used to determine the allowable outflow rate for the post-development condition, since post-development peak flows must be attenuated to equal or less than pre-development peak flows. The detention pond capacity was sized based on the calculated storage volume required to attenuate the post-development runoff to the allowable outflow rate (as determined by the pre-development analysis). Therefore, the statement is correct and no revisions have been made in response to this comment.

Attachment 3 – Waste Management Unit Design Report:

36. As noted in an earlier comment, it is not clear from the application whether storage and/or processing will occur within the permit boundary. If appropriate, please provide for the requirements §330.63(d)(1)(A) through (C) for each storage and/or processing unit.

Please refer to the response to Comment #29 regarding storage and/or processing activities.

37. Landfill unit cross-sections are provided as ATT 3-3 and ATT3-4 to meet the requirements of §330.63(d)(4)(E). Please provide slopes for all slopes (excavation and final cover) on these figures. Explain what is meant by split strata in some soil borings (such as B-11) on these figures. Explain why no static water levels are provided in most of the illustrated soil borings.

Slope markers have been added to Part III, Attachment 3, Figures ATT3-3 and ATT3-4 and additional symbols have been added to the legend on each figure to explain the split strata symbol as requested. Note number 2 on each figure indicates the absence of static water levels in some borings. These revisions have been duplicated in Part III, Attachment 7, Figures ATT7-4 and ATT7-5.

Attachment 3, Appendix C – Liner Quality Control Plan (LQCP):

38. Please provide procedures to be followed when excavations, cells or disposal areas extend into or have the potential to extend into groundwater in accordance with §330.339(b)(2)(B).

These procedures are provided in Part III, Attachment 3, Appendix C, Section 4. Revisions to this section have been made for clarity.

39. Please indicate in the LQCP, in accordance with §330.339(c)(7) and (8), that all quality control test will be complete during construction and that all soil tests will be complete before installing protective cover.

Part III, Attachment 3, Appendix C, Section 2.3 has been revised as requested.

40. In accordance with §330.339(e) and other requirements regarding liner stability, please explain if stability calculations have taken into account that soils may be saturated when excavations, cells or disposal areas extend into groundwater.

The liner stability evaluation included in Part III, Attachment 3 has taken into account saturated soils and used the seasonal high groundwater level in the calculations. No revisions were made in response to this comment.

41. In accordance with §330.337(f)(2), soils used as ballast must meet criteria used for liner soils. This includes permeability. Section 4.7 indicates that permeability testing will be waived for these soils. Please include permeability testing for ballast soils in accordance with this rule.

Part III, Attachment 3, Appendix C, Section 4.7 has been revised as requested.

42. Please clarify whether a dewatering system will be needed during installation or until ballasting levels of waste are reached in accordance with §330.337(g). Explain how this system will be designed to meet the requirements for a 1.2 safety factor under §330.337(b)(2).

The current seasonal high groundwater level is below the compacted clay liner at the site, therefore, no dewatering system or ballast is required. Part III, Attachment 3, Appendix C, Section 4.4 has been revised to clarify this and address the procedures to follow should the seasonal high groundwater level rise.

43. It appears that waste may be needed as ballast in some cells. Please provide for the requirements of §330.337(h)(1)-(4).

The current data does not indicate that waste is needed as ballast. However, Part III, Attachment 3, Appendix C, Section 4.8, Item 2, and Section 4.11, Item 6 provide for the above-referenced requirements should waste be needed as ballast. Section 4.8, Item 8 has been revised to address the waste density.

44. In accordance with §330.337(i), the seasonal high water table must be adjusted upward as new data is collected. This language has been rewritten in the last sentence of Section 4.4. While the requirement is clear elsewhere in the LQCP, the rewritten version in Section 4.4 is potentially misleading. Please replace this sentence with the language of the cited rule.

Part III, Attachment 3, Appendix C, Sections 4.4 has been revised as requested.

45. In accordance with §330.339(c)(4) and (d), compaction must be expressed as percent of maximum dry density. Section 2.2.3, item 2 is consistent with applicable guidance that field compaction will be to at least 95% maximum dry density. Item 3 provides an alternative to this criterion that is not supported by guidance. Please explain how this criterion is equivalent or strike it from the application.

Part III, Attachment 3, Appendix C, Section 2.2.3, Item 3 has been deleted.

Attachment 4 – Geology Report (David Dippel):

46. In accordance with §330.63 (e)(4)(D), installation, abandonment, and plugging of borings shall be in accordance with the rules of the commission. The application does not provide information regarding the plugging of borings not converted to piezometers. Please provide detailed information regard the proper plugging of soil borings at this proposed facility.

The referenced rule citation has been added to Part III, Attachment 4, Section 5.1 to the paragraph discussing plugging of borings as requested.

47. The last sentence of Section 2.0 suggests the permitted maximum elevation of the landfill will be 400 feet mean sea level (msl), whereas Section 1.2 of the Site Development Plan narrative indicates 399 feet msl. Please revise these sections and other section as needed to ensure that the correct, intended information is presented.

The referenced elevation in Section 2.0 of Part III, Attachment 4 has been corrected as requested.

48. Please address the following comments regarding the geologic maps in Figures ATT4-4 and ATT4-6:

- a) Ensure that each geologic unit shown in the map area and in the map legend is labeled.

The geologic units in the legend are correct as shown. No revisions were made in response to this comment.

- b) The map legend entry for the Yegua Formation is out of proper sequence. According to the explanation on the source map (Geologic Atlas of Texas, Austin Sheet), the Yegua should be between the Cook Mountain Formation and the Caddell Formation.

The map legend has been corrected as requested on Part III, Attachment 4, Figures ATT4-4 and ATT4-6. This correction has also been made on Part I/II, Figure 3-6.

- c) The envelope around the site location is label as having a 5-mile radius. However, the radius appears to be closer to 4 miles according to the scale on the drawing.

Please refer to the response to Comment #25 regarding the radius correction.

49. The fault evaluation photographs in Appendix A are dark and the details barely visible. Please provide brighter photographs in which all relevant details are visible; label key features or provide adequate information in the captions to locate features in the photographs.

The photos have been lightened and revised captions with additional descriptions have been provided for replacement in Part III, Attachment 4, Appendix A as requested.

50. The last paragraph of Section 3.1.3 (Unstable Areas) bases its conclusion that unstable areas do not exist on "information from existing geological and geotechnical data." Please identify in the application the specific existing data that were used to reach the conclusion.

Additional references have been included in Part III, Attachment 4, Sections 3.1.3 and 8.0 as requested.

51. Please examine Section 4.1 and other sections for typographic errors in the spelling of the Reklaw Formation (spelled "Recklaw" in several places).

The typographic errors in Part III, Attachment 4, Section 4.1 have been corrected as requested.

52. Please add a footnote to Table 4.2 to explain the meaning of "np" that appears in several cells of the table.

The "np" is a typographical error and should have been listed as "nr", not reported. Table 4.2 of Part III, Attachment 4 and Table 3-4 of Part I/II have been corrected.

53. Please revise Figure ATT4-10 to show the state plane grid, labeled with easting and northing values, so that locations documented in tables using the grid system can be accurately located on the figure.

The state plane grid system has been added to Part III, Attachment 4, Figure ATT4-10 as requested.

54. Please supplement Tables 4.4 and 4.5, which presents ranges of combined properties of soils within Stratum A and Stratum B, with an additional table or tables summarizing the properties of each distinct soil type within Stratum A and B that will form the bottom and side of the proposed excavation and soils that are less than 30 feet below the lowest elevation of the proposed excavation.

Additional tables have been included in Part III, Attachment 4, Section 5.3 as requested. These tables and related revisions have also been made to Part III, Attachment 3, as applicable.

55. Please address the following comments regarding the Summary of Soil Data and Laboratory Test Results and data sheets in Appendix D to Attachment 4, and Tables 4.4 and 4.5 in the narrative for Attachment 4:

- a) Identify each page in Appendix D (and in the application as a whole) with a unique page number that can be easily referenced.

The individual sections located within Part III, Attachment 4, Appendix D have been paginated as requested.

- b) Add superscripts to the data in the Summary, keyed to footnotes that identify where in the following sections of Appendix D the individual laboratory tests are documented.

A note has been added to the bottom of each laboratory summary sheet indicating the location of the test results as requested.

- c) Examine the Summary in the appendix and the tables in the narrative to ensure that all data have been transcribed accurately and consistently, or explain why they differ. It appeared that some of the data in the Summary differ from the data on the individual test data sheets in Appendix D. For example, the "Moist Unit wt (pcf)" for sample 172 from boring B-3 is listed as 121.5 in the Summary, whereas on the unconsolidated/undrained compressive strength test data sheet for sample 172, the moist unit weight is stated to be 125.0, and on the isotropically consolidated undrained triaxial test (ICU) the initial moist unit weight is given as 125.4.

This variance in the unit weights is due to separate moisture contents being obtained for individual tests and the heterogeneous nature of geo-materials. For sample 172 the unit weight in the Summary table was calculated with the moisture content obtained from the Atterberg Limit test (17.5%), while the unit weight stated on the UU test was obtained with the moisture content obtained during the triaxial test (20.9%).

- d) We checked some data and calculations and were not able to reproduce some plasticity index and liquidity index (LI) values. For example, the LI for sample 172 in the Summary is listed as 0.07, whereas on the unconsolidated/undrained compressive strength data sheet the value is stated is 0.2.

This variance in the liquidity index is due to separate moisture contents being obtained for individual tests and the heterogeneous nature of geo-materials. For sample 172 the LI in the Summary table was calculated with the moisture content obtained from the Atterberg Limit test (17.5%), while the LI stated on the UU test was obtained with the moisture content obtained during the triaxial test (20.9%).

- e) The plasticity index reported in the Summary sheet for sample A-24 from boring B-20 (34) differs slightly from the value (33) reported for the same sample on the Atterberg limits and grain size distribution data sheets in Appendix D.

The identified rounding error has been corrected as requested.

- f) Explain why classification is not indicated for some of the samples documented on the grain size distribution sheets in the sieve analysis section of Appendix D. If the information was collected, please include it on the data sheets.

The geotechnical software (gINT) that produces our lab output sheet only classifies the soil if both an Atterberg Limit and sieve analyses was performed on the same sample per the USCS Classification System.

- g) The plot of unconsolidated/undrained compressive strength on the test data sheet for sample 172 from boring B-3 shows an abrupt drop in deviator stress at an axial strain of 1 percent. Please explain what caused the sample to behave in that manner, and discuss whether the test results are valid.

The abrupt drop in deviator for sample S-172 of boring B-3 occurred over a 0.019-inch strain interval: equivalent to the thickness of 5 sheets of standard 20-lb paper. We believe that the break in the stress-strain curve is an artifact of the test and not an indication of the strength of the soil.

A review of the stress-strain curve indicates that the modulus (i.e. the slope of the stress-strain curve) is nearly identical immediately before and after the drop. Had the soil yielded, one would expect the modulus to decrease. In addition, the drop occurred at a deviator stress level equal to one-third of the peak stress, suggesting that it is not representative of failure or yielding in the sample. Therefore, we believe that the test data adequately characterize the UU compressive strength of the sample.

56. Please determine whether the reference to Table 4.8 in Section 6.2 should be to Table 4.6 (Summary of Initial and Static Water Level Data).

Due to the addition of tables in Part III, Attachment 4, the reference to Table 4.8 in Section 6.2 is now correct. No revisions have been made in response to this comment.

57. Please explain in text and document with footnotes in Table 4.6 why static water level is not provided for some borings. Is the missing water level information available in field notes or field logs? Please ensure that all data that were collected are included in the application, on logs, cross sections, tables, and in the water level data summary in Appendix E.

Table 4.8 (renumbered from 4.6) and Section 6.2 of Part III, Attachment 4 has been modified as requested.

58. Please revise Table 4.8 to include results of groundwater velocity calculations based on arithmetic mean hydraulic conductivity (in addition to calculations based on geometric mean).

Table 4.10 (renumbered from 4.8) in Section 6.2 of Part III, Attachment 4 has been modified as requested.

59. Please address the following comments regarding boring logs:

- a) Please provide a sheet with the boring logs explaining lithologic symbols, test data, and other information shown on the logs. Be sure to explain all symbols, including cases where two lithologic symbols are shown in the same interval.

A soil classification key (2 pages) has been included for insertion into the front of Part III, Attachment 4, Appendix C as requested.

- b) On the log for boring B-2, indicate whether the groundwater observation at 22 feet is the water level during drilling, or some other time.

This groundwater observation was obtained during drilling activities. Boring B-2 has been revised as requested.

- c) On the logs for borings B-4, B-5, and B-12, indicate whether the groundwater level "after drilling" is static water level, and revise accordingly.

These groundwater measurements were chronologically obtained after the final trip out of the borings and before the borings were grouted. Enough time had not passed for the groundwater in the boring to equalize to its static level, therefore these measurements depict the groundwater conditions immediately after drilling.

- d) On the log for boring B-15, clarify whether the groundwater level "during drilling (static)" is the level during drilling, or the static level.

The "during drilling (static)" notation contained a typo, and should have only read during drilling. Boring B-15 has been revised as requested.

- e) The log for boring B-16 includes a note at the bottom that states "continued next page," however, the log appears to consist of a single sheet. Please examine and revise accordingly.

The "continued next page" notation has been removed from the boring log. Boring B-16 has been revised as requested.

60. The boring logs for B-1, 3, 8, 10, 15, and 17 indicate that piezometers were installed in those borings. The logs further indicate that borings B-1, 3, 8, 10, and possibly B-15 were plugged back with sand before piezometers were installed at shallower depths. According to the Water Well Drillers and Water Well Pump Installers rules in 16 TAC Chapter 76, §76.702 and §76.1004, the boreholes should have plugged with cement or bentonite grout. Improperly plugged boreholes are potential conduits for migration of contaminants. Please make plans to properly plug and abandon these piezometers, and replace with new piezometers, or explain how the current configuration complies with the rules.

As shown on the boring logs for B-1, B-3, B-8, and B-10, the lower portions of these borings were plugged back with sand. However, a 3-foot thick bentonite plug was placed at the top of the sand backfill to prevent vertical movement of groundwater and to make sure the potentiometric level in the resultant piezometers reflected the actual groundwater conditions of the screened interval. No revisions were made in response to this comment.

61. The duration of groundwater elevation observations – about 2 months, from mid-March to mid-May 2011 - may not be sufficient to thoroughly characterize groundwater conditions at the site, especially during the current drought. You should be prepared to retain piezometers and continue observing groundwater conditions, and to modify the groundwater monitoring system design if conditions change.

Please note that additional potentiometric surface maps have been added into Part III, Attachment 4 (Figures ATT4-15C through ATT4-154F) to include water level readings for July, August, September, and October 2011. The related discussions/tables that have also been revised include Section 6.2 and Appendix E. The additional potentiometric surface maps have also been added into Part III, Attachment 5 (Figures ATT5-4C through ATT5-4F) and discussed in Sections 3.1 and 4.1.

62. Please address the following comments regarding geologic cross sections:

- a) Please show the limits of the proposed landfill excavation on the geologic cross sections.

The proposed limits of the landfill excavation have been added to Part III, Attachment 4, Figures ATT4-11 through ATT4-14 as requested.

- b) Please add notes to the cross sections explaining the meaning of two lithologic symbols appearing in the same interval in boring logs.

The referenced “double” symbols indicating interbedded strata have been added to the legend on Part III, Attachment 4, Figures ATT4-11 through ATT4-14. The symbols have also been added to the legends of Part III, Attachment 3, Figures ATT3-3 and ATT3-4 and Part III, Attachment 7, Figures ATT7-4 and ATT7-5.

- c) Clarify the meaning of note 3 on the geologic cross sections in Figures ATT4-11, ATT4-12, ATT4-13, and ATT4-14, which states “piezometers whose static water level readings are located at the base of the screened interval were screened above the current potentiometric surface.” Does the statement mean there was no groundwater in the wells?

This does mean that the wells are dry. The “dry” notation has been added to Note 3 on Part III, Attachment 4, Figures ATT4-11 through ATT4-14 for clarification.

- d) The east end of geologic cross section A-A' overlaps the south end of section D-D', between borings B-15 and B-18. However, the stratigraphic interpretations shown on the cross sections for this same interval differ slightly. Please examine the data and determine which is the qualified groundwater scientist's intended interpretation.

The correlations on Part III, Attachment 4, Figure ATT4-14 have been revised.

63. Please expand the discussion of site stratigraphy to include the rationale for the investigator's interpretations of the subsurface stratigraphy. For example, we notice that on geologic cross sections B-B' and D-D' units within Stratum B are correlated across the site, whereas on cross sections A-A' and C-C' similar units are not correlated.

Some individual beds within Strata A and B were correlated where possible (light correlation lines). The division between Strata A and B are shown on all cross-sections (Part III, Attachment 4, Figures ATT4-11 through ATT4-14).

64. Please revise Section 6.2 to clarify for the purposes of 30 TAC §330.63(e)(4)(B) which unit constitutes the aquiclude beneath the lower boundary of the uppermost aquifer (and deeper aquifers that are hydraulically interconnected with the uppermost aquifer). Please also indicate in which stratum – Stratum A or Stratum B – it is contained.

The discussion in Section 6.2 of Part III, Attachment 4 has been expanded as requested.

Attachment 5 – Groundwater Characterization and Monitoring Report (David Dippel):

65. In Section 2.0, the text indicates that groundwater at the proposed facility “generally flows in a south to southeast direction towards the Brazos River, as shown on Figure ATT5-2.” However, Figures ATT5-2 through ATT5-4 indicate that groundwater flow is generally in the south to southwest direction. Please revise the text to be consistent with the referenced figures.

The text in Section 2.0 of Part III, Attachment 5 has been revised as requested.

66. Please clarify the interpretation of whether the silty, sandy, etc. units within Stratum B are hydraulically connected with Stratum A. According to boring logs, cross sections, and the narrative in Attachment 4 (Geology Report), clayey units at the top of Stratum B may not be continuous, and transmissive units may be present in Stratum B just a few feet below the base of Stratum A. Please provide an expanded discussion to support the interpretation, including any data on groundwater levels in Stratum B that may potentially indicate whether the units are connected.

Section 4.1 of Part III, Attachment 5 has been expanded to discuss the units and connectivity of Strata A and B as requested.

67. Please clarify in Attachment 5 whether piezometers PZ-1, 3, 8, 10, 15, and 17 were installed within soil borings B-1, 3, 8, 10, 15, and 17, or if they were installed in separate borings (and if so, the exact locations of the piezometer borings).

Section 3.1 of Part III, Attachment 5 has been revised as requested. The location of the

piezometer borings are shown on Part III, Attachment 4, Figure ATT4-10.

68. Be aware that if any of the piezometers are to serve as groundwater monitor wells, they must have been drilled, installed, and developed in accordance with monitor well construction specifications in 30 TAC §330.421. If any fluids were necessary in drilling or installation, then clean, treated city water must have been used, or other fluids must be approved in writing by the executive director before use. If city water was used, a current chemical analysis of the city water shall be provided with the monitor well installation report.

A reference to the cited regulation and the source of drilling water has been added to Section 3.1 of Part III, Attachment 5. The analytical data from the city water supply has been added to Appendix B of Part III, Attachment 5 as requested.

69. Please show piezometer locations (in addition to monitor well locations) on Figures ATT5-2 and ATT5-3.

The piezometer locations have been added to Part III, Attachment 5, Figures ATT5-2 and ATT5-3 as requested.

70. Downgradient well MW-1 does not appear to be in an optimal location to serve as a downgradient well. In addition, the point of compliance (POC) should be "anchored" by monitor wells at its endpoints; the proposed monitoring system design leaves parts of the ends of the POC without monitoring. Please add monitor wells and shift the locations of wells as needed to optimize the monitoring system, and to ensure adequate monitoring along potential downgradient edges of the proposed landfill.

The POC has been revised, one monitoring well has been relocated, and one monitoring well has been added to Part III, Attachment 5, Section 4.1, Table 5.4 and all Part III, Attachment 5 Figures, as applicable.

The monitoring well locations have been adjusted on all drawings throughout the application and the increase in wells has been adjusted in the post-closure calculation and cost estimate included in Part III, Attachment 9, Table 9-2 and Appendix B. The schedule of development in Part I/II, Table 2-2 has also been revised.

71. In Section 3.1, please indicate exactly where in Attachment 4, Appendix D the results of slug tests are provided.

A statement clarifying the location of the slug test results has been added to Part III, Attachment 5, Section 3.1 as requested. Please note that the individual sections of data included in Part III, Attachment 4, Appendix D are separated by yellow flyer sheets.

72. The second paragraph of Section 4.1 refers to Figures ATT5-2A and ATT5-2B for potentiometric surface maps. Please determine if the citation was meant to reference Figures ATT5-4A and ATT5-4B, and revise accordingly.

The reference to the Figures in Part III, Attachment 5, Section 4.1 has been revised as requested. Please refer to the response to Comment #61 regarding additional potentiometric maps.

73. Please revise the monitor well data sheet form number (formerly SE-67) cited in the third paragraph of Section 4.1 to indicate the current form TCEQ-10308 (on the TCEQ website at www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_gwmon_coract.html).

The referenced form number in Section 4.1 of Part III, Attachment 5 has been corrected as requested.

74. The drilled depths for piezometers listed in Table 5.3 are not consistent with the boring logs. Please examine and revise accordingly.

Table 5.3 of Part III, Attachment 5 has been revised to indicate both the drilled depth and the completed depth of the piezometers.

Attachment 5, Appendix A – Groundwater Sampling and Analysis Plan (GWSAP) (David Dippel):

75. The text references 30 TAC §330.471(a)(4); however, there is no rule associated with this citation. Please provide the correct citation for this Section.

The regulation citation in Section 1.2 of Part III, Attachment 5, Appendix A has been corrected as requested.

76. Please revise Table 1.1 (Groundwater Monitoring Parameters) to exclude the column of practical quantitation limits. The TCEQ has developed and is further developing target quantitation limits for each constituent and analytical method combination. Please contact us for separate guidance regarding target quantitation limits. In addition, we suggest eliminating the analytical method column of the table, or alternatively, adding a footnote to indicate that you may substitute other methods that will yield data of equivalent or better quality, or if a situation arises such that the specified method is not available.

Golder obtained information regarding the target quantitation limits for each constituent and TCEQ recommended language regarding the specified limits for precision and accuracy from Mr. Arthur Denny (TCEQ staff). Part III, Attachment 5, Appendix A, Table 1.1 has been revised to include the target data for PQLs for the applicable constituents and the analytical method column has been footnoted to indicate that other methods may be substituted. The recommended language regarding precision and accuracy is located in Part III, Attachment 5, Appendix A, Section 2.4 and requires no further revision.

77. Please delete the superscript "2" from "^{GW}GW_{ing}²" in footnote 3. The "2" refers to footnote 2 to the Tier 1 PCL Table 3.

The referenced superscript in Table 1.1 of Part III, Attachment 5, Appendix A has been removed as requested.

78. Please examine Figure 2-1 (Conductivity and pH Meter Calibration Form) to determine if the "Adjusted" and "Unadjusted" meter reading cells are lined up correctly with the cells in the pH calibration column.

The referenced layout of Figure 2-1 of Part III, Attachment 5, Appendix A has been corrected as requested.

79. Please address the following comments regarding Section 2.5, Groundwater Sampling Protocols:

- a) The last two sentences of step 6 advise to place a pump immediately below the air-water interface to avoid mixing when a bailer is lowered. Will purging and sampling be done with a pump, or bailer? If purging is done with a pump, will sampling also be done with a pump, or a bailer?

Step 6 in Section 2.5 of Part III, Attachment 5, Appendix A has been revised to discuss the requirements of using a pump or bailer for purging. Step 10 indicates that sampling will be performed with a bailer.

- b) Revise step 7 to clarify that groundwater is considered contaminated if the concentration of a constituent is greater than the background concentration, and that contaminated groundwater must not be discharged.

Step 7 in Section 2.5 of Part III, Attachment 5, Appendix A has been revised to clarify when purge water is considered contaminated and must be disposed of at an authorized facility.

- c) Revise step 9 to allow up to seven days recovery time after purging. If after seven days a slowly recharging well has not recovered sufficiently for a complete set of samples, a partial set of samples should be collected in the order specified in the GWSAP, or in another order if warranted by conditions and data needs, until no more samples for the set can be collected.

Step 9 in Section 2.5 of Part III, Attachment 5, Appendix A has been revised as requested.

- d) Revise step 12 to clarify that groundwater used to rinse the bailer will be containerized and managed as purge water, and not discharged if it is contaminated.

Step 12 in Section 2.5 of Part III, Attachment 5, Appendix A has been revised as requested.

80. Please revise the second paragraph of Section 2.6, Sample Equipment Blanks and Blind Duplicates to clarify the sample duplicate frequency. If precision is a concern, at least one duplicate should be taken during each sampling event, regardless of the number of wells or samples. In any case, it is not clear what is meant by the instruction "For sampling events that involve the collection of five or more samples, one duplicate will be obtained for every ten samples." Perhaps it was intended that at least one duplicate sample will be taken for every ten wells *or fraction thereof*? Please examine the paragraph and related Table 2.3, and revise for clarity. It may be helpful to change the title of Section 2.6 to an inclusive phrase such as "Blanks and Duplicates."

Section 2.6 and Table 2.3 of Part III, Attachment 5, Appendix A have been revised to clarify when duplicate samples should be obtained as requested.

81. Please delete the first two sentences of the last paragraph in Section 6.0, Laboratory Quality Control/Quality Assurance. Since the advent of the Texas laboratory accreditation program, we have not reviewed laboratory standard operating procedures documents. In addition, 30 TAC Chapter 330, Subchapter F expired on January 1, 2009.

The entire last paragraph in Section 6.0 of Part III, Attachment 5, Appendix A has been removed as requested.

82. Appendix B appears to be a duplication of Table 1.1, which also appears in Section 1.2 of the GWSAP.

Appendix B of Part III, Attachment 5 has been removed. Please note that the flyer sheets for the appendices of Part III, Attachment 5 are green and flyer sheets for attachments and/or appendices within appendices should be yellow. The flyer sheet for Appendix A of the GWSAP (Appendix A of Part III, Attachment 5) was inadvertently copied on green paper. A replacement yellow flyer sheet has been provided with this NOD response.

83. Please indicate whether the laboratory that performed the analyses reported in Appendix C to Attachment 5 is accredited under the Texas laboratory accreditation program in accordance with 30 TAC Chapter 25, with fields of accreditation for the analyses performed.

Section 3.2 of Part III, Attachment 5 has been revised to include a reference to the laboratory being accredited as required by rule per your request.

Attachment 6 – Landfill Gas Management Plan (LGMP) (David Dippel):

84. Please delete references to the TCEQ Methane Monitoring Handbook from the LGMP. The guidance has been withdrawn from circulation and is awaiting revision.

The reference to the handbook has been deleted from Part III, Attachment 6, Section 3.1.1 as requested.

85. As indicated on Figure ATT6-2, a residence is located approximately 150 feet from the southwest permit boundary. The nearest landfill gas monitoring probe is approximately 500 feet from the residence. Please revise landfill gas monitoring probe locations to ensure that migration of gasses is detected before reaching nearby structures.

The response to Comment #86 has increased the number of gas probes. There is now a probe located directly across from the referenced residence.

86. According to the Landfill Gas Management Plan and Figure ATT6-2, landfill gas monitoring probes are spaced no more than 1,000 feet apart. TCEQ recommends a maximum spacing of 600 feet for landfill gas monitoring probes. Please revise text and applicable figures accordingly.

The gas probes have been re-spaced to a maximum separation of 600 feet as requested. This revision has been made to Part III, Attachment 6, Sections 3.1 and 3.1.1, Table 6.2, Figure ATT6-2, and Appendix A. The gas probe locations have been adjusted on all drawings throughout the application and the increase in probes has been adjusted in the post-closure calculation and cost estimate included in Part III, Attachment 9, Table 9-2 and Appendix B. The schedule of development in Part I/II, Table 2-2 has also been revised.

87. In accordance with 30 TAC §330.371(f), any underground utility trenches that cross the landfill facility boundary shall be vented and monitored regularly. Section 3.1, Perimeter Monitoring, does not comply with the above rule and is not protective of human health and the environment. Please revise Section 3.1 accordingly.

Part III, Attachment 6, Sections 2.7 and 3.3 and Figure ATT6-2 have been revised to include vents to monitor the pipelines on the property. A typical vent detail has been added as Part III, Attachment 6, Figure ATT6-4.

88. The first paragraph of Section 3.1.1 includes the phrase "along the expansion area." Please replace the phrase with something reflective of a new site, such as "along the perimeter of the proposed landfill."

The reference to expansion area in Part III, Attachment 6, Section 3.1.1 has been deleted and replaced with permit boundary as requested.

89. Please provide an expanded discussion in Section 3.1.1 of how you have taken into account the distribution of gas-permeable strata in choosing gas probe locations and depths.

A reference to the gas-permeable strata has been added to Part III, Attachment 6, Section 3.1.1 as requested.

90. Please indicate in Section 3.1.2 that gas probes will be installed in accordance with applicable rules in 16 TAC Chapter 76 (Water Well Drillers and Water Well Pump Installers), including the preparation and submittal of well installation reports.

The rule citation has been added to Part III, Attachment 6, Sections 3.1.1 and 3.1.2 as requested.

Attachment 7 – Closure Plan:

91. In accordance with §330.457(a)(2), the permeability of the final cover may not exceed 10^{-7} cm/sec, based on the fact that the liner system has a permeability of no more than that value. Please provide for this requirement in the Closure Plan or direct staff to its location.

The referenced citation is not applicable to this facility. The Brazos Valley Disposal facility is a Type IV facility and is therefore required to comply with the requirements of §330.453 which is specific to the final cover for a Type IV facility. Minor revisions have been made to Part III, Attachment 7, Sections 1.0 and 2.1 to clarify the Type IV status.

92. Please provide a Final Cover Quality Control Plan (FCQCP) to address final cover system quality assurance requirements of §330.457(c) and appropriate guidance.

Please refer to the response to Comment #91 regarding final cover requirements.

93. Please expand Section 2.2 and address in an FCQCP how permeability requirements will be met in accordance with §330.457(e)(1).

Please refer to the response to Comment #91 regarding final cover requirements.

94. Section 5.0 is provided to meet the requirements of §330.457(g). Please add clarification regarding certified notation on the deed that this will be performed in accordance with §330.955(b), (d) and (e), §330.957(b)(2)(A)-(C), and §330.957(m)(1)(D)-(F).

The rule citations have been added to the next-to-last paragraph of Section 5.0 of Part III, Attachment 7 as requested.

95. As noted in an earlier comment, it is not clear from the application whether storage and/or processing will occur within the permit boundary. If appropriate, please provide for the requirements of §330.459 to address closure of storage and/or processing units.

Please refer to the response to Comment #29 regarding the reference to storage and/or processing activities.

96. Please address the requirement for posting a sign indicating the date of closure under §330.461(b) or direct staff to its location.

The sign posting is discussed in the last sentence of the third paragraph of Part III, Attachment 7, Section 5.0. The regulation citation was added to the first paragraph of Section 5.0.

Attachment 9 – Closure and Post-closure Cost Estimates:

97. Please change all citations related to Chapter 37 to Chapter 37, Subchapter R rather than to specific provisions that are referenced within Subchapter R.

Part III, Attachment 9, Sections 1.2, 2.2, and 3.2 were revised as requested.

98. Please note that cost estimates may be increased or decreased, in accordance with §330.503(a)(2) and (3) to address changes to the Closure Plan or to landfill conditions.

The discussion in Part III, Attachment 9, Section 1.0 has been expanded as requested and similar language has been added to the post-closure discussion in Section 2.0.

PART IV OF THE APPLICATION, SITE OPERATING PLAN (SOP)

99. As noted in an earlier comment, it is not clear from the application whether storage and/or processing will occur within the permit boundary. In accordance with §330.65(c), please address the requirements of Chapter 330, Subchapter E, for any storage and/or processing unit within the permit boundary.

Please refer to the response to Comment #29 regarding the reference to storage and/or processing activities.

100. Recordkeeping requirements of §330.125 are largely addressed in Section 1.2; however, this section does not include special waste documentation under §330.125 (b)(10) or the records of alternative daily cover (ADC) use under §330.125(b)(11). Section 4.5 indicates that non-regulated asbestos-containing materials (non-RACM), a special waste §330.171(c)(4) may be accepted. Section 4.21.3 allows for the possibility that alternative daily cover may be used in the future. Please provide for the recordkeeping requirements of §330.125(b)(10) and (11) in Section 1.2.

Part IV, Section 1.2 has been revised as requested.

101. In accordance with §330.127(1), the SOP must include descriptions of the function and minimum qualifications of key personnel. This is largely addressed in Section 2.0; however, on page 3 the application indicates that the Landfill Manager (LM) or at least one supervising manager will be licensed, while Section 2.1 indicates that the LM will be licensed. Please correct the apparent typographical error on page 3.

Part IV, Section 2.1 has been revised for consistency as requested.

102. Please provide for the requirements of §335.586(a) and (c), a provision of §330.127(4), or direct staff to its location.

Part IV, Section 4.1 provides for the requirements of §335.586(a) and (c). For clarification purposes, a reference to the above regulation has been added.

103. Requirements of §330.131 for access control are largely addressed by Section 4.4; however, some of the information is confusing or too general. As described, the adjacent recycling facility will be used to screen incoming loads for recyclable materials. Presumably, though it was not noted in the text, the part of the load that is not separated for recycling at the adjacent facility will be re-weighed before entering the landfill permit boundary. Please clarify this in Section 4.4. Also, as discussed previously, please consider putting a scale and gatehouse for the landfill *within* the permit boundary instead of only including this as an option.

Please refer to the response to Comment #7 regarding the scale and gatehouse. For clarification purposes, Part IV, Section 4.4 has been revised and sub-headings have been added for better organization of the topics. Similar text in Section 4.15 has also been revised. Similar revisions were also made to the Part III report, Section 2.1 and Part III, Attachment 3, Section 2.1.

Note that a scale is presented only as an option and will not necessarily be used to document the amount of waste entering the site. The volume of waste may be documented instead as is done on many construction and demolition landfills in the state.

104. In accordance with §330.133(e) and §330.5(a)(2), Type IV facilities may accept brush, construction and demolition waste, and rubbish free of putrescible and household waste. Section 4.5 indicates that the facility will accept dredged materials confirmed by testing to be uncontaminated. It is unclear how dredged materials meet any of the categories of waste that may be accepted at a Type IV landfill under these provisions. Please explain or delete dredged materials as an acceptable waste throughout the application.

Part IV, Section 4.5 has been revised to delete discussions of dredged materials. This waste stream has also been deleted from Part I/II, Section 2.1.1, Part III, Attachment 6, Section 2.1, and Attachment 7, Section 3.0.

105. In accordance with §330.133(g), Type IV landfills may only accept waste in enclosed containers/vehicles under the conditions provided in §330.169. The last sentence of the first paragraph on page 20 appears to be intended to address this, as it refers to Section 4.23. Please indicate that this refers to *enclosed* containers to avoid possible confusion.

Part IV, Section 4.5 has been revised as requested.

106. In accordance with §330.133(h), site signs must include prohibited wastes and requirements for transporters. Please address this requirement in Section 4.7.

Part IV, Section 4.7 has been revised as requested.

107. Please clarify in Section 4.9 that the prohibition of material storage in the buffer zone and within easements will not be limited to waste. These areas are expected to remain clear.

Part IV, Section 4.9 provides for all requirements of easement protection and buffer zones in accordance with TAC §330.141. No revisions have been made in response to this comment.

108. In accordance with §330.143(b)(8), the facility must have a benchmark meeting the provisions of this rule. Indications that a benchmark "will be installed" are not adequate. Text in Section 4.10 indicates that the benchmark will be located "near the gatehouse." The benchmark should be located within the permit boundary. Please provide a benchmark within the permit boundary and identify it on appropriate figures throughout the application.

The requirement for a benchmark being installed near the gatehouse is appropriate at this stage of the permitting process and satisfies the regulation as stated. The regulation does not have a schedule for the benchmark to be installed nor does it make sense to install a benchmark prior to a permit being authorized. The presence of a benchmark as noted on the site layout plans will be verified during the pre-opening construction inspection performed by the Region office of the TCEQ. No revisions have been made in response to this comment.

109. Section 4.21.3 addresses the possibility of ADC (to be applied at least weekly) in the future. Please delete the second sentence ("Examples of AWC systems that may be employed...") as irrelevant and the use of "may" could be misinterpreted. Also, delete the word "additional" in the third sentence. Please indicate that, in accordance with §330.165(d)(4), contaminated soil will not be used as ADC. Note that the executive director may require runoff testing and require that the runoff be managed as contaminated water, as indicated by §330.165(d)(6).

Part IV, Section 4.21.3 has been revised as requested.

110. Section 4.21.5 addresses final cover in accordance with §330.165(f). Please strike the first sentence, as there are conditions that could require placement of final cover before an area has reached capacity.

Part IV, Section 4.21.5 has been revised as requested.

111. Section 4.22 addresses prevention of ponded water requirements of §330.167. Please strike the last paragraph as this text is unenforceable and the first paragraph on page 31 provides seven days to provide a remedy for identified problems, which appears to be adequately flexible.

Part IV, Section 4.22 has been revised as requested.

112. Section 4.23 is provided to address the requirements of §330.169. This rule refers to a program that has not, to date, been initiated by the commission. Please delete the information provided in this section and indicate that once the program is available in accordance with §330.169 the facility will participate.

Part IV, Section 4.23 has been revised as requested.

113. Section 4.24 indicates that special waste will not be accepted at the facility. Other parts of the application indicate that non-RACM will be accepted. If non-RACM will be accepted, please address the requirements of §330.171(c)(4) in Section 4.24.

Part IV, Section 4.24 has been revised to address the requirements of §330.171(c)(4).