



December 5, 2016

Our Ref.: 1400336

Texas Commission on Environmental Quality
MSW Permits Section, Waste Permits Division
P.O. Box 13087, MC-124
Austin, Texas 78711-3087
ATTN: Steve Odil

**RE: RESPONSE TO TCEQ NOTICE OF DEFICIENCY
PAA; PERMIT NO. MSW-692B
TEMPLE RECYCLING AND DISPOSAL FACILITY
BELL COUNTY, TEXAS
TRACKING NO. 20658545; CN605175884/RN100219401**

Dear Mr. Odil:

On behalf of the City of Temple, Golder Associates Inc. (Golder) submits this response to the Texas Commission on Environmental Quality's (TCEQ's) Notice of Deficiency (NOD) regarding the above-referenced PAA (PAA). TCEQ's NOD letter was dated on October 14, 2016.

The responses presented herein are cross-referenced to the NOD comments using the comment numbers in the NOD and quoting the original comments. We have also included an itemized list of the revised or new PAA pages.

One original and three (3) copies of the revised PAA materials and two (2) copy of the redline-strikeout revisions are included with this letter. The redline-strikeout revisions are organized per the order of the NOD comments. This response package will be posted to a publicly accessible website as indicated in the Part I form of the PAA.

We trust this response is sufficient to address the deficiencies identified by the TCEQ. Upon review of this response, if you have questions, please contact the undersigned at 281-821-6868.

Sincerely,

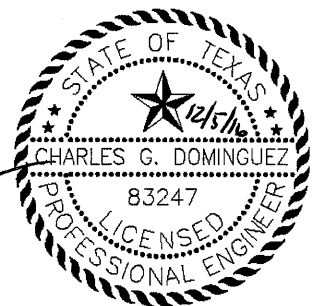
GOLDER ASSOCIATES INC.

A handwritten signature in black ink, appearing to read "May Xin".

May Xin, PE
Senior Engineer

A handwritten signature in black ink, appearing to read "Charles G. Dominguez".

Charles G. Dominguez, PE
Principal and Vice President



cc: Ms. Nicole Torralva, PE, Public Works Director, City of Temple
Mr. Steve Jacobs, Waste Management, Austin
Mr. Charles Rivette, Waste Management, Houston
Mr. David Mann, Waste Section Manager, TCEQ Region 9 Office

LIST OF REVISED/NEW PAGES

Part	Revised/New Pages
General	<ul style="list-style-type: none"> ■ Revised binder cover pages and spines (4 sets); ■ Revised first page of each binder; and ■ Part I form, Pages 1 and 9 only.
Part I	<ul style="list-style-type: none"> ■ Revised Cover Page; ■ Table of Contents (Revised page i only); ■ Revised text – replace the entire document; ■ Revised Figure I-A-5; ■ Revised Appendix IB; and ■ Revised Appendix IC, Figures IC-2 and IC-3.
Part II	<ul style="list-style-type: none"> ■ Revised Cover Page; ■ Table of Contents (Revised page ii only); ■ Revised text – replace the entire document; ■ Revised Figures II-4, II-7.1, II-9, and II-17.1; ■ Added new Figure II-17.2; ■ Added Appendix IIA-2 – Texas Historical Commission Response Letter (June 15, 2015); ■ Added correspondence in Appendix IIA-3; ■ Revised Appendix IIB Land Use Analysis Report; ■ Added Appendices E through H.
Part III	<ul style="list-style-type: none"> ■ Part III <ul style="list-style-type: none"> ● Revised Cover Page; ● Update Table of Content; and ● Revised text pages III-2, 4, 5, 6, and 7 only; ■ Attachment 1 <ul style="list-style-type: none"> ● Revised Figure III-1-1. ■ Attachment 2 <ul style="list-style-type: none"> ● Revised Cover Page; ● Table of Contents (revised page III-2-ii only); ● Revised text pages III-2-9 , III-2-10; and III-2-17 ● Added Appendices III-2B-1 and III-2B-2; and ● Revised Appendix III-2C-1 and Appendix III-2E.

	<ul style="list-style-type: none">■ Attachment 3<ul style="list-style-type: none">● Revised Cover Page;● Update Table of Contents;● Revised text – replace the entire document;● Revised Figures III-3-3.1, III-3-3.2, III-3-3.3, III-3-3.4, AND III-3-4, III-3-8, and III-3-9.2;● Revised Figures III-3F-4, III-3F-7, III-3F-8, and III-3F-9; and● Revised Appendices III-3C-1, III-3C-2, III-3C-3, III-3C-4, III-3C-5, III-3E-1, III-3E-1A, III-3F (Revised text – replace the entire document), revised Appendices III-3F-3A, III-3F-4, III-3G-4 and III-3H (revised Cover Page, updated Table of Contents, and revised text).■ Attachment 4<ul style="list-style-type: none">● Revised Cover Page;● Updated Table of Contents;● Added Figure III-4-9.3 to List of Figures;● Revised text on pages III-4-4 to 5, 16, 17, 19, 27, 28, 34, 35, 48, and 52;● Edit Figures III-4-8, III-4-11, III-4-12, III-4-13.1 through 7, and III-4-14.1 through 7;● Revised Table III-4-1 and III-4-3; and● New Figure III-4-9.3;■ Attachment 5<ul style="list-style-type: none">● Revised text on pages III-5-10 and 11;● Revised Figures III-5-5.1 to 6;● Revised Appendix III-5B; and● New Appendix III-5C.■ Attachment 6<ul style="list-style-type: none">● Revised Cover Page;● Update Table of Contents; and● Revised text pages III-6-6, III-6-8 through III-6-10, and III-6-13.■ Attachment 7<ul style="list-style-type: none">● Revised Cover Page;● Update Table of Contents;● Revised text pages III-7-1, III-7-6 through III-7-7, and III-7-9;● Revised Figures III-7-1 and III-7-2.1; and● Revised Appendix III-7A (revised cover page, revised text
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	<p>pages III-7A-4, III-7A-6, III-7A-11, and III-7A-19.</p> <ul style="list-style-type: none">■ Attachment 8<ul style="list-style-type: none">● Revised Cover Page; and● Revised text pages III-8-3 and III-8-4.■ Attachment 9<ul style="list-style-type: none">● Revised Cover Page.
Part IV	<ul style="list-style-type: none">■ Revised Cover Page<ul style="list-style-type: none">● Revised text – replace the entire document;● Revised Table of Contents;● Revised Appendix IVC;● Revised Appendix IVD and IVE Flyer Sheet; and● Revised text Appendix IVD – Replace the entire document

GENERAL

Comment 1. Page 5 of the Part I form indicates that Waste Management of Texas, Inc. will operate the facility. In accordance with 30 TAC §330.57(g)(2) and 30 TAC §305.43, please revise title pages to include the name of the operator.

Response 1. The title pages have been revised to include Waste Management of Texas, Inc. as the Operator and the City of Temple as the Owner/Site Operator/Permittee. Revised pages include the following:

- The cover page of each binder;
- The first page of each binder; and
- Cover pages of reports for Part I text, Part II text, Part III text (Attachments 2 through 9 text), and Part IV text.

PART I

Comment 2. In accordance with 30 TAC §305.45(a)(6), a site layout plan must be provided that illustrates intake and discharge structures. While the legend on Appendix A, Figure I-A-5 indicates that a gray shading is used to designate the perimeter road, this shading cannot be located on the figure. Please explain, and provide an illustration of the perimeter road on a site figure.

Response 2. Figure I-A-5 has been revised to illustrate the access and perimeter roads as requested.

Comment 3. As required under 30 TAC §330.59(c)(1) and 30 TAC §305.45(a)(6)(C), please illustrate on a site layout figure any waste disposal activities conducted within the permit boundary that are not included in the application.

Response 3. There are no additional waste disposal activities conducted within the permit boundary that are not included in the PAA. Figure I-A-5 has been revised to include a note to address the waste processing activities.

Comment 4. A Land Ownership Map and Landowners List are required under 30 TAC §330.59(c)(3). A map and list are provided in Appendix IB. This information must include clarification of mineral interest ownership under the facility. Section 3.2 indicates that "no mineral interest ownerships under the facility were identified," but does not clarify that this is based on a search of the real property appraisal records, as required by 30 TAC §330.59(c)(3)(B). Please update the land ownership map and list to meet this requirement.

Response 4. Part I, Appendix IB, the landowner map and list have been updated to include a note clarifying that the information provided was based on a search of the real property appraisal records.

Comment 5. Easement information is introduced in Part I, Section 4.2 and illustrated on Figures IC-2 and -3.

Comment a. Figure IC-2 should be signed and sealed in accordance with 30 TAC §330.59(d)(1)(C). Please provide a signed and sealed Figure IC-2.

Response a. A signed and sealed Figure IC-2 has been provided as requested. This Figure has been updated to include an existing easement which

crosses the southern portion of the expansion area, which was inadvertently omitted from the original Figure. The easement holder, Oncor, has been contacted and the revised easement locations shown on the various permit drawings for this easement are based on information received from Oncor.

Comment b. Figure IC-2 shows survey points associated with easements (see points 2107 through 2110) that are not shown on Figure IC-3 and numerous points that appear to be located within the waste footprint, in apparent violation of 30 TAC §330.543(a). Please explain.

Response b. Figure IC-3 has been revised to include all the points shown on Figure IC-2. Figure IC-4 has been revised to include Notes 2 and 3 to address easements located within the waste footprint. Part I, Section 4.2 has been revised for this purpose as well.

Comment c. Note 2 on Figure IC-2 indicates that illustrated easements do “not necessarily represent their actual locations.” Please provide a figure that represents the actual locations of easements for evaluation against 30 TAC §330.543(a).

Response c. Figure IC-2 has been revised to reword this note.

Comment d. The scale for Figure IC-2 is about 680 ft/in. Please provide Figures IC-2 and -3 at a standard scale, as required by 30 TAC §330.57(h)(3)

Response d. Figures IC-2 and IC-3 have been revised to use a standard scale.

Comment e. Please expand the discussion on easements to address the easements that appear to be within the waste footprint.

Response e. Part I, Section 4.2 has been revised to address the easements within the waste footprint.

Comment 6. A Supplementary Technical Report, required under 30 TAC §305.45(a)(8), is provided as Section 1.2. There appears to be a mathematical error in Table I-2, as the waste disposal area and the buffer/other area do not add up to the total permitted area. Please correct or explain these values. Also, please provide a general discussion of the properties of the waste to be received to address the requirements of 30 TAC §305.45(a)(8)(B)(ii).

Response 6. The Supplementary Technical Report has been revised to correct Table I-2 and provide a general discussion of the properties of the waste to be received at the end of Section 1.2.

PART II

Comment 7. An existing conditions summary is required by 30 TAC §330.61(a). Section 1.0 is provided to address this requirement. Please include in this section a discussion of Tracts 1A and 1B.

Response 7. Part II, Section 1.0 has been revised to include a discussion of Tracts 1A and 1B, as requested. Closure documentation for Tracts 1A and 1B is included in Appendix IIE.

Comment 8. A Waste Acceptance Plan (WAP) is required in accordance with 30 TAC §330.61(b). Please summarize the special wastes that will be accepted (described in detail in Part IV, Appendix IVF) into the WAP. Expand the WAP to include materials that would be stored or processed at the facility, as required by 30 TAC §330.61(b)(1) and 30 TAC §330.203.

Response 8. Part II, Section 2.1 has been updated to summarize the special wastes that will be accepted and the materials that would be stored or processed at the facility, as requested.

Comment 9. In the WAP, please provide parametric limitations of each type of waste to be managed by the facility in accordance with 30 TAC §330.61(b)(1). For example, constituent levels for Class 1 waste would be limits for waste that could be accepted, and the presence of free liquids would indicate that waste must be stabilized before disposal. Please note that this information should also be addressed for storage and processing units, as required under 30 TAC §330.203.

Response 9. Part II, Section 2.1 has been revised to provide additional information concerning waste acceptance, as requested.

Comment 10. In accordance with 30 TAC §330.61(b)(1)(C), a WAP must include an estimate of the maximum annual waste acceptance rate for disposal, projected for five years. The information provided in the WAP begins with the year 2015 and only provides a three-year projection. Please update to provide a five-year projection.

Response 10. Part II, Section 2.2, Table II-1 has been revised to provide waste volume projects for five years, starting from 2017.

Comment 11. As required by 30 TAC §330.61(c)(10), easements within and adjacent to the facility must be illustrated. Figure II-4 illustrates some easements, but is inconsistent with Figure IC-2. With consideration of the comment regarding easements and Figure IC-2 above, please make certain that easement information is consistent within the application.

Response 11. Figure II-4 has been updated to include all easements, consistent with Part I, Figure IC-2. Two notes (Notes 2 and 3) have also been added to Figure II-4 to address the abandonment of easements within the waste footprint. These same notes are also on Figure IC-2.

Comment 12. In accordance with 30 TAC §330.61(d), a facility layout map must identify the location of all solid waste management units. While Part III, Figure III-1-2 clarifies that the liquid waste processing area will be moved as needed within lined areas, it is not clear from Figure II-4 or sequencing figures in Part II. Please clarify the location of the liquid waste processing area on a facility layout map in Part II in accordance with the cited rule. Address all waste storage and processing areas (see at a minimum the list in Part IV, Section 4.6) either by illustrating them or explaining in a note how they will be located within the facility.

Response 12. Figure II-4 has been revised to include a note addressing the location of all solid waste management units.

Comment 13. Please explain why leachate evaporation ponds located on closed waste disposal unit Tract 1B, as illustrated in Figure II-4 and others, do not represent ponded water over waste, which is prohibited under 30 TAC §330.167. Also, Section 4.29 indicates that leachate and gas condensate could be recirculated. Contaminated water includes leachate and gas condensate. Please clarify the last sentence of Section 4.23.1, to

indicate that contaminated water, *except leachate and gas condensate*, will not be recirculated.

Response 13. Part II, Section 1.2 has been updated to address the leachate storage/evaporation ponds. The leachate storage/evaporation ponds do not constitute the unauthorized ponding of water over waste. The leachate storage/evaporation ponds are engineered structures that TCEQ approved via permit modification requests in 2002 and 2004. The permit modification requests, and TCEQ's approvals of those requests, were subsequent to the TCEQ-approved closure of the waste disposal unit on Tract 1B in 1994. These TCEQ-approved engineered ponds are distinct from the unauthorized ponding scenario contemplated by 30 TAC §330.167, which is directed at surficial depressions on the landfill that can "be filled in and regraded within seven days of the occurrence" of ponding.

The last sentence of Part IV, Section 4.23.1, has been revised as requested.

Comment 14. In accordance with 30 TAC §330.61(d), please provide a facility layout figure that includes windbreaks, greenbelts, and visual screening, or a note to explain their locations or absence.

Response 14. Figure II-4 has been updated to include two notes (Notes 5 and 6) to address the windbreaks, greenbelts, and visual screening around the site.

Comment 15. In accordance with 30 TAC §330.61(d)(9)(E), the application must include a figure that illustrates the maximum waste elevation and maximum final cover elevation. Figure II-4 shows the maximum final cover elevation, but the maximum waste elevation could not be located. Please provide this datum on a site layout figure.

Response 15. Figure II-4 has been revised to include the maximum waste elevation.

Comment 16. To address the requirements of 30 TAC §330.61(h)(1), zoning information is provided in a land use analysis report in Appendix IIB.

Comment a. Text refers to a corporate limit, while the figures illustrate a city limit. Please clarify whether these are referring to the same limit.

Response a. The referenced/illustrated city limit and corporate limit are the same limit. Part II, Appendix IIB, the Land Use Analysis Report has been revised to use the term "city limit."

Comment b. It is confusing to indicate that Temple zoning regulations do not extend past the corporate limit (page 3 of 10) but that the expansion area, which is beyond the illustrated city limit, is zoned. Please expand the land use analysis report, or direct staff to its location, to make clear that changes have occurred to the city limit since the figures, or the figures on which they were based, were prepared. Also, this rule requires a copy of any nonconforming use or special permit required for the facility.

Response b. The city limit has been expanded to cover the expansion area. Appendix IIB and Drawings 1 through 6 3 have been updated to reflect the current City limit. The city limit on Figures 4 through 6 was not revised since those figures are from the City of Temple Comprehensive Plan, completed in 2008. The proposed use for the facility was approved in the conditional use permit approved by the City of Temple on June 2, 2016 (Ordinance No. 2016-4773). With the

CUPs for the existing and expansion area of the landfill, there are no nonconforming land uses or additional special permit required for the facility.

Comment c. The land use analysis report indicates that the proposed permit boundary is all zoned under a conditional use permit (CUP); however, the ordinance that establishes the CUP, provided at the back of the report, appears only to address the expansion area. Please provide documentation of the CUP for the entire property.

Response c. Part II, Appendix IIB, the Land Use Analysis Report has been updated to address the CUP for the entire property.

Drawing 2 is a copy of the City of Temple's zoning map that documents the CUP for the entire site.

Comment 17. Paragraph 30 TAC §330.61(h)(3) requires information about growth trends within five miles of the proposed permit boundary. Growth information is provided in the land use analysis report in Appendix IIB. This information appears to be based primarily on Drawings 4, 5, and 6, which are excerpted from the Temple Comprehensive Plan.

Comment a. Drawing 4 needs a scale and north arrow, and clarification that the symbol shown for extraterritorial jurisdiction (ETJ) is the dashed line surrounding the light green areas on the figure. Please update this figure to address these concerns.

Response a. Drawing 4 has been updated as requested.

Comment b. The 5-mile radius on these figures appears to have been developed as a circle centered within the property, rather than on distance from the permit boundary. It appears that the Temple Comprehensive Plan is limited to the extraterritorial jurisdiction, which does not extend five miles from the permit boundary to the east. Finally, the five-mile radius illustrated on these figures extends beyond the limits of the figure. Please expand associated text or otherwise update information to ensure that the five-mile requirement for growth trends has been met.

Response b. Figures 4, 5, and 6 have been reprinted to scale to provide the five-mile radius. The Land Use Analysis Report, Section "Growth Trends and Directions of Major Development" has been updated to ensure that the five-mile requirement for growth trends has been met.

Per Texas law, the ETJ radius for the City of Temple extends outward a maximum of 3.5 miles from the city limits, and the City can only regulate land development within its city limits and ETJ. Consequently, the City of Temple's Comprehensive Plan does not extend beyond the city's ETJ, which does not extend five miles from the permit boundary to the east. Thus, the five-mile radius illustrated on Figures 4, 5, and 6, which are from the Temple Comprehensive Plan, extends beyond the limits of the figures.

The Land Use Analysis Report has been modified to address growth trends within the five-mile radius, in the section titled "Growth Trends and Directions of Major Development."

Comment 18. A Transportation Study is provided in Appendix IIA-3 to address the requirements of 30 TAC §330.63(i)(1) through (4). Please explain the difference between "Waste Management branded vehicles" and "other waste hauling vehicles" in the traffic breakdowns provided in Tables II.A-3-9 through -15.

Response 18. Part II, Section 9.1 has been revised to clarify these terms.

Comment 19. In accordance with 30 TAC §330.61(i)(4), the application must include documentation of coordination with the Texas Department of Transportation (TxDOT) regarding the proposed facility and any roadway improvements. Section 9.1 indicates that these documents are provided in Appendix IIA-3, but the only letter to or from TxDOT is in the Appendix requesting traffic projections for Loop 363 and State Highway 53. Please demonstrate that the traffic study information has been provided to TxDOT and that they have clarified whether any road improvements are needed.

Response 19. Further transportation coordination has been initiated among the City of Temple, Bell County, and TxDOT. The City of Temple response letter has been added to Part II, Appendix IIA-3. A copy of an email documenting receipt of the Traffic Study is also included in Part II, Appendix IIA-3. Bell County's and TxDOT's responses, once received, will be provided to TCEQ and added to Part II, Appendix IIA-3.

Comment 20. To address the requirements of 30 TAC §330.61(m)(2) and (3) and 30 TAC §330.553, wetlands are discussed in Section 14 and a wetlands assessment is provided in Appendix IIC-2. This information appears to address only the expansion area. Wetlands information must address the entire proposed permit boundary. Information in the current permit for the existing permit boundary may be used to supplement the information for the expansion if the combined reports address the entire proposed permit boundary.

Response 20. Part II, Section 14 has been revised to address the wetlands assessment for the existing MSW-692A permit boundary. Additional documentation is provided in Appendix IIG-1.

Comment 21. Section 14.2 indicates that the affected jurisdictional ephemeral streams will be addressed by a Nationwide Permit (NWP). The authorization under the NWP from the Corps of Engineers is provided in Appendix IIC-2D. The NWP includes a special provision that the permittee must implement and abide by the revised mitigation plan dated January 12, 2016, that was included in the response to Texas Parks and Wildlife on the proposed project dated December 16, 2015. It is not clear where the revised mitigation plan is located in the application, and how provisions within it have been addressed in other parts of the application, such as discussions in Part II for site-specific conditions requiring special design considerations and possible mitigation under 30 TAC §330.61(a), in Section 2.3 in Part III, or in the Site Operating Plan (SOP), possibly under 30 TAC §330.157.

Response 21. The Texas Parks and Wildlife Department (TPWD) comments were regarding the recalculation of the required credit for the wetland mitigation. The TPWD comments were conveyed to the US Army Corps of Engineers (USACE) directly in a letter from TPWD dated December 16, 2015. USACE conveyed the TPWD comments to WMTX and its consultant in an e-mail dated December 22, 2015, and requested a response. The December 16, 2015 letter and the December 22, 2015 e-mail are added to Appendix IIC-2F.

WMTX and its consultant responded to TPWD's comments in a letter to USACE dated January 12, 2016 (i.e., the revised mitigation plan, which was subsequently approved by the USACE on February 19, 2016). The special provision refers to the

recalculated credit for wetland mitigation included in the revised mitigation plan. There are no other special provisions that would entail changes to Part III or Part IV.

The mitigation requirement has been fulfilled through the purchase of the required mitigation credit; the credit transaction report is provided in Appendix IIC-2E.

Since the TPWD letter was addressed to the USACE, there was no direct response from WMTX to TPWD on this specific matter.

Comment 22. In accordance with 30 TAC §330.61(m)(3) and 30 TAC §330.553, the locations of any wetlands identified within the permit boundary must be provided. For the expansion area only, it appears that Figure 6 in Appendix IIC-2 is intended to provide this information. The report indicates that there are 344 feet of ephemeral streams that would be affected by proposed activities, and the legend to Figure 6 provides a designation for "Jurisdictional Creek." No jurisdictional creeks or ephemeral streams seem to be illustrated on the figure. Please explain and provide a figure to adequately address the cited rule.

Response 22. Appendix IIC-2, Figure 6 was included in the submittal to the USACE which indicates the "Limits of Impacted Area" (the ephemeral stream); therefore, no change was made to Figure 6. The ephemeral stream has been added to Figure II-7.1.

Comment 23. To address the requirements of 30 TAC §330.61(n)(2), threatened and endangered species are discussed in Section 15.0 and an Endangered Species Assessment Report is provided in Appendix IIA-4. The report appears to address only the expansion area. Threatened and endangered species information must address the entire proposed permit boundary. Information in the current permit for the existing permit boundary may be used to supplement the information for the expansion if the combined reports address the entire proposed permit boundary.

Response 23. Part II, Section 15 has been revised to provide the letter indicating that no negative impacts to rare species or natural communities will occur as a result of the MSW Permit No. 692A construction. Additional documentation is provided in Appendix IIG-2. Additionally, it should be noted that all areas associated with the MSW Permit No. 692A have either been constructed or disturbed as approved in the MSW Permit No. 692A Site Development Plan.

Comment 24. To address the requirements of 30 TAC §330.61(o), compliance with Texas Antiquities Code is discussed in Section 16.0 and supporting documentation, including correspondence with the Texas Historical Commission (THC), is provided in Appendix IIA-2.

Comment a. The assessment appears to address only part (expansion to the east, not to the northwest) of the expansion area, and does not address existing portions of the proposed facility. This information must address the entire proposed permit boundary. Information for the existing permit boundary may be used to supplement the information for the expansion if the combined reports address the entire proposed permit boundary.

Response a. Part II, Section 16 has been revised to reference correspondence with THC concerning the MSW Permit No. 692A area. As indicated above all areas associated with the MSW Permit No. 692A and the Citizen's Collection Station have either been constructed or disturbed as provided in the MSW Permit No. 692A Site

Development Plan. Additional documentation is provided in Appendix IIG-3.

Comment b. The information in Section 16.0 indicates that the "state Historic Preservation Officer determined that no historic properties are affected and the project may proceed." A letter from THC concluding this could not be located. Please expand Section 16.0 and reference the location of the THC final concurrence letter.

Response b. The requested letter has been added to Appendix IIA-2.

Comment 25. Section 1.1 notes that no solid waste disposal will occur within an easement, as required under 30 TAC §330.543(a); however, the second paragraph of Section 1.1 goes on to state that "remaining easements will not affect solid waste [activities]." Please provide further explanation of why easements will not affect solid waste activities and how this rule is being met.

Response 25. Part II, Section 1.1 has been revised to further explain the status of the easements at the site.

Comment 26. The locations of the proposed liquid waste stabilization area and white goods storage area do not appear to be illustrated on site layout plans. Please indicate them on appropriate figures for evaluation of their positions relative to buffer zones. Also, the extent of leachate evaporation ponds are poorly defined. Please define the outer edges of these units for consideration of buffer zones. In Figure II-9, the Citizen Collection Station appears to be about 12 feet from the permit boundary. Please explain how buffer requirements are addressed around the Citizen Collection Station.

Response 26. Figure II-4 has been revised to include Note 4 to address the locations of these areas. Buffer zone distances for the leachate evaporation ponds have also been identified on Figure II-4. In accordance with 30 TAC §330.543(b), because the landfill permit and TCEQ approval for the leachate ponds existed before 2006 when the new TCEQ rule became effective, the previously approved buffer zone will be maintained for the leachate pond area.

Part II, Section 1.1 has been revised to include a variance request for the buffer zone requirements around the Citizen Collection Station.

Comment 27. Please provide a figure that illustrates where vertical increases would occur as a result of this PAA (PAA), as these areas must meet the 125-foot buffer requirement under 30 TAC §330.543(b)(2)(B).

Response 27. Figure II-4 has been revised to illustrate where vertical increases will occur as a result of this PAA. The actual vertical expansion area will maintain buffer zones much greater than 125 feet, as the existing MSW-692A permitted final cover plan provides for 3H:1V sideslopes and the permit amendment will have 4H:1V slopes in areas that have not received final cover.

PART III – SITE DEVELOPMENT PLAN

Comment 28. Section 1.3.1 on page III-2 contains no text. Please explain.

Response 28. Part III, Section 1.3.1 has been updated to include text addressing zoning.

Comment 29. Section 2.1 discusses facility access and control features to address the requirements of 30 TAC §330.63(b)(1). This information indicates that fences will be provided along all boundaries to protect the site perimeter. Based on Figure III-1-2, this text does not appear to be completely accurate. The –x– designation for the fence does not extend throughout the permit boundary. The boundary is outside the fence in the southwest corner of the permit boundary and there is no fence illustrated in the northwest corner (entrance area) of the permit boundary. Based on Figure II-9 it appears that in the entrance area some fencing is provided by other City of Temple facilities outside the permit boundary and it is unclear where fencing is provided on the west side of the entrance area. Please expand text in Section 2.1 to more clearly explain access control features and correct figures as needed to better illustrate these features.

Response 29. Part III, Section 2.1 has been expanded to more clearly address the fence around the property boundary. Figure II-9 has been updated to show the existing fence around the site entrance, including the west side of the entrance area.

Comment 30. Sections 2.2.1 through 2.2.5 are provided to address the requirements of 30 TAC §330.63(b)(2)(D) through (F). This information needs expansion to more clearly demonstrate compliance with these rules. Where designs are provided, such as in Attachment 2 or 3, this should be referenced in these sections. Section 2.2 should also address leachate storage/evaporation ponds and should reference design drawings.

Response 30. Sections 2.2.1 through 2.2.5 have been expanded to explain the construction and design details in accordance with 30 TAC §330.63(b)(2)(D) through (F). Information concerning the leachate storage/evaporation ponds has also been added as Section 2.2.6.

Part III, Attachment 1 – General Facility Design

Comment 31. Figure III-1-1 provides a waste movement flow diagram to address the requirements of 30 TAC §330.63(b)(2)(A). Please review this figure for logic and choices (or absence) of symbols. For example, there is a branch with no decision (diamond) below the “Waste accepted for disposal?” decision. “Recyclable materials?” and “Load directed to appropriate staging areas processing required” are presented as actions (rectangles) rather than as decisions. The “Recyclable materials?” yes branch is confusing. Please review this figure and correct as necessary.

Response 31. Part III, Figure III-1-1 has been revised to clarify the waste movement flow.

Part III, Attachment 2 – Surface Water Drainage Report

Comment 32. In accordance with 30 TAC §330.305(b), the application must include a design of a run-on control system to prevent the 25-year storm event from entering the active face. Run-on berms are discussed in Section 4.2, but calculations in Appendix III-2B, referenced in Section 4.2, are for runoff from the active face. Please provide design calculations for berms required to prevent run-on at the active face.

Response 32. A new calculation for active face run-on control berms has been added as Part III, Attachment 2, Appendix III-2B-2. The existing calculation in Appendix III-2B has been renamed as Appendix III-2B-1.

Comment 33. Berms needed to manage runoff from the active face are discussed in Section 4.2 and design calculations are provided in Appendix III-2B. The runoff calculation does not appear to address the area enclosed by the storage area. Tables provided for berm height versus berm length for various active face areas and setbacks are provided as

Figures 1 through 4. The maximum active face area used in these figures is 40,000 square feet, while Section 4.6.1 and Table 6 in the SOP indicate that the largest active face is 400 feet x 200 feet, or 80,000 square feet. There is no explanation of berms running perpendicular to the containment berm for lateral containment of the collected contaminated water. It is unclear how the process described in the application (referring to the Site Development Plan for berm sizing) would be implemented to ensure adequate containment as the area of the active face changes. Address these concerns.

Response 33. The active face runoff berm design, Appendix III-2B-1, has been revised to include working face areas up to 80,000 square feet. The rainfall into the area enclosed by the storage area (i.e., the runoff ditch itself) is handled through the freeboard. A conservative freeboard of 1 foot was assumed in the berm design, which is greater than the 25-year, 24-hour design rainfall of 7.9 inches.

Perpendicular to the containment berm, side berms of the same size as the containment berm will be constructed to contain the collected contaminated water. Section 4.2 has been revised to address the side berms.

During site operations, active face runoff control is managed through daily review of the active working face and the containment area, based on the guidelines presented in Appendix III-2B-1. Adjustments will be made as needed. As discussed in Section 4.2, "The daily disposal operations will include an evaluation of the existing containment berms' capability to manage stormwater run-on and run-off." Section 4.2 has been revised to discuss the adjustments to the containment berms.

Comment 34. Appendix III-2C-1 provides intermediate cover soil erosion loss analysis, as required by 30 TAC §330.305(d). To calculate average flow velocity of shallow concentrated flow, Figure 3-1 is used from the United States Department of Agriculture Technical Release 55 (TR-55). This figure is provided as Figure 1 in Appendix III-2C-1. On Figure 1 for top slope surfaces, the 4% top slope is used, and a red line illustrates moving to the right, but stops before reaching the "Unpaved" line on the figure. Please explain why the red line stops at 3.2 feet per second. Also, it appears that an *average* velocity is being used to demonstrate that a *maximum* (non-erodible) velocity is not being exceeded. Please explain.

Response 34. The referenced red line was shifted erroneously. Appendix III-2C-1, Figure 1 has been updated to adjust the line properly. The referenced "average" velocity was simply a quote of the term used in USDA Technical Release 55 (TR 55), which is a typical term for velocity equations for any given slope; however, the most critical slope gradient is used in Appendix III-2C-1 to calculate the maximum velocity.

Comment 35. In accordance with 30 TAC §330.305(d), the application must demonstrate that, for final cover surfaces, peak velocities will not exceed permissible non-erodible velocities and that erosion rates will not exceed permissible soil losses. These velocity demonstrations could not be located. Please provide them. These demonstrations should also consider installed final cover surfaces at 3H:1V slopes. Appendix III-2E provides final cover erosion soil loss calculations. Please provide evaluation of 3H:1V slopes for final cover surfaces that have been installed.

Response 35. Appendix III-2E has been revised to include velocity demonstrations for the final cover.

Comment 36. In accordance with 30 TAC §330.305(g), the application must include an acknowledgement that contaminated water will be handled in accordance with 30 TAC §330.207. Please provide this acknowledgement.

Response 36. Section 4.2 has been revised to address contaminated water management.

Comment 37. In accordance with 30 TAC §330.63(c)(2)(D)(ii) and (iii), development within a floodplain requires a floodplain development permit from any agency with jurisdiction over the proposed improvement and a Conditional Letter of Map Amendment from the Federal Emergency Management Agency (FEMA). Section 6.0 indicates that no solid waste disposal operations will be conducted in the 100-year floodway, and the facility will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in the washout of solid waste; however, this is based partially on a Flood Study on the floodplain immediately south of the facility. The Flood Study is provided in Attachment 2F. This study has resulted in a significant reduction in the floodplain on the south side of the facility. Please provide concurrence of these finding through coordination with FEMA or another agency with jurisdiction over the floodplain.

Response 37. In accordance with 30 TAC §330.63(c)(2)(B), a flood study (i.e., “calculations and maps”) may be used to determine the floodplain “where a FEMA map is not used.”

A new Figure II-17.2 has been added to present the currently effective FIRM. The effective 100-year FEMA floodplain along the south side of the site was developed as part of the original FEMA study for the area using United States Geological Survey (USGS) quadrangle topography and a Soil Conservation Service (SCS) hydraulic analyses in 1982. The FEMA floodplain is not aligned with the current physical location of Little Elm Tributary No. 1. Accordingly, and as allowed by 30 TAC §330.63(c)(2)(B), a flood study was performed to account for updated topography in the area immediately south the facility (See Figure II-17.1). The flood study shows that the Tract 1 area is not within the calculated 100-year floodplain.

Part III, Attachment 3 – Waste Management Unit Design

Comment 38. Information in Section 6.2.1.6 regarding leachate storage/evaporation units is unclear. One is described as a 270,000-gallon steel tank underlain by a geomembrane liner that is underlain by a clay liner.

This tank is called “Pond A,” but subsequent text indicates that they are “in-ground ponds” and that the pond that has been constructed is called “Pond B.” Storage units must meet the requirements of 30 TAC §330.63(d)(1). Surface impoundments must meet the requirements of 30 TAC §330.63(d)(3). It appears that these units may be both tanks and impoundments. It is unclear how evaporation would occur in enclosed tanks. Please provide design drawings of the leachate storage/evaporation units and expand the description in Section 6.2.1.6, at a minimum, to meet the requirements of 30 TAC §330.63(d)(1) and (3), as appropriate.

Response 38. Design drawings of the leachate storage/evaporation ponds are included in Part II, Appendix IIF. Both ponds have open top. Part III, Attachment 3, Section 6.2.1.6 has been re-organized and expanded to address the leachate storage and evaporation ponds in accordance with 30 TAC §330.63(d)(1) and (3).

Comment 39. Section 2.1 addresses requirements for all-weather operation under 30 TAC §330.63(d)(4)(A). It provides appropriate materials for road surfaces, but concludes with “or other road building material.” Please delete this phrase or provide a performance standard for other road surface materials.

Response 39. Section 2.1 has been revised as requested.

Comment 40. In accordance with 30 TAC §330.63(d)(4)(E), the application must include a sufficient number of cross-sections across the facility. Cross-sections are provided as Figure III-3-3.1 through -3.4. Cross-sections must extend across the facility. Please address the following.

Comment a. Cross-sections must extend to each intersected permit boundary. Please illustrate and label the perimeter road on cross-sections and clarify whether any toe berms are present and, if so, illustrate and label them.

Response a. Figures III-3-3.1 through III-3-3.4 have been revised as requested.

Comment b. Side slopes must be labeled. As noted on page III-7-1, two areas where final cover has been installed have a 3 horizontal to 1 vertical (3H:1V) slope. It appears that cross-section B-B' crosses at least one of those areas, but no 3H:1V side slope area is indicated. Please clarify if cross-sections pass through 3H:1V side slope and, if so identify them on appropriate cross-sections.

Response b. Figure III-3-3.3 has been revised to identify the 3H:1V slopes.

Comment c. The legend on the cross-sections indicates that initial and static water levels are illustrated, but no water levels are displayed on the cross-sections. Please explain.

Response c. Notes have been added to Figures III-3-3.1 through III-3-3.4 to explain the groundwater levels. Recorded groundwater levels are already shown on the figures; for borings that groundwater levels are not available, the new notes explain the reasons.

Comment d. Large portions of numerous borings in the proposed expansion area are labeled as having no geologic data from the existing ground surface to a depth of about 40 feet. Please explain.

Response d. Those referenced borings were performed only for the purpose of identifying the weathered/unweathered rock interface; therefore, the top clay layer was not logged. These extra borings were performed in addition to the borings in the TCEQ-approved Site Boring Plan. They were performed to establish constructible limits of excavation.

Comment 41. The application proposes to utilize geocomposite drainage layers in the final cover, the liner system, the overliner system, and the underdrain system.

Comment a. Please explain how calculations for each ensure that leachate thicknesses will not exceed the thickness of the geocomposite drainage layer, as noted in the second bullet in Section 6.2.1.1.

Response a. Demonstration of the geocomposite capacity to ensure the leachate head will not exceed the thickness of the geocomposite drainage layer is provided in the following calculations:

Appendix III-3D-1 provides calculations for the liner system sideslopes. No revisions have been made as part of this submittal.

Appendix III-3D-2 provides calculations for the final cover system. No revisions have been made as part of this submittal.

Appendix III-3E-1 provides calculations for the floor area of the liner system. No revisions have been made in response to this comment.

Appendix III-3G-4 provides calculations for the overliner system. This calculation has been updated as part of this submittal to expand the discussion on the overliner system. The composite slope along the leachate flow path has been included in the calculation.

While the underdrain system will not collect leachate, a new calculation in Appendix III-3F-3C has been added to demonstrate the capacity of the geocomposite layer in the underdrain system to collect groundwater seepage (i.e., to ensure the groundwater head will not exceed the geocomposite thickness).

Comment b. Please explain how leachate recirculation and groundwater infiltration were considered in the demonstration of the adequacy of the geocomposite drainage layers in the liner and overliner systems.

Response b. Appendix III-3E-1 has been revised to include leachate recirculation for the intermediate and final conditions. Groundwater infiltration was considered in the original submittal as a subsurface inflow directly into the geocomposite leachate collection layer. No changes were made regarding the groundwater inflow. The overliner is an alternate liner with a geosynthetic clay liner; therefore, no leachate recirculation will be performed on top of the overliner area.

Comment 42. In accordance with 30 TAC §330.333(3)(G), the application must include a demonstration that leachate collection system pipes can be cleaned. Section 6.2.1.9 indicates that cleaning will typically be performed by an outside contractor with the necessary equipment, but provides no demonstration that this will be possible. Typically this involves a discussion of the maximum pipe distance required to achieve this task. Please address this requirement.

Response 42. Section 6.2.1.9 has been revised as requested.

Comment 43. Subsection 30 TAC §330.337(b) requires a demonstration that the liner system will not undergo uplift from hydrostatic forces during its construction by: (1) using ballast sufficient to offset uplift by a factor of 1.2 [the required safety factor is 1.5 if waste is used, as noted in 30 TAC §330.337(h)(4)];

(2) using an active or passive dewatering system to reduce inward or upward hydrostatic forces by a factor of 1.2; (3) providing evidence that groundwater cannot move sufficiently to exert force that would damage the liner; or (4) providing evidence that the seasonal high water table is below the deepest planned excavation. Option (3) was not sought and the excavation will be below the seasonal high water table, eliminating option (4).

Comment a. The checklist provided by email indicates that a demonstration to meet option 2 was provided in Appendix F, but a demonstration of the 1.2 safety factor for the dewatering system could not be located.

Response a. Appendix III-3F-3A calculated the pore water pressure on the liner system and demonstrated that the dewatering system can provide a factor of safety greater than 1.2 (Page 6). The maximum pore water pressure is 109 psf and the 2-foot protective cover provides an offset ballast greater than 210 psf; therefore, the factor of safety is greater than 1.2. No revisions were made to the PAA in response to this comment.

Comment b. Calculations to demonstrate the 1.5 safety factor where waste is used as ballast are provided in Appendix III-3F-4. Please explain how evaluation points were selected.

Response b. The evaluation points were selected where the potentiometric head is the greatest and the waste thickness is the thinnest (i.e., the critical locations). The points are located near the toe of the waste sideslopes, as explained in Appendix III-3F-4. No revisions were made to the PAA in response to this comment.

Comment c. A review of calculated safety factors in Table 1 in Appendix F notes that rounding was needed to reach the required safety factor of 1.5 for the first three evaluation points. Each of these values is actually less than 1.5. Please explain.

Response c. Appendix III-3F-4 was revised based on the updated potentiometric maps (see Response to Comment 60). The updated ballast calculations show that the factor of safety is no less than 1.5 at the evaluation locations.

Comment 44. In accordance with 30 TAC §330.339(a) and (b)(3), the liner quality control plan must describe testing for geomembranes. This information is provided in Appendix F, Chapter 3. The July 1, 1994 Liner Construction and Testing Handbook (Liner Handbook) provides suggestions on the methods and frequency of these tests, though other appropriate guidance exists. Please explain the following discrepancies between Appendix F and the Liner Handbook. Changes should be made in all (liner, overliner, final cover) quality control plans, as appropriate. If methods are taken from GRI guidance, explain this and follow frequencies from the same guidance.

Comment a. The Liner Handbook notes that conformance testing must be provided by a third party. The liner quality control plan does not appear to indicate this.

Response a. Part III, Attachment 3, Appendix F, Section 3.1.1 has been revised to include the third-party testing requirement.

Comment b. For density, the Liner Handbook specifies ASTM Method D1505. Appendix F, Table III-3F-3 specifies D1505 or D792.

Response b. This is per the most current GRI Test Method GM13, dated January 6, 2016, which states that geomembrane density can be measured by ASTM D1505 or ASTM D792. GRI standards represent the most current industry practice on geosynthetics. GRI standards, unless otherwise noted, are used in all (liner, overliner, final cover) quality control plans included in the PAA.

Since the release of the above-referenced 1994 Liner Handbook, the geosynthetics industry has progressed significantly. The quality control plans are based on current industry practice, GRI guidance, and ASTM standards.

Comment c. For carbon black content, the Liner Handbook specifies ASTM Method D1603. Appendix F, Table III-3F-3 specifies D4218.

Response c. ASTM D4218 is based on GRI Test Method GM13. Table III-3F-3 has been updated to include a discussion on carbon black content testing to include D1603.

The same changes have been made to the overliner quality control plan (Appendix III-3H, Section 4.1.1, Table III-3H-3) and final cover quality control plan (Attachment 7A, Section 3.1.1, Table III-7A-3).

Comment d. The Liner Handbook notes that trial test seams must be made at each occurrence of significantly different environmental conditions, including but not limited to temperature, humidity, and dust, and after any machine is turned off for more than 30 minutes. The liner quality control plan does not appear to indicate this.

Response d. Appendix F, Section 3.3.1 has been revised as requested. The same changes have been made to Part III, Appendix III-3H, Section 4.3.1 and Part III, Appendix III-7A Section 3.3.1.

Comment e. The Liner Handbook notes that for air-pressure testing, the channel is pressurized and observed for five minutes. The liner quality control plan indicates that the assessment begins after two minutes.

Response e. Current ASTM D5820, Standard Practice for Pressurized Air Channel Evaluation of Dual Seamed Geomembranes, dated 2011, specifies two minutes. No revisions were made to the PAA in response to this comment.

Comment f. The Liner Handbook notes that destructive samples must be taken at least once for every 500 feet of seam or major fraction thereof and that total footage of repairs more than 10 feet in length must be counted and destructively tested at the same frequency. The liner quality control plan indicates that the frequency will include repairs 20 feet or longer.

Response f. The 20-foot criterion was selected due to the consideration of destructive samples. The destructive sample patch alone is more than 10 feet in total footage (typically the destructive patch size is 5 feet by 2 feet with a perimeter of 14 feet); therefore, it is more practical to take samples on repairs 20 feet or longer rather than 10 feet. No revisions were made to the PAA in response to this comment.

Comment g. The Liner Handbook notes that the anchor trench must be backfilled and compacted to at least 90% of the maximum dry density as determined by the moisture/density compaction relationship. The liner quality control plan says that the trench will be backfilled and compacted "according to the project plans and specifications.

Response g. A compaction effort was not specified for the anchor trench backfill material for the protection of geosynthetic liner materials. Appendix F, Section 3.2.2 has been revised to clarify the compaction effort for the anchor trench backfill.

Comment 45. In accordance with 30 TAC §330.339(c)(4), the liner quality control plan must define the frequency of testing for each of the test procedures listed in subparagraphs (A) through (F) of this paragraph. This information is provided primarily in Appendix F, Table III-3F-1, Table III-3F-2, and Section 2.3.5. The Liner Handbook provides suggestions on the methods and frequency of these tests. Please explain the following discrepancies between Appendix F and the Liner Handbook. Changes should be made in all (liner, overliner, final cover) quality control plans, as appropriate.

Comment a. For field density, the Liner Handbook specifies ASTM Methods D1556, D2167, or D2922. Appendix F specifies D1556, D6938, or D2937.

Response a. Appendix F includes the current ASTM methods. The new ASTM D6938, Standard Test Methods for In Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods, was originally released in 2006. Section 1.1 of ASTM D6938 indicates that “this standard replaces D2922.”

Per ASTM, Method D2922 was withdrawn in 2007 and replaced by the active standard ASTM D6938.

ASTM D2937, Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method, is an alternative to nuclear methods and an active ASTM standard.

Comment b. Note 3 in Table III-3F-2 is an abbreviated example of Note 3 in Table III-3F-1. The full note is needed to address 30 TAC §330.339(c)(4)(A).

Response b. Table III-3F-2, Note 3 has been revised as requested.

Comment c. Frequencies for parallel lifts in Table III-3F-2 include the phrase “for each monolithic liner section,” which is not included in the Liner Handbook.

Response c. The phrase “monolithic liner section” has been removed from Table III-3F-2.

Comment d. Frequencies for horizontal lifts in Table III-3F-2 include the phrase “height of clay berm” in place of the phrase “sidewall liner” in the Liner Handbook.

Response d. Sidewall liner is addressed in Note 1 of Table III-3F-2. The sidewall liner will be constructed in parallel lifts, rather than horizontal lifts so the last column of Table III-3F-2 doesn’t apply to the sidewall liner. The “clay berm” in the last column of Table III-3F-2 refers to berms such as inter cell berms, where horizontal lifts may be used.

Comment 46. In accordance with 30 TAC §330.339(d), soil and liner density must be expressed as a percentage of the maximum dry density and at the corresponding optimum moisture content specified, as appropriate. This requirement could not be located in Attachment F. Changes should be made in all (liner, overliner, final cover) quality control plans, as appropriate.

Response 46. Part III, Attachment 3, Appendix F, Section 2.2.4 has been revised to clarify the density reporting criteria.

Part III, Attachment 3, Appendix H, Overliner System Liner Quality Control Plan does not require revision as no soil liner is included in the overliner system.

Part III, Attachment 7A, Final Cover Quality Control Plan, Section 2.2.4 has been revised to clarify the density reporting criteria.

Comment 47. Subsection 30 TAC §330.339(h) limits rocks and stones in soil for liner construction to no more than one inch in diameter and no more than 10% by weight. While the one-inch particle size limit is addressed in Section 2.1 in Appendix F, the 10% limit could not be located. Changes should be made in all (liner, overliner, final cover) quality control plans, as appropriate.

Response 47. Part III, Attachment 3, Appendix F, Section 2.1 has been revised to include the requirement as requested.

Part III, Attachment 3, Appendix H, Overliner System Liner Quality Control Plan does not require revision as no soil liner is included in the overliner system.

Part III, Attachment 7A, Final Cover Quality Control Plan, Section 2.1 has been revised to include the requirement as requested.

Comment 48. Figure III-3-9.2 provides overliner cross-sections. References on this figure to overliner system details appear to be incorrect. This figure indicates details 1, 3, and 4 on Figure III-3-8. There are no details 1, 3, and 4 on Figure III-3-8. It appears that these should be numbered 22, 24, and 25. Please correct the detail numbers and ensure that this error has not occurred elsewhere. Also, please define the dotted line that extends to the left of the overliner anchor trench on Figure III-3-9.2 and corresponding solid line on Figure III-3-8, detail 24.

Response 48. Figures III-3-8 and III-3-9.2 have been revised as requested.

Comment 49. Various stability analyses are provided in Appendix III-3C.

Comment a. Sources for parameters are noted as Golder, Golder 2015, Jones & Neuse 1993, Estimate, and Estimate-Conservative. Some parameters have an explanation of how they were developed, but many do not. Please provide justification for all parameters used in these assessments, or use published data and reference as such.

Response a. References were added for all parameters used in calculations Appendix III-3C-1, III-3C-2, III-3C-3, III-3C-4, and III-3C-5.

- (i)** Jones & Neuse 1993 refers to the previous geotechnical investigation performed for purposes of the MSW-692A PAA. These geotechnical data were based on consolidated undrained triaxial shear testing. Testing results are included in Part III, Attachment 4, Appendix III-4D.
- (ii)** Shear strengths of the cover soils, clay liner, and clay liner/subgrade interface have been estimated based on the average plasticity index of Stratum I and II soils at the site, using Bjerrum and Simons (1960).

- (iii) **Interface strength between geonet/geotextile has been estimated based on Bergado et al. (2006) in III-3C-4.**
- (iv) **Other interface strengths between soil/geosynthetics and geosynthetics/geosynthetics were based on tests performed in Golder's laboratory. Graphs summarizing the testing data are included in the calculations.**

Comment b. Please update all (liner, overliner, final cover) quality control plans to reflect that geomembrane liner evaluation reports will include confirmation of the interface friction angle for the geocomposite/textured geomembrane interface and a recalculation of the factor of safety.

Response b. **Part III, Attachment 3, Appendix F, Section 7.1 has been revised as requested.**

Part III, Attachment 3, Appendix H, Overliner System Liner Quality Control Plan, Section 7.1 has been revised as requested.

Part III, Attachment 7A, Final Cover Quality Control Plan, Section 5.1 has been revised as requested.

Comment c. Please update all (liner, overliner, final cover) stability analyses to calculate factors of safety for all materials/interfaces. Provide minimum allowable factors of safety, with source references, for each standard.

Response c. **In the slope stability calculations, all materials/interfaces were considered and the corresponding shear strengths are presented in the tables. The minimum shear strength was used in the slope stability analysis to calculate a factor of safety for each slope configuration. All calculations have been updated to discuss the minimum allowable factor of safety.**

Comment d. Please explain how 3H:1V final cover slopes, the interfaces between future final cover systems and the existing cover systems on Tracts 2A and 3, and the geocomposite daylight drainage illustrated in Detail 2 on Figure III-7-2.1 will affect stability of the final cover system.

Response d. **The tie-in details have been added to Figure III-7-2.1. The tie-in will provide a smooth transition between the future final cover and the existing final cover systems; therefore, the final cover slope stability will not be affected. Additionally, the future final cover upslope of existing final cover will have the geocomposite daylighted at the tie-in location to prevent drainage into the existing final cover. The geocomposite daylight detail in the future final cover system is designed to limit the flow length to ensure hydraulic head will be contained within the geocomposite layer, improving the stability of the final cover slopes.**

Part III, Attachment 4 – Geology Report (Mamadou Balde)

Comment 50. Most of the boring logs in Appendix III-4B-2 do not have the borehole location coordinates and surface elevation. Some do not have a boring number or have the number duplicated. Please clarify how the coordinates and elevations reported in Table

III-4-3 were obtained. Please provide on the logs all the information required by 30 TAC §330.63(e)(4).

Response 50. Golder cannot revise the non-Golder boring logs as these logs were developed and prepared by professionals with other firms. Golder cannot take work performed and prepared by others and revise it and present it as the work of Golder professionals. Additionally, there are potential liability issues that preclude such revisions. Therefore, no changes have been made to the non-Golder boring logs.

As such, the following information is provided to clarify the source of the coordinates and elevations for the non-Golder borings. The borehole location coordinates and surface elevations for borings installed by Trinity Engineers (1979), Jones & Neuse (1993), Rust (1993), Rust (1994), and Rust (1996) were retrieved from the table found on Figure 4-7 of the Geology Report in the Rust E&I (1999) previous PAA for Permit No. MSW-692A. The borehole location coordinates and surface elevations for borings installed by Tetra Tech in 2010 were extracted from Figure 1 of the Installation Report for Groundwater Monitoring Wells by Tetra Tech dated January 28, 2011. In Table III-4-3 of the instant PAA for Permit No. MSW-692B, the heading of each set of borings references how the boring logs are labeled if the boring number is relabeled in the table.

The locations of the monitoring and piezometers wells on this figure have been surveyed by Surveying and Mapping, LLC. (SAM) as indicated in the response to Comment 64.

Comment 51. The cross-sections (Figures III-4-13.1 to 7) prepared in response to 30 TAC §330.63(e)(4)(G) are not adequately annotated. Per 30 TAC §330.63(e)(5)(C) please annotate these cross-sections with the initial and static water level for each of the borings that produced water. Please flag out the dry holes.

Response 51. For clarification, a second note was added to the cross-sections referring to the wet rotary drilling methodology used to install the borings, in which no initial or static water levels were accurately obtained. Dry boreholes were also noted where applicable.

Comment 52. In accordance with 30 TAC §330.63(e)(1)(B) please provide a description of the lithology and hydraulic conductivity of the geologic units referred to in Table 4.1 and Section 3. Please elaborate on the depositional history of each of the units.

Response 52. The lithology of each geologic unit is described in Table III-4-1 under the *Lithology* column, which was previously called *Character of Rocks*. Hydraulic conductivities, as available from published sources of the geologic units, are listed in Table III-4-1 in the *Water Bearing Properties/Hydraulic Conductivity* column. Only a few hydraulic conductivities for water bearing units were able to be referenced, and these are general values. These values were also discussed in Section 3.1. A column describing the depositional history of the geologic units was added to Table III-4-1.

Comment 53. In accordance with 30 TAC §330.63(e)(3)(E) please discuss whether any of the regional aquifers are interconnected, for example through existing faults and fault systems.

Response 53. Regional aquifers may be interconnected to some extent through the Balcones Fault Zone located to the west, which may provide preferential pathways for

migration. However, as shown on Figure III-4-6 and based on a review of published geologic information located during preparation of this PAA, there are no faults identified within two miles of the site. Further discussion is found in Section 4.1.

Comment 54. In accordance with 30 TAC §330.63(e)(3)(F) please provide water-table map or potentiometric surface map for each of the listed regional aquifers.

Response 54. An additional potentiometric surface map for the northern segment of the Edwards Aquifer is provided as Figure III-4-9.3. Reference to the figure was added to Section 4.1.1.

Comment 55. In accordance with 30 TAC §330.63(e)(3)(G) please provide an estimate of the rate of groundwater flow of the regional aquifers.

Response 55. Hydraulic conductivities for the regional aquifers are found in Table III-4-1 under the *Water Bearing Properties/Hydraulic Conductivities* column.

Comment 56. In accordance with 30 TAC §330.63(e)(3)(I) please identify the areas of recharge to the aquifers within 5 miles of the site (please note that the small scale map in Figure III-4-8 does not adequately provide the required information).

Response 56. Figure III-4-8 has been revised with a geologic base map showing a five-mile radius around the site. This encompasses the recharge areas near the site, which includes quaternary alluvium along Little Elm Creek, Cottonwood Creek, and Big Elm Creek to the east.

Comment 57. In accordance with 30 TAC §330.63(e)(4) please add to the map on Figure III-4-11 the elevations of the surveyed borings.

Response 57. Figure III-4-11 was revised by adding a table to show the ground elevations (ft-msl) for each of the surveyed borings on the figure.

Comment 58. For clarity and in accordance with 30 TAC §330.57(d) please explain and/or illustrate how the site stratigraphy as described in Section 5.2 relates to, or fit within the regional stratigraphic column depicted in Table III-4-1 and Section 3.0. Specifically, please indicate which of the stratigraphic units in Table III-4-1 were investigated through the different boring plans that were implemented.

Response 58. The three site stratigraphic units described in Section 5.2 are part of the Upper Cretaceous age Taylor Group, which is composed of the Ozan Formation, Wolfe City, and Pecan Gap Chalk. These units are generally considered together as the "Taylor Marl." The stratigraphic units are correlated with the regional geologic units to which they belong in Section 3.0 and Table III-4-1. Specifically, Stratum I and Stratum II are weathered claystone that is part of the Ozan Formation, and Stratum III is unweathered claystone in the Taylor Group.

Part III, Attachment 5 – Groundwater Characterization and Monitoring (Mamadou Balde)

Comment 59. The groundwater monitoring system required by 30 TAC §330.403(e)(1) must be based on site-specific technical information. Please revise Section 6.0 – Groundwater Investigation Report, to discuss the thickness and hydraulic characteristics of the regulated uppermost aquifer.

Response 59. Section 6.2.2 along with Table III-4-10 and Table III-4-11 describe the hydraulic properties and groundwater velocity from investigations at the site. Additional information was provided pertaining to the thickness of the uppermost aquifer, which is approximately 32.5 feet in the eastern expansion area. Further information on how the aquifer thickness was approximated is provided in Section 6.2.2.

Comment 60. It appears that the groundwater flow direction in Figures III-5-5.1 to 6 is based on unevenly distributed boreholes and very large data gaps. It also appears that the initial/static water level in several of the piezometers/monitoring wells was not factored in the analysis of the site hydrogeology and hydraulic characterization. Please explain how this sparsity of data/lack of information was accounted for in the determination of flow rate, flow direction and temporal fluctuation in flow, which are required by 30 TAC §330.403(e)(1).

Response 60. The initial/static water levels of the piezometers and monitoring wells were not factored into the analysis of the site hydrogeology and hydraulic characterization due to the wet rotary drilling method used. In most cases, the wet rotary method was used during drilling and would not allow for accurate initial water levels, as the water in the borehole was not representative of aquifer conditions. Static water levels would take longer than 24 hours to stabilize and, therefore, after initial installation, water levels are more difficult to determine.

The potentiometric surface maps (Figures III-4-14.1 through 7) were revised to show the landfill footprint, and were also updated to take into account some of the areas with sparse data. Additionally, groundwater transport and flow are largely controlled by the weathered/unweathered interface. Structural contours for the interface were underlain on the potentiometric maps to further understand and interpolate hydraulic conditions where limited data were available.

Anomalous water levels were not taken into account during evaluation of groundwater flow conditions. Some of the data gaps in the western portion of the permit boundary are due to the presence of the landfill.

Comment 61. Per 30 TAC §330.403(a)(2) monitoring wells shall be installed to allow the determination of the quality of groundwater passing the point of compliance. Please revise Figure III-5-6 to show the limit of waste and verify that the point of compliance is located in accordance with 30 TAC §330.3(106). Please identify and relocate any well found to be outside the point of compliance.

Response 61. The limit of waste line was made more prominent and distances between the limit of waste and point of compliance limit were added to Figure III-5-6. No wells were relocated as part of the response to this comment.

Comment 62. Contaminant Pathway Analysis (Section 3.3.2): it is stated that contaminants are likely to move horizontally. Per 30 TAC §330.63(f)(3) please discuss the basis for this statement including any groundwater modeling data and considerations of changes of groundwater flow related to facility construction.

Response 62. The permeabilities of the three strata are discussed in Attachment 4, Section 5.3, to support the conclusion that contaminants would move horizontally. Due to the low permeabilities of the strata, vertical movement would be impeded and result in a predominantly horizontal movement. Any penetration into the unweathered unit would be limited. Groundwater modeling was not conducted other than to develop potentiometric flow maps. Additional text was added to Attachment 5, Section 3.3.2 to connect the discussion in Attachment 4, Section 5.3.

Comment 63. Per 330.421(a)(1)(D) please provide a log of boring, signed, sealed and dated by a PG or PE.

Response 63. The boring log flyer sheet for Appendix III-4B-1 was signed, sealed, and dated by Christina Higginbotham, PG, with Golder Associates, for the borings logged by Golder Associates. A note on the bottom of each Golder boring log states: "This log should not be used separately from the original report." Non-Golder boring logs were not, and should not be, sealed by a Golder PG or PE as indicated in the Response to Comment 50.

Comment 64. Per 30 TAC §330.421(d), groundwater monitoring wells shall be surveyed by a registered professional surveyor (RPLS) and the elevations shall be surveyed to the nearest 0.01 foot above mean sea level. Please ensure that all monitoring wells are positioned by an RPLS and revise the application to include a signed and sealed copy of the surveyed points for the existing monitoring wells.

Response 64. The surveyed points of the groundwater monitoring wells were provided by a registered professional surveyor (RPLS), Gentry Hanson of SAM. The signed and sealed copy of the survey information is provided in Appendix III-5C.

Comment 65. Per 30 TAC §330.63(f)(2) please state whether any contamination plume from the waste management unit has been detected; describe as applicable.

Response 65. As discussed in Attachment 5, Section 4.0, Groundwater Monitoring Data, no contamination plume from the waste management unit has been detected. As stated in Section 4.0, none of the facility's groundwater monitoring wells are currently, or have previously been, in assessment monitoring or corrective action. Discussion in Section 4.0 explains why constituent detections from the monitoring well system are not due to an impact from the landfill unit. For example, many constituents with elevated concentrations over the respective maximum contamination levels (MCLs) represent natural spatial or temporal variability of groundwater quality un-impacted by the landfill unit. Other constituents over the MCL were below their respective upper statistical control limit provided in the 2014 Background Update Report by Tetra Tech in 2014.

Part III, Attachment 5, Appendix 5B – Groundwater Sampling and Analysis Plan (Mamadou Balde)

Comment 66. In accordance with 30 TAC §330.401(f) please acknowledge that groundwater monitoring must be conducted throughout the active life and any required post-closure care period.

Response 66. The text of Section 1.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested. In addition, Section 5.2 of the GWSAP reiterates this requirement.

Comment 67. In accordance with 30 TAC §330.403(d) please acknowledge that all parts of the groundwater monitoring system shall be operated and maintained so that they perform at least to design specifications.

Response 67. The text of Section 1.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested.

Comment 68. Please acknowledge the requirements of 30 TAC §330.403(e)(3) on notifying the executive director and others, of any changes in facility construction or operation that

affect or are likely to affect direction and rate of groundwater flow, and the potential for detecting contaminants from the waste management unit.

Response 68. The text of Section 1.0 of the Part III, Attachment 5, Appendix III-5B, has been revised as requested.

Comment 69. Current site conditions, and data availability are not reflected in Attachment 1, Statistical Methodologies which was prepared in August 1998: The landfill has now received waste; the number of monitoring wells has increased; the number and type of analytes may have changed by rule or TCEQ guidance. In accordance with 330.405(e) & (f) please update Attachment 1 to reflect current conditions at the site. Please include in Section 5.4 (Statistical Analysis), specific references to the updated attachment, as applicable.

Response 69. The statistical methodology used for evaluation of each group of parameters is identified in Section 5.4 of the GWSAP. Updates to the detection monitoring program have been and will be provided to TCEQ in routine submittals, such as Background Evaluation Reports (BERs). 30 TAC §330.407(a)(1) allows the update of background data once every two years, with semiannual detection monitoring results demonstrated to be representative of background groundwater quality. During background updates, the background data are evaluated to ensure that the data are representative of background groundwater quality unaffected by waste management activities.

In accordance with 30 TAC §330.403(e)(3), TCEQ, and any local pollution agency with jurisdiction that has requested to be notified shall be informed of any changes in facility construction or operation that affect or are likely to affect the direction and rate of groundwater flow and the potential for detecting contaminants from the waste management unit.

The Statistical Methods for Ground-Water Monitoring, dated August 1998 and included in the PAA, provides a general statistical strategy for statistical methodology to be used at the TRDF and remains valid. Language has been added to Section 5.4 of Part III, Attachment 5, identifying its use along with the above-referenced steps routinely used in the evaluation of groundwater quality.

Comment 70. Figure 5-1 referenced in Section 5.0 was not found. Please add this Figure to Appendix 5B, or remove the statement saying that Figure 5-1 summarizes the Detection Monitoring Program.

Response 70. The language has been removed from Section 5.0.

Comment 71. Detection Monitoring Program. Per 30 TAC §330.407(b)(3)(C) please acknowledge that the executive director may require that the owner/operator provides landfill leachate analyzes to support an alternate source demonstration if one is submitted.

Response 71. The text of Section 5.3 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested.

Comment 72. The Assessment Monitoring Plan shall provide language for the following rules:

Comment a. 30 TAC §330.409(d)(1) in regard to resampling for Appendix I and new constituent(s) detected in appendix II;

Response a. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested. Subsection

Headings 6.1 (Assessment Monitoring), 6.2 (Assessment Statistics), and 6.3 (Assessment of Corrective Measures) have been added to Section 6.0 for clarity.

Comment b. 30 TAC §330.409(d)(2) in regard to background concentrations for additional Appendix II constituents detected;

Response b. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested.

Comment c. 30 TAC §330.409(d)(3) in regard to establishing groundwater protection standards for all constituents detected in point of compliance wells in accordance with 30 TAC §330.409(h) or (i);

Response c. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested.

Comment d. 30 TAC §330.409(f) in regard to continuation of assessment monitoring, when applicable;

Response d. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised as requested.

Comment 73. If (or when) the groundwater protection standard has been exceeded, the Assessment Monitoring Plan shall include language for the following rules:

Comment a. 30 TAC §330.409(g)(1)(A) in regard to characterizing the nature and extent of the release;

Response a. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised to include reference to the regulation and associated language.

Comment b. 30 TAC §330.409(g)(1)(B) in regard to installing at least one additional well between the well with SSI level and next adjacent wells;

Response b. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised to include reference to the regulation and associated language.

Comment c. 30 TAC §330.409(g)(1)(C) in regard to notifying landowners that are impacted by the plume of contamination.

Response c. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised to include reference to the regulation and associated language.

Comment d. 30 TAC §330.409(g)(2)(A) – (D) and 30 TAC §330.409(g)(3) in regard to alternative source demonstration (ASD);

Response d. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised to include reference to the regulation and associated language.

Comment e. 30 TAC §330.409(g)(4) in regard to submitting an application for a permit amendment or modification, as necessary.

Response e. The text of Section 6.0 of the GWSAP – Part III, Attachment 5, Appendix III-5B, has been revised to include reference to the regulation and associated language.

Part III, Attachment 6 – Landfill Gas Management Plan (Mamadou Balde)

Comment 74. Per 30 TAC §330.371(e) please provide for the following:

Comment a. 30 years of continuous methane monitoring after certification of final closure;

Response a. Part III, Attachment 6, Section 7.1 has been revised as requested.

Comment b. 30 years of continuous methane control after certification of final closure;

Response b. Part III, Attachment 6, Section 7.1 has been revised as requested.

Comment c. Authorization to reduce gas monitoring and control shall be based on a demonstration by the owner that there is no potential for gas migration beyond the property boundary.

Response c. Part III, Attachment 6, Section 7.1 has been revised as requested.

Comment 75. Per 30 TAC §330.371(f) please provide for gas monitoring and control to be revised and maintained as needed; post-closure care shall not interfere with the gas monitoring system and all utility trenches crossing the facility shall be vented and monitored.

Response 75. Part III, Attachment 6, Sections 5.1 and 6.1 have been revised as requested.

Comment 76. Section 5.4 discusses the routine maintenance of the gas management system. Per 30 TAC §330.371(f) please provide a descriptive backup plan to be used if the system breaks down or become ineffective.

Response 76. Section 5.4 has been updated as requested.

Comment 77. Per 30 TAC §330.371(j) please provide for sampling for specified trace gases should the executive director require.

Response 77. Part III, Attachment 6, Section 7.2 has been revised as requested.

In addition to the above changes, Attachment 6, Section 5.1 has also been updated to identify that the site will be subject to 40 CFR Part 60, Subpart XXX after approval of this permit amendment.

Part III, Attachment 7 – Closure Plan

Comment 78. Subsection 30 TAC §330.63(h) requires that the Closure Plan include a final constructed contour map. This is provided as Figure III-7-1. This figure indicates that side slopes would be installed at a 4H:1V slope, but Table III-7-1 indicates that there are two areas where final cover has been placed at a slope of 3H:1V. Also, Table III-7-1 indicates that the area in Tract 2A where final cover has been placed encompasses 9.5 acres, while Figure III-7-1 indicates that this area is 6.8 acres. Finally, there is an area marked with a triaxial hatch for which the legend indicates "Final Cover Landfill Areas to be Covered by

Vertical Expansion.” Please address and provide a more thorough explanation of the triaxially hatched area on Figure III-7-1.

Response 78. Figure III-7-1 identifies the two areas where final cover has been placed; the constructed final cover slopes are shown at approximately 3H:1V slopes. All future final cover slopes are 4H:1V slopes. Figure III-7-1 has been updated to add the note “slope as shown” under Tracts 2A and 3.

The following information is provided to clarify the two acreages for the area in Tract 2A where final cover has been placed. The Tract 2A existing final cover area is a “V” shaped area, covering two slopes on this south portion of the site as shown on Part II, Figure II-7-1; these two slopes encompass a total area of 9.5 acres as shown in Table III-7-1. The eastern final cover slope, consisting of approximately 2.7 acres, will be covered by vertical expansion. This eastern slope of Tract 2A is the triaxially hatched area on Figure III-7-1.

Because part of the Tract 2A final cap area will be covered by vertical expansion (i.e., the triaxially hatched area), the remaining constructed final cover area of Tract 2A is 6.8 acres as shown on Figure III-7-1.

Comment 79 Final cover system details are provided as Figure III-7-2.1 and -2.2.

Comment a. Figure III-7-2.1, Detail 4 notes that a different cover design was followed for final cover over Tracts 2A and 3 than will be followed on future cells. Please illustrate transitions from the cover design that has been installed over Tracts 2A and 3 (six inches of cover soil over a three-foot-thick infiltration layer with no geomembrane) to the design that is proposed to be followed in all future final cover.

Response a. Figure III-7-2.1 has been updated to include two tie-in details between the different final covers.

Comment b. Explain how the geomembrane and geocomposite drainage layer in future final cover will end in an anchor trench for those areas above Tracts 2A and 3.

Response b. Figure III-7-2.1 has been updated to include a tie-in detail between the different final covers. The drainage aggregate for the geocomposite drainage layer daylight area will “anchor” the geosynthetic materials.

Comment c. Explain the locations for the Geocomposite Daylight Drainage feature illustrated in Detail 2 on Figure III-7-2.1.

Response c. Note 3 on Figure III-7-2.1 refers to the design of the geocomposite drainage layer, which includes the locations of geocomposite daylight areas. Appendix III-3D-2 demonstrates that the maximum continuous length of the geocomposite layer can be determined based on the geocomposite transmissivity.

Comment 80. Section 5.1 is provided to address the requirements of 30 TAC §330.457(f). The second bullet indicates provisions to be addressed no later than 45 days before “final unit or site closure begins.” Please strike “final” from this phrase, as it does not reflect rule language in 30 TAC §330.457(f)(2), and “or site closure,” as site closure is addressed under 30 TAC §330.461 and does not include the 45-day notification provision.

Response 80. Part III, Attachment 7, Section 5.1 has been revised as requested.

Comment 81. The first bullet under Section 5.1 does not reflect the language of 30 TAC §330.457(f)(3). For example, it includes a discussion of barriers, which is a requirement for *site* closure under 30 TAC §330.461. The text also indicates that, when capacity remains and more waste is anticipated, unit closure may be delayed up to one year with executive director approval. The rule indicates that the one year delay is allowed under those conditions and an extension may be requested to extend beyond one year. Please correct this text to address rule language.

Response 81. Part III, Attachment 7, Section 5.1 has been revised as requested.

Comment 82. In accordance with 30 TAC §330.457(g), an affidavit to the public must be provided to the executive director and recorded within some instrument that is normally examined during a title search within 10 days after closure of all MSW landfill units. Text close to this requirement is provided in Section 5.2 for facility closure. This requirement must be met in Section 5.1 for the waste disposal unit. Please correct the application to address this requirement.

Response 82. Part III, Attachment 7, Section 5.1 has been revised as requested.

Comment 83. Please address the requirements of 30 TAC §330.459 for all closure of storage and processing units at the proposed facility.

Response 83. Part III, Attachment 7 has been revised to include a new Section 6.0 to address the referenced requirements.

Comment 84. Subsection 30 TAC §330.461(a) includes requirements that written notification of the intent to close the facility must be provided to the executive director and placed in the operating record. These provisions were not found within the first bullet under Section 5.2. Please provide for these requirements.

Response 84. Part III, Attachment 7, Section 5.2 has been revised as requested.

Comment 85. As noted above, the requirement for barriers under 30 TAC §330.461(b) should be addressed within Section 5.2. This rule also requires signs indicating the date of facility closure and prohibition against further receipt of waste after the stated date. Please provide for these requirements in Section 5.2.

Response 85. Part III, Attachment 7, Section 5.2 has been revised as requested.

Comment 86. A final facility closure certification from a licensed professional engineer is required within 10 days of completion of facility closure activities under 30 TAC §330.461(c)(2). While this requirement was met for the waste disposal unit in Section 5.1, it does not appear to have been addressed for the facility in Section 5.2. Please provide for this requirement.

Response 86. Part III, Attachment 7, Section 5.2 has been revised as requested.

Part III, Attachment 8 – Post Closure Plan

Comment 87. There are several rule references to 30 TAC §330.463(a) in the Post Closure Plan. Please update these references to corresponding requirements in 30 TAC §330.463(b), as these apply to landfill units that receive waste after October 9, 1993, under 30 TAC §330.457(f)(5).

Response 87. Part III, Attachment 8, Sections 3.0 and 4.0 have been revised as requested.

PART IV

Comment 88. In accordance with 30 TAC §330.65(c), the SOP must include procedures for recirculating leachate or gas condensate. This information is provided in Part III, Section 6.1.2.8. Please provide a reference to this location in Section 4.29 of the SOP.

Response 88. Part IV, Section 4.29 has been revised as requested.

Comment 89. Recordkeeping requirements are established primarily by 30 TAC §330.125. Text in Section 1.2 indicates that all records could be electronic or hard copies, but this option has been approved only for certain records. Text indicating in Section 1.2 that records could be maintained electronically after five years at an unspecified third-party document storage facility are not addressed by rule. Section 1.2 indicates that information stored electronically offsite will be made available to the TCEQ for review within 72 hours. Please provide specificity for any proposed offsite storage locations or drop the option in the application, as it could be modified into the application in the future, should it be issued, once a specific facility is identified. Please consider the following recordkeeping approach.

- The permit (including the application and any other documents that are part of the permit by reference or attachment), will be physically (i.e. hard copies) maintained onsite until the facility has completed all closure activities and waste disposal units have been approved to enter post-closure, after which these records may be maintained physically or electronically at an offsite location, once that location is approved by the executive director through permit modification, and will be made available to the executive director within one business day.
- Records other than the permit (including the application and any other documents that are part of the permit by reference or attachment), will be maintained onsite, either physically or electronically, for at least three years. After three years the records may be maintained physically or electronically at an offsite location, once that location is approved by the executive director by permit modification, and will be made available to the executive director upon request.

Response 89. Part IV, Section 1.2 has been revised to update the requirements for storage of site records.

Comment 90. While the second paragraph of Section 1.2 addresses most required records, it includes omissions. Please clarify that records listed in Tables 1 and 2 are part of the Site Operating Record and will be maintained for the life of the facility, including the post-closure care period in accordance with 30 TAC §330.125(d).

Response 90. Part IV, Section 1.2 has been revised as requested.

Comment 91. Sections 2.0 through 2.5 discuss key personnel to address the requirements of 30 TAC §220.127(1). Section 2.0 notes that the District Manager (DM) or Landfill Manager (LM) will be licensed in accordance with 30 TAC Chapter 30, Subchapter A. This citation should be to 30 TAC Chapter 30, Subchapter F. Please correct this citation. Section 2.0 indicates that either the DM or the LM will be licensed. Section 2.1 indicates that the DM may not be physically employed at the landfill. To meet the requirements of 30 TAC §330.59(f)(3), the application must provide for a licensed individual who is employed at the facility. References to "designated alternate" in these sections and throughout the

application should make clear that any alternate will have been equally trained to the position they are assuming. Please alter these sections to provide for these concerns.

Response 91. Section 2.0 has been revised to indicate that any alternate, as discussed throughout the SOP, will have been appropriately trained to the position they are assuming and to correct the provide the correct license rule citation

Section 2.0 and 2.1 have been updated to further address the above-referenced licensing requirements. As indicated in Section 2.0 the DM and/or the LM will be licensed. Additionally, Section 2.1 has been revised to indicate the DM or his alternate, will be a person who routinely visits the site, provides direct oversight of the LM, and is familiar with this SOP.

Comment 92. In accordance with 30 TAC §330.127(4), the SOP must identify all applicable training requirements under 30 TAC §335.586(a) and (c). While the applicable requirements of 30 TAC §335.586(a) are identified in Section 4.1, the annual review requirement of 30 TAC §335.586(c) could not be located. Please provide for this requirement.

Response 92. Part IV, Section 4.1 has been revised as requested.

Comment 93. In accordance with 30 TAC §330.127(5)(A), procedures for detection and prevention of disposal of prohibited waste must include inspections of incoming loads, including compactor vehicles. Random inspections are discussed in Section 4.2.3, but this section indicates that waste from permitted or registered transfer stations that conduct random screening) would be exempt from random load inspections. This exception is not provided in rule, and unless a transfer station is screening for all wastes prohibited for disposal at the landfill, it is unclear how the transfer station's inspections would be consistent with the proposed landfill's waste acceptance plan. Please remove this exclusion.

Response 93. Part IV, Section 4.2.3 has been revised as requested.

Comment 94. In accordance with 30 TAC §330.127(5)(A), procedures for detection and prevention of disposal of prohibited waste must include a provision that trained staff will observe each load that is disposed at the landfill. Please provide for this requirement.

Response 94. Part IV, Section 4.2 has been revised as requested.

Comment 95. To address the requirements of 30 TAC §330.127(5)(A), Section 4.2.3 indicates that a minimum of two vehicles per week will be inspected randomly. This represents approximately 0.07% of vehicles based on 2015 traffic estimates, and approximately 0.04% at the predicted end of the landfill life. Please provide for and adequate number of random inspections for 1% of vehicles or once per day, whichever is greater.

Response 95. Sections 4.2.3 and 4.2 were revised to increase the number of random inspections per week to five per week. As discussed in Section 4.2, the waste screening program consists of four primary elements. The Special Waste Acceptance Plan, included as Appendix IVF, is the most effective approach for controlling prohibited waste.

Comment 96. In accordance with 30 TAC §330.127(5)(C), procedures for detection and prevention of disposal of prohibited waste must include provisions that facility personnel inspecting or observing loads must have training to recognize prohibited waste. It is not clear who in Table 5 will perform random load inspections. If a Laborer will perform this task, this table should indicate that this individual will be trained in prohibited waste.

Response 96. Section 4.2 has been revised to indicate that appropriately trained personnel will perform the random load inspection. This would include the landfill manager, the equipment operator, and the gatehouse personnel. Other staff may also perform the inspections, provided they have been trained in hazardous waste identification, load inspections, prohibited wastes, and random load inspections. Table 5 has also been updated to include the hazardous waste identification training for the gatehouse personnel.

Comment 97. In accordance with 30 TAC §330.127(5)(D), procedures for detection and prevention of disposal of prohibited waste must include notification of the receipt or disposal of regulated hazardous waste or polychlorinated biphenyls (PCBs) to the executive director and to any local pollution agency with jurisdiction that has requested to be notified. The last sentence of the first paragraph on page 17 addresses the executive director but does not include local pollution agencies. Also, please consider deleting "other than CESQG" from this sentence, as it is unnecessary [conditionally exempt hazardous waste is excluded from the definition of regulated hazardous waste in 30 TAC §330.3(127)] and makes it less clear that "or PCB waste" is paired with "regulated hazardous waste," not "CESQG."

Response 97. Section 4.2.3 has been revised to include local pollution agencies that request to be notified and to delete the reference to CESQG.

Comment 98. In accordance with 30 TAC §330.127(5)(E), procedures for detection and prevention of disposal of prohibited waste must include provisions for remediation of regulated hazardous waste and PCBs. This is discussed in Section 4.2.4. Please provide more detail to address remediation of these prohibited wastes after placement in the waste unit, or indicate that a work plan will be submitted to the executive director for review and approval following each incident.

Response 98. Section 4.2.4 has been revised to provide more detail to address remediation of regulated hazardous waste and PCBs after placement in the waste unit.

Comment 99. To address the requirements of 30 TAC §330.129, a demonstration is provided in Appendix IVC that the active face can be covered with soil within one hour. The demonstration is for a 100' x 100' working face, but the working face may be as large as 400' x 200' according to dimensions in Section 4.6.1 and on Table 6. The calculation assumes adequate stockpile is available, but includes text in the Conclusion section that "if the stockpile does not contain enough soil...." Please provide a demonstration to address this rule.

Response 99. Appendix IVC has been revised to include the largest expected working face and clarify the discussion about the stockpile near the working face. The existing onsite bulldozers have adequate capacity to place soil within one hour over the largest expected working face. The soil can be obtained from a stockpile near the working face or hauled from a borrow source to the working face by haul trucks. The revised calculations in Appendix IVC address the requirements of working face stockpile volume based on the facility's equipment capacity.

Comment 100. In accordance with 30 TAC §330.129, the application must identify other activities requiring fire protection and provide protection measures specific to each individual activity. The second paragraph of Section 4.4 notes MSW activities that store or process combustible material. This list should include the citizen collection station and the liquid stabilization area. Please ensure that firefighting methods applicable to each of these activities, and to any other storage or processing areas that could receive combustible materials, are provided to meet the requirements of this rule.

Response 100. Sections 4.4 and 4.4.2 have been revised as requested.

Comment 101. Section 30 TAC §330.131 requires the inspection and maintenance schedule for access control features. Section 4.5 indicates that this will occur weekly, but Table 2 indicates it will occur monthly. Please make these entries consistent.

Response 101. Table 2 has been revised to be consistent with Section 4.5.

Comment 102. In accordance with 30 TAC §330.133(a), a trained staff person must be on duty during operating hours at each area where waste is being unloaded to direct and observe the unloading of solid waste. This provision could not be located in the SOP.

Response 102. Part IV, Section 4.6 has been revised to identify when appropriately trained site personnel are required to be present for unloading.

The above referenced rule, is in Subchapter D, Operational Standards for Municipal Solid Waste Landfill Facilities, and, in accordance with this rule, appropriately trained site personnel will be located at the working face to observe waste before it is unloaded for disposal.

For waste processing and storage areas, 30 TAC §330.225(a), in Subchapter F, Operational Standards for Municipal Solid Waste Storage and Processing Units, applies, and, in accordance with this rule, the gate attendant will direct loads based on content or manifest/waste profiles to the waste processing and storage areas at the site. The Citizen Collection Station, the liquid waste stabilization processing area, the recyclable materials storage area, and the large item storage area are not the working face nor the final location of these materials so direct observation of unloading is not required.

Comment 103. Subsection 30 TAC §330.133(b) indicates that staff involved with unloading or inspection of waste must have the authority and responsibility to reject unauthorized loads, have unauthorized material removed by the transporter, assess appropriate surcharges, and have unauthorized material removed by on-site personnel or otherwise properly managed by the facility. Section 4.6.5 only indicates that the LM or designated alternate has this authority. The second sentence refers to "the employees" which may be intended to address other staff members, but this is unclear. Also, this section indicates that staff will be trained to recognize industrial and hazardous waste. Staff involved with unloading or inspection should be trained to recognize all wastes prohibited at each unloading area. Please expand this section to address these concerns.

Response 103. Part IV, Section 4.6.5 has been revised.

Comment 104. Be aware that in accordance with 30 TAC §330.135(b), the executive director may approve up to five days of alternative waste acceptance hours or operating hours in a calendar year. The SOP does not appear to consider this rule. It is recommended that the SOP include five designated days to avoid the need to contact regional staff for special occasions, special purpose events, holidays, or other special occurrences that will occur each year. The SOP should avoid specific dates, but rather refer to the event or occasion, such as "the Sunday after Thanksgiving" or "the Sunday after the Temple Bloomin' Festival." If days are designated for alternative hours, the hours should be specified in the SOP and subsequently noted in the site operating record.

Response 104. Part IV, Section 4.7 has been revised.

Comment 105. In accordance with 30 TAC §330.143(b)(2), fencing may be placed *within* facility boundary markers. Section 4.11.5 indicates that fencing could be used *in place of* these markers. Please correct this text to reflect rule language.

Response 105. Part IV, Section 4.11.5 has been revised.

Comment 106. Section 4.11.1 is provided to address the requirements of 30 TAC §330.143(b)(4) for easement and right-of-way markers, but does not reflect rule language.

Response 106. Part IV, Section 4.11.1 has been revised.

Comment 107. Section 4.11.7 is provided to address the requirements of 30 TAC §330.143(b)(7) for flood protection markers, but does not reflect rule language.

Response 107. Part IV, Section 4.11.7 is provided to address the requirements of 30 TAC §330.143(b)(8). Section 4.11.4 has been revised to address the requirements of 30 TAC §330.143(b)(7).

Comment 108. You may wish to reevaluate the information provided in Table 8 to address requirements of 30 TAC §330.145 for materials along the route to the site. While the first paragraph in Section 4.12 indicates that cleanup will occur daily, the final paragraph indicates that this will occur "as necessary." Please clarify in the final paragraph that cleanup will occur at least daily on days the facility is in operation.

Response 108. The last paragraph of Section 4.12 has been revised as requested to identify the litter clean-up frequency. Additionally, based on our discussions, Table 8 has been revised to provide the actual distance on each of the public access roads to be cleaned.

Comment 109. In accordance with 30 TAC §330.151, information on disease vector control must include performance-based frequencies for disease vector control. Please provide for this requirement in Section 4.15.

Response 109. Section 4.15 has been revised to expand the discussion as requested.

Comment 110. Section 4.16 does not appear to provide a frequency for regrading access roadways, as required by 30 TAC §330.153(c). Please provide it.

Response 110. Section 4.16 has been revised as requested.

Comment 111. To address the requirements of 30 TAC §330.159, landfill gas control is discussed in Section 4.19. This information references the lower explosive limit (LEL) and action levels based on the LEL. Chapter 330, Subchapter I no longer references LEL, but uses percent methane by volume for action levels. Please change Section 4.19 to reflect current rules.

Response 111. Section 4.19 has been revised as requested.

Comment 112. Section 4.20 is provided to address the requirements of 30 TAC §330.161. Please limit this discussion to known water wells that will remain in use and to wells that could be discovered in the future, as known wells are addressed in Part II under 30 TAC §330.61(l)(1) and (2). Timelines in 30 TAC §330.161(b) for wells under the jurisdiction of the Texas Railroad Commission do not appear to have been addressed in this section. Please address these concerns.

Response 112. Section 4.20 has been revised as requested.

Comment 113. The Alternative Daily Cover (ADC) Operating Plan indicates that tarps and petroleum-contaminated soil would be used at the facility as ADC. ADC may not be initially authorized by a permit amendment, so please provide evidence that these materials went through a one-year trial period and were subsequently authorized through modification. This material does not need to be placed in the application, but may be provided with your response cover letter.

Response 113. The ADC Operating Plan, Appendix IVD, has been deleted from the PAA. Part IV, Section 4.22.2 has been revised to reflect this change. Sections 1.2, 4.2.2, 4.4.1, 4.6.2, 4.14.1.2, 4.15, 4.23.1, 4.25, and 4.27 have also been revised to update the reference to ADC and other appendices.

Comment 114. When contaminated soil will be used as ADC, the application must address the requirements of 30 TAC §330.165(d)(4), (4)(A), (4)(B), (5) and (6). This information could not be located in Section 4.22.2 or in Appendix IVD. A reference in Section 5.0 of Appendix IVD to the Special Waste Acceptance Plan is too general. Please address 30 TAC §330.165(d)(4), (4)(A), and (4)(B) in Appendix IVD and 30 TAC §330.165(d)(5) and (6) in Section 4.22.2 or in Appendix IVD.

Response 114. As discussed in response to Comment 113, the ADC Operating Plan has been deleted.

Comment 115. In accordance with 30 TAC §330.167, a ponding prevention plan must include general instructions to manage water that has contacted waste. The last sentence on page 39 indicates that water that has been in contact with waste, daily cover, and/or ADC will be removed and handled in accordance with Part III, Attachment 2, Surface Water Protection Plan and Drainage Plan. Please provide a more specific reference for handling contaminated water. Also, you may wish to delete daily cover (do not delete ADC) from this list, as runoff from areas that have intact clean soil daily cover is not considered to have come into contact with waste or leachate, as noted in 30 TAC §330.165(a).

Response 115. Section 4.23.1 has been revised as requested.

Comment 116. In accordance with 30 TAC §330.171(c)(3)(B), RACM disposal areas must be surveyed. Appendix E, Section 3.1 indicates that these locations could be located by the site grid system. This has been allowed where the grid system is tied to the surveyed benchmark location, or other survey system. Section 4.11.2 does not provide for this connection for the site grid system. Please address the requirement that RACM disposal areas must be surveyed and remove the provision in Appendix E for locating RACM based on the site grid system; or expand Section 4.11.2 to tie the site grid system to some surveyed point or system.

Response 116. Part IV, Section 4.11.2 has been revised to explain that the site grid system will be tied to the surveyed benchmark locations or other survey system.

Comment 117. In accordance with 30 TAC §330.173(h), a facility that accepts Class 1 waste, including RACM, must submit monthly waste reports, including for those months in which no Class 1 waste was received, by the 25th day of the following month. While Appendix IVE, Sections 4.0 and 4.3 discuss monthly reporting, they do not appear to include reporting when no Class 1 is received or the reporting deadline of the 25th day of the following month. Please provide for this requirement.

Response 117. Part IV, Appendix IVD (this appendix was changed from IVE to IVD due to the deletion of the ADC Operating Plan), Section 4.0 has been revised as requested.

Comment 118. Section 30 TAC §330.177 requires a description of the procedures for leachate and gas condensate recirculation. Section 4.29 notes the possibility of leachate and gas condensate recirculation, but provides no description of how it will be performed. If this information is provided elsewhere it should be referenced here. Please address this requirement.

Response 118. Part IV, Section 4.29 has been revised to add a reference to the recirculation procedures for leachate and landfill gas condensate.

Comment 119. For all storage and processing areas, please provide the types of waste and an estimate of the amount of each waste to be received daily; the maximum amount of waste to be stored at any one point in time; the maximum and average lengths of time that waste is to remain at the facility; the maximum and average waste processing times; and the intended destination of the solids and liquids generated by the facility, as required by 30 TAC §330.203(b). Please also provide a daily maximum limit for waste acceptance for storage and processing units, as required to enforce 30 TAC §305.62(j)(1)(C).

Response 119. Part IV has been revised to include a new Section 4.30.1 to address the above-requested items. Based our discussions, we have reviewed the closure cost estimate as related to the maximum waste stored in the various storage and processing areas. The total maximum volume of waste and recyclables stored at the facility is below the 13,169 tons used in Part III, Attachment 9, closure cost estimate; therefore, closure cost has not been revised.

Comment 120. Please provide for 30 TAC §330.207(d), (e), (f), and (g) in the SOP.

Response 120. Part IV has been revised to include a new Section 4.30.2 to address the above-requested items.

Comment 121. The Citizen's Collection Station is discussed in Section 4.6.3.1. Please ensure that requirements for storage, containers, and citizen's collection stations under 30 TAC §330.209, 30 TAC §330.211, and 30 TAC §330.213 are addressed for this unit.

Response 121. Section 4.6.3.1 has been revised as requested.

Comment 122. Please demonstrate that there will be an adequate supply of water under pressure for firefighting purposes at all waste storage and processing areas as required by 30 TAC §330.221.

Response 122. Part IV has been revised to include a new Section 4.30.3 to address the above-requested items.

Comment 123. For waste processing areas, please provide for the overloading and breakdown requirements of 30 TAC §330.241 and sanitation requirements under 30 TAC §330.243.

Response 123. Part IV has been revised to include a new Section 4.30.4 to address the above-requested items.

Comment 124. Please explain whether any storage will be provided for liquid waste and address the ventilation and air pollution control requirements under 30 TAC §330.245(c), as appropriate.

Response 124. Part IV has been revised to include a new Section 4.30.5 to address the above-requested items.

Comment 125. Please address requirements for potable water and sanitary facilities for all employees and visitors in accordance with 30 TAC §330.249.

Response 125. Part IV has been revised to include a new Section 4.30.6 to address the above-requested items.

- End of Comments -