Cause No. 03-10-00016-CV

IN THE COURT OF APPEALS
FOR THE THIRD JUDICIAL DISTRICT
AUSTIN, TEXAS

TJFA, L.P. and CONCERNED CITIZENS AND LANDOWNERS,
Appellants,

v.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY,
Appellees.

On Appeal from the 53rd District Court of Travis County, Texas
Hon. John K. Dietz, Judge Presiding
Trial Court No. D-1-GN-08-004503

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ORAL ARGUMENT REQUESTED

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Note that citations to Chapter 30 of the Texas Administrative Code are to the version in effect for the permit amendment application at issue in this case. Relevant excerpts are attached as Apdx. K.

TCEQ ADMINISTRATIVE ORDERS:

ABBREVIATIONS AND RECORD CITATIONS

The following abbreviations and notations are used in this Brief:

Apdx. __	References to the Appendix to the Brief of Appellants.
AR __	References to the Administrative Record, which was entered as the sole exhibit to the District Court hearing and thus is part of the Reporter's Record in this Court.
CR __	References to the Clerk's Record.

STATEMENT OF THE CASE

Intervenor/Appellee Waste Management of Texas, Inc. (WMTX) applied, on November 21, 2005, to Appellee Texas Commission on Environmental Quality (TCEQ) for a permit to greatly expand the existing Comal County Landfill. The existing landfill is located in Comal County, Texas at or near the county line with Guadalupe County. The proposed expansion of the existing landfill was to be almost entirely located in Guadalupe County. The new expanded facility is to be renamed the Mesquite Creek Landfill (Landfill).

The application was opposed by nearby landowners, including Appellants TJFA, L.P. (TJFA) and Concerned Citizens and Landowners (CCL), for health and safety reasons. A preliminary hearing on April 13, 2007 established jurisdiction at the State Office of Administrative Hearing (SOAH). SOAH determined named parties, including CCL, the Holtman Family, Sandra Elbel Taylor, Lilian Schriewer Elbel, James F. Langford, Vera B. Langford, the Krueger-Westmeyer Families, and TJFA.

The SOAH hearing on the merits was held October 22-29, 2007. The Proposal for Decision (PFD) was issued by SOAH Administrative Law Judge Sarah G. Ramos on March 18, 2008. At its agenda meeting on September 10, 2008, the TCEQ granted WMTX its permit after having altered the Administrative Law Judge's Proposal for Decision, Findings of Fact and Conclusions of Law. The TCEQ's Order was signed on October 1, 2008. Appellants timely filed a Motion for Rehearing. The TCEQ failed to rule on the motion and it was overruled by operation of law.

Appellants sought judicial review and reversal of the final decision by the TCEQ in Travis County District Court pursuant to TEX. GOV'T CODE ANN. § 2001.171 and TEX. HEALTH & SAFETY CODE ANN. § 361.321. WMTX intervened. After briefing was complete, the District Court, Hon. John K. Dietz presiding, held a hearing on December 9, 2009. By order of that same day affirmed the TCEQ's order, finding the order "is not contrary to the substantial evidence in this case."

Appellants timely filed their Notice of Appeal on January 8, 2010.

STATEMENT REGARDING ORAL ARGUMENT

This case presents important issues regarding the TCEQ's failure to comply with its own rules, precedent, and policy. Also at issue is whether certain TCEQ decisions and policies are in harmony with Legislative grants of authority and commands for environmental protection. Several of these issues have been raised in previous administrative proceedings. They can reasonably be anticipated to be raised in subsequent proceedings. Due to the presence of these important recurring issues, Appellants respectfully request that this Court grant oral argument.

ISSUES PRESENTED

I. Did the TCEQ err by allowing WMTX to rely solely on a FEMA map to determine that the proposed landfill expansion site is not in a floodplain, when every witness agreed that the site is in fact in a floodplain, and there is no reliable evidence that the FEMA map is accurate?

II. Did the TCEQ err in finding that Landfill development would not result in a significant alteration of natural drainage patterns, when the development will increase stormwater runoff volume more than 75 percent, and neither the TCEQ nor WMTX analyzed potential downstream environmental impacts in determining whether there will be significant alteration?

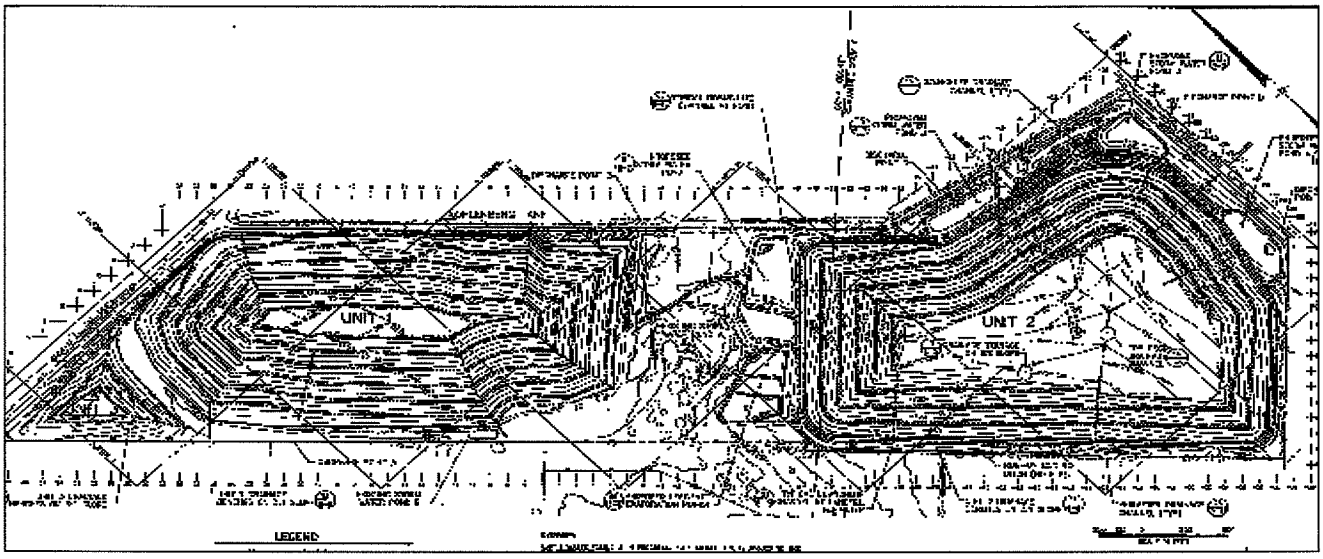
III. Did the TCEQ err by not requiring WMTX to actually test all the relevant soil layers underneath the proposed landfill expansion, but rather allowing WMTX to use old tests on adjoining land that WMTX's hydrogeologist testified were of questionable reliability, and then allowing WMTX to design a groundwater monitoring system based in part on those old tests?

IV. Did the TCEQ err by departing from the ALJ's recommendation and allowing WMTX to conduct some landfill operations outside of "operating hours" set forth in a settlement agreement?

STATEMENT OF FACTS

1. The Layout of the Proposed Expanded Mesquite Creek Landfill.

Waste Management of Texas, Inc. (WMTX) sought an amendment to a landfill permit from the Texas Commission on Environmental Quality (TCEQ) to enlarge the Comal County Landfill from approximately 96 acres to approximately 244 acres by adding a new landfill unit.[1] This would allow landfilling activities to expand eastward from the current site, across Mesquite Creek and into Guadalupe County. A map of the proposed site is attached as Apdx. D, and a reduced portion is reproduced below.[2]



The Landfill is northeast of New Braunfels, less than two miles east of Interstate 35, and is bordered by Kohlenberg Road on the upper portion of the map (what appears on the map as the north border but is actually the northeast border).[3] On this map, the large, oval-shaped area to the left (roughly, the west) is Unit 1, the currently permitted

[1] A.R. 1, Vol. 1, p. 00136. References to the Administrative Record are denoted as "A.R."
[2] This map is an excerpt from WMTX's Surface Water Management Plan, Drawing No. 6-1 ; A.R. Vol. 5, p. 01832.
[3] A.R. Vol. 1, p. 00134.

portion of the Landfill.[4] The Landfill map also includes a Unit 3, another currently permitted portion of the Landfill being the small triangular unit at the bottom left.[5] That area is separate from Unit 1 because a tributary of Mesquite Creek runs between Units 1 and 3.

In its application for the permit amendment, WMTX sought to expand the Landfill to the right (roughly, the east), creating the new Unit 2 on the above map.[6] Mesquite Creek runs between Units 1 and 2, from the map's bottom toward the top, and leaves the property towards the north as it runs under Kohlenberg Road. The creek then runs into Freedom Lake, a flood-control feature (sometimes called Mesquite Pond) about a half-mile downstream from the Landfill (see Apdx. E for a map of Mesquite Creek and Freedom Lake).[7]

2. Appellants and Others Opposed WMTX's Application in an Administrative Contested Case Hearing.

Appellants TJFA and CCL, as well as other landowners near the Landfill, filed oppositions at the TCEQ to WMTX's permit amendment application. TJFA is a real estate limited partnership that owns property within a mile of the proposed expanded Landfill, and Concerned Citizens and Landowners (CCL) is an unincorporated association whose members own property within a mile of the proposed expanded Landfill. The oppositions alleged that WMTX's application did not make the required

[4] A.R. Vol. 10, T-3, p. 1923.
[5] *Id.*
[6] *Id.*
[7] A.R. Vol. 1, p. 171. (Fig. 2 Parts I/II Gen. Topo Map).

demonstration that the expanded landfill would be protective of the environment, the public, and their property.

Appellants raised the following grounds in opposing the application:

a) WMTX failed to meet its burden to prove that the Landfill was not in a floodplain, and had not demonstrated that it had complied with safety requirements for landfills in floodplains;

b) WMTX failed to meet its burden to prove that the design of the proposed expansion would not significantly alter natural drainage patterns;

c) WMTX failed to meet its burden to accurately characterize the hydrogeology of the proposed expansion site or to design a groundwater monitoring system that would ensure protection of groundwater;

d) The operating hours sought by WMTX were not consistent with a settlement agreement between WMTX and Guadalupe County, on which the County relied in withdrawing its opposition to the application.

At the administrative hearing, evidence was presented on these issues.

A. Evidence on the floodplain issue.

In its application, WMTX stated that none of the Landfill is in a 100-year floodplain.[8] WMTX based this assertion on a map from the Federal Emergency Management Agency (FEMA) that did not show any 100-year floodplain associated with Mesquite Creek, either on the Landfill site or anywhere else along the creek. The engineer in charge of this portion of the application, Scott Graves, testified that he believed the TCEQ "typically" accepts FEMA maps as reliable sources of information. Thus, he used this map exclusively to conclude that the Landfill site is not within a 100-year floodplain of any stream or creek, including Mesquite Creek.[9]

[8] A.R. Vol. 1, p. 159.
[9] A.R. Vol. 10, T-3 p. 150-51.

On cross-examination, Mr. Graves was asked whether, regardless of the FEMA map, Mesquite Creek in fact does have a 100-year floodplain at the Landfill site. He testified:

> Q. Okay. Would you agree with me then that Mesquite Creek, as it passes through the landfill facility, does have a floodplain associated with the hundred-year flood?
>
> A. Yes, I do.[10]

The engineer who reviewed the application for the TCEQ, Pladej Hunt Prompuntagorn, also testified on the floodplain issue:

> Q. Is there a floodplain associated with Mesquite Creek?
>
> A. Yes.
>
> Q. Okay. Are there areas along Mesquite Creek that would be inundated by a 100-year flood?
>
> A. Yes.[11]

Mr. Graves was further asked about why the application stated that the proposed expansion was not in a floodplain, in light of his testimony that Mesquite Creek does, in fact, have a 100-year floodplain:

> Q. Okay. So your understanding is that because FEMA does not show a 100-year floodplain for Mesquite Creek, that, therefore, a 100-year floodplain doesn't exist for Mesquite Creek. Is that what you're telling us?
>
> A. Well, I don't know if that's the case. ...
>
> Q. Okay. Did FEMA study Mesquite Creek to determine that it has no floodplain?
>
> A. I'm not certain ....

[10] A.R. Vol. 10, T-4 p. 381-82.
[11] A.R. Vol. 12, T-7 p. 993.

Q. Is it possible that FEMA never studied Mesquite Creek to determine a floodplain?

A. I'm not sure.

Q. Okay. Does FEMA study every stream and creek in the country when it prepares those floodplain maps?

A. I really just don't know exactly the process that FEMA follows, so I can't answer that.[12]

....

Q. Okay. Did you calculate a 100-year floodplain for Mesquite Creek in this application?

A. No, I did not.[13]

Mr. Prompuntagorn of the TCEQ was also asked whether he knew if FEMA actually studied Mesquite Creek in making the map relied upon by WMTX:

Q. Do you know if FEMA looked at and determined whether or not Mesquite Creek does have a floodplain or not?

A. I cannot answer that.

....

Q. But you and Mr. Graves have both testified that in fact there is a floodplain associated with Mesquite Creek. Correct?

A. That's correct.[14]

Mr. Graves also testified that the central portion of the Landfill site, where Mesquite Creek flows, is clearly within the flood pool of Freedom Lake.[15] Evidence in the record indicates that the flood pool has an elevation of 605.1 feet above mean sea level, which is at least three feet above the existing landfill waste disposal limits at Unit

[12] A.R. Vol. 10, T-3 p. 151-52.
[13] A.R. Vol. 10, T-3 p. 158.
[14] A.R. Vol. 12, T-7 p. 996, 999.
[15] A.R. Vol. 10, T-3 p. 159.

1.[16] Yet, WMTX stated in its application that "the existing landfill waste disposal limits do not extend into this flood pool."[17]

B. Evidence on the drainage issue.

WMTX showed in its application the volume of runoff (the amount of stormwater running off the site) at specified "discharge points" – the locations where stormwater will leave the Landfill site – during a 24-hour, 25-year storm event.[18] The application characterized the runoff (including the volume of stormwater and the peak rate of discharge) at each discharge point under pre-landfill/development conditions. It then compared that runoff with the projected runoff under post-landfill/development conditions.[19] This comparison is needed in order to make the required determination that the proposed landfill will not significantly alter natural drainage patterns, which includes the runoff volume from the site.

WMTX's application demonstrated that the post-development discharge volume at Discharge Point E, roughly at the northeast corner of the proposed expansion site, would be substantially higher than the pre-development discharge volume during a 24-hour, 25-year storm event. WMTX engineer Scott Graves testified at the administrative hearing:

> Q. Okay. So you've increased the volume leaving the site, which essentially is the amount of water leaving the site, for example, at Discharge Point E. Correct?
>
> A. Yes.

---

[16] A.R. Vol. 13 APP-213.
[17] A.R. Vol. 1, p. 159.
[18] A.R. Vol. 10, T-3, p. 345-46.
[19] *Id.* p. 346.

Q. Okay. And you've increased it by almost doubling. Correct? Have I remembered it correctly?

A. I can't remember if it was almost double. ...

[testimony omitted while Mr. Graves checked application to determine amount of increase]

A. And I see that the volume goes from 6.9 acre-feet under natural conditions to 12.1 acre-feet. So it's less than doubling, but it's approaching doubling.

Q. Okay.

A. Okay.

Q. Close to doubling, fair to say?

A. Sure.[20]

The TCEQ's engineer, Mr. Prompuntagorn, was asked about his reaction to the increased post-development runoff volume at Discharge Point E:

Q. Okay. And did that concern you that the volume of runoff that was going to be sent to those discharge points was more than pre-development conditions?

A. Some concern.

....

Q. Do people own property downstream of Discharge Point E besides the applicant [WMTX]?

A. Yes, sir.

Q. Okay. And do those people downstream who own that property, do you think they'd be concerned about flooding on their property?

A. They should be.

Q. Okay. Would you if you owned that property?

A. Of course.[21]

[20] A.R. Vol. 10, T-4 p. 347-48. The actual increase is slightly more than 75 percent.

When asked whether WMTX had performed any analysis of what impact this discharge increase may have regarding potential flooding on downstream property owned by Landfill neighbors, Mr. Graves testified:

> Q. Okay. Let's talk about the potential for anything downstream to be affected. What is immediately downstream of Discharge Point E that would be affected by water leaving Discharge Point E from the permit boundary?
>
> A. A culvert underneath the road – Schwarzlose Road.
>
> Q. And downstream of that, what is there?
>
> A. As I diagrammed for Mr. Riley before lunch, there is a natural drainage course that flows through a couple of different properties and into Freedom Lake.
>
> ....
>
> Q. Do you know how much flow that natural drainage course can handle before it flows out of its banks?
>
> A. I don't know if it has banks to flow out of.
>
> ....
>
> Q. ... [H]ow deep is the watercourse?
>
> A. That's something – I don't know how deep water would rise in response to a different – to various different flood events.
>
> ....
>
> Q. Okay. And when water flows through it when it rains, does it flood the properties of those individuals that it crosses?
>
> A. I don't know the answer to that.
>
> ....
>
> Q. And what's the peak discharge in that watercourse that runs across those people's property?

[21] A.R. Vol. 12, T-7 p. 980, 982-83.

A. I don't know the answer to that.

....

Q. And what's the drainage area of that natural watercourse upstream of where it meets Discharge Point E?

A. I have not calculated the area. I have only looked at, in a qualitative sense, what's going on in that part of the surroundings.

Q. Well, is it more or less than 13 acres?

A. Don't know right now.

....

Q. ... So then you don't know what the drainage area size is, you don't know what the slope is, you don't know how long it is, you don't know how wide it is, and you don't know how deep it is, do you?

A. Not in a quantitative sense.[22]

Mr. Prompuntagorn of the TCEQ was also asked about any analysis of adverse effects downstream from Discharge Point E:

Q. Okay. What is the peak flow rate as it's flowing along these people's property on the other side of Schwarzlose Lane?

A. I don't know.

Q. Okay. Is there any analysis in the application that shows what that peak flow rate is that's running along these people's property on the other side of Schwarzlose Lane from the landfill?

A. No, sir.

Q. Have you done an analysis to show what the peak discharge flow rate is along these people's property?

A. No, sir.

Q. So you have no idea how the discharges from this Pond 4 leaving Discharge Point E would affect, relate to, interfere with, or combine with

[22] A.R. Vol. 10, T-4 p. 350-53, 355-56.

water that's coming down and flowing across these people's property. Correct?

A. Correct.

Q. Okay. And isn't it true that the reason why we have more stormwater volume going off the property at Discharge Point E is because the applicant's design engineer designed this landfill that way, to do that. Correct?

A. That's correct.[23]

TCEQ regulations require applications to include sample calculations "to verify that natural drainage patterns will not be significantly altered."[24] They further require inclusion of "discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development."[25]

Without providing such discussion or analyses, and despite the 75 percent increase in runoff volume at Discharge Point E, WMTX stated in its application that the runoff volume with the landfill would be "similar" to that without the landfill. WMTX then concluded that the development planned for the Landfill expansion would not significantly alter natural drainage patters, and thus maintained that the plan met the regulatory requirement.[26] Mr. Graves, in his testimony, agreed with this representation.[27]

C. Evidence on the hydrogeology and groundwater monitoring issue.

As the permit amendment application shows, and as the parties agree, the proposed Landfill expansion will be excavated into four geological strata, or layers.

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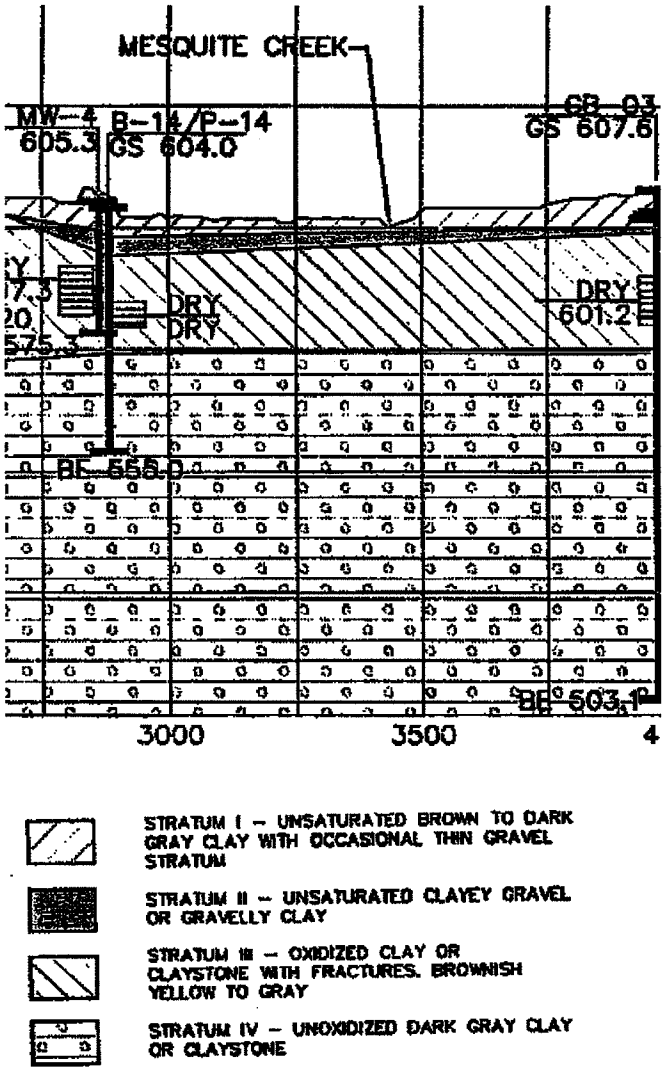
[23] A.R. Vol. 12, T-7 p. 984-85.
[24] 30 TEX. ADMIN. CODE § 330.55(b)(5)(D).
[25] 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(iv).
[26] A.R. Vol.4 p. 01821.
[27] A.R. Vol. 10, R-4, pp. 346-48.

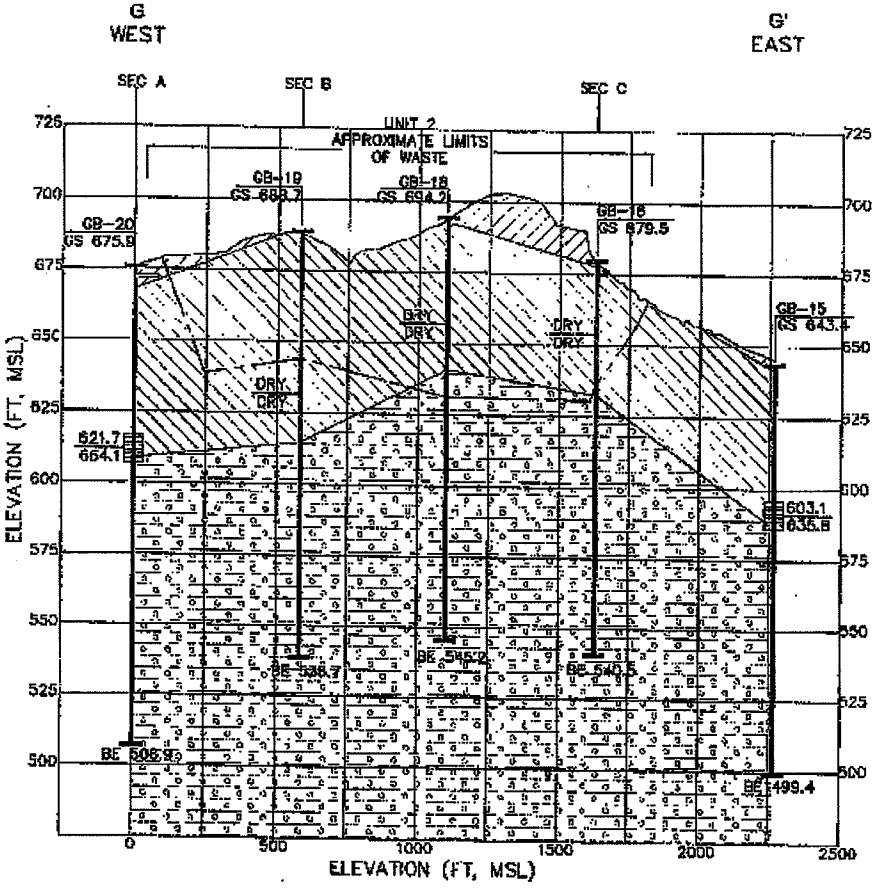
Below is an excerpt from a geological cross-section included in WMTX's permit amendment application that shows the four strata at issue:[28]



Not every stratum is present at every location in the proposed new unit; for example, Stratum II is more often absent than present. The two strata relevant to this point – Stratum III and Stratum IV – are found throughout the site.

[28] The excerpts are taken from WMTX's Drawing 4-7, "Hydrogeologic Section A-A'," included in A.R. Vol. 3, APP-202, p. 1099.

WMTX proposes to excavate and dispose waste into Stratum IV in one or more areas:[29]



In the above excerpt, the "approximate limits of waste" including the depth of excavation are shown by a dashed line that dips into Stratum IV at that stratum's highest point.

WMTX did soil borings of all four strata at the proposed expansion site. The results showed the presence of groundwater in Stratum III, also known as "weathered Taylor Clay," and further showed the majority of the unweathered clay (Stratum IV) to be dry.[30] WMTX geologist Janet Meaux testified that the upper portions of Stratum IV

[29] This excerpt is from WMTX Drawing 4-11, "Hydrogeologic Section F-F' and G-G'," included in A.R. Vol. 3, APP-202, p. 1103.
[30] App. 202 p. 01732.

showed signs of weathering or "fracturing" similar to Stratum III, with fracturing that could provide a pathway for groundwater to travel.[31] Ms. Meaux testified that 10 out of 24 samples showed fractures in Stratum IV.[32]

Although soil borings were taken at the proposed expansion site, WMTX did not conduct any tests of these borings for "horizontal hydraulic conductivity" (ability to transmit water horizontally) for Stratum IV; at the administrative hearing, WMTX's counsel stipulated that no such tests were performed.[33] WMTX also did not install devices that could be used to detect groundwater (called piezometers) anywhere in Stratum IV at the proposed new unit.[34] Instead, in its attempt to satisfy the regulatory requirements, WMTX relied on horizontal hydraulic conductivity tests that were conducted in a different location, in connection with the original permit application for the existing Unit 1, which were done years earlier on the other side of Mesquite Creek from where this proposed expansion is to occur.[35]

At the administrative hearing, WMTX geologist Ms. Meaux confirmed that water was found in some piezometers from Stratum IV at the existing landfill site across the creek from the expansion. She also testified that she was unable to tell whether the water really was from Stratum IV or was introduced there by other means. Furthermore, despite having used this old information to reach conclusions about the new proposed expansion site, she characterized the old piezometers from which the Stratum IV data was

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[31] A.R. Vol. 11, T-5 p. 473-74.
[32] *Id.*
[33] A.R. Vol. 12, T-8 p. 1093-95.
[34] A.R. Vol. 11, T-5. p. 505, 512-13 (testimony of WMTX geologist Ms. Meaux).
[35] App. 202 p. 01733; p. 01085.

derived as "of questionable construction."[36] She also characterized the data itself as "questionable" – "I did notice that we had Stratum IV piezometers, but the data is so questionable."[37] After being asked about the "questionable construction" of the piezometers used to gather Stratum IV data, she testified:

> Q. Okay. So the conclusion one would reach that is, we don't know what the horizontal hydraulic conductivity is in Stratum IV?
>
> A. Not with the confidence that we have of Stratum III.
>
> ....
>
> Q. So we don't know – we don't have any horizontal hydraulic conductivity tests for what we would clearly call Stratum IV. Correct?
>
> A. That are truly reliable.
>
> ....
>
> Q. So are you comfortable with determining what the horizontal hydraulic conductivity is in Stratum IV?
>
> A. I guess I would be more comfortable if I had less doubt about the source of water.[38]

WMTX relied upon the above-described hydrogeological data to satisfy the regulatory requirements, including the design of a groundwater monitoring system. The proposed system for the expansion site fails to include any groundwater monitoring in Stratum IV, though as shown above WMTX plans to deposit waste into Stratum IV at some points. Rather, the wells – used to detect any release of contaminants from the landfill into the groundwater – will not extend below Stratum III. As Ms. Meaux testified:

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[36] A.R. Vol. 11, T-5 p. 510.
[37] *Id.*
[38] A.R. Vol. 11, T-5 p. 530, 540, 572.

Q. And do any of your monitoring wells that you are recommending for this site extend into Stratum IV as you have defined it?

A. No.

Q. Does any of the excavation of the landfill extend into Stratum IV as you have defined it?

A. Yes, there is one area in the proposed area that does.[39]

The TCEQ's rules provide that:

- an application must identify the uppermost water-bearing zone at the site of a proposed landfill,[40]
- an applicant must perform horizontal permeability testing of soil layers or strata along the side of any proposed excavations,[41] and
- an applicant must install a groundwater monitoring system to ensure detection of groundwater contamination in the uppermost water-bearing zone.[42]

D. Evidence on the operating hours issue.

WMTX had originally requested approval to operate the expanded Mesquite Creek Landfill 24 hours a day, 7 days a week.[43] The existing Landfill is within Comal County, but the proposed expansion would extend into Guadalupe County. At the outset, Guadalupe County was a party to the administrative proceedings and opposed the expansion permit.

Shortly before the actual contested case hearing, Guadalupe County reached a settlement with WMTX, which was approved by the County Commissioners' Court. The settlement agreement included a provision that the "Landfill operations hours" be limited

[39] A.R. Vol. 11, T-5 p. 566 (testimony of Ms. Meaux).
[40] 30 TEX. ADMIN. CODE § 330.56(d)(5)(A)(ii).
[41] 30 TEX. ADMIN. CODE § 330.56(d)(5)(B)(i)-(ii).
[42] 30 TEX. ADMIN. CODE § 330.231(a)(2).
[43] App. 202 p. 02847.

to "4:00 a.m. to 8:00 p.m., Monday through Friday and 4:00 a.m. through 3:00 p.m. on Saturday,"[44] rather than the 24/7 operation originally requested by WMTX. Based upon this settlement agreement, Guadalupe County dropped its opposition to the expansion permit application.

3. The Administrative Law Judge Recommended the Granting of the Expansion Permit and the TCEQ Granted It.

After the hearing and post-hearing briefing, Administrative Law Judge Sarah G. Ramos issued a recommendation in favor of granting WMTX's application with some recommended alterations. She recommended "that the Draft Permit be changed to include the operating hours in the settlement agreement."[45] The ALJ noted that CCL presented testimony from neighbors "concerned about lights, noise, and traffic,"[46] that the hours in the settlement agreement provided WMTX "with several more hours per day for landfill activities than the current SOP [site operating plan] does,"[47] and that in emergencies WMTX can request permission to extend the Landfill's hours.[48]

Subsequently, the TCEQ entered Findings of Fact and Conclusions of Law and granted the permit amendment application. A copy of the TCEQ's Order is attached as Apdx. B.

A. Findings of fact on the floodplain issue.

The TCEQ's findings on the floodplain issue included the following:

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[44] A.R. Vol. 9, No. 49 p. 56 (quoting settlement agreement, CCL-5, attached as Apdx. J).
[45] A.R. Vol. 9, No. 49 p. 57.
[46] *Id.* p. 56.
[47] *Id.* p. 57.
[48] *Id.*

- That the Landfill did not include "topographic features such as floodplains, which, if present, would limit the development of the site as an MSW landfill." (FoF 26c)

- The waste disposal limits of the current and proposed Landfill site "are not located in a 100-year floodplain." (FoF 33a)

- The Landfill, including the proposed expansion, "is designed and will be constructed to prevent the discharge of any solid wastes or pollutants adjacent to or into waters of the State of Texas or the United States...." (FoF 74)

- "The landfill will not restrict the flow of the 100-year flood," and that "[t]he waste disposal limits of the facility are located outside the 100-year floodplain, as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Community Panel Number 4854630130C (1986)." (FoF 79)

B. Findings of fact on the drainage issue.

The TCEQ's findings on the drainage issue included the following:

- "Surface water controls at the proposed expansion will be designed to prevent rainfall run-off from coming in contact with leachate or refuse, maintain natural drainage patterns, and minimize erosion." (FoF 75)

- "The post-development condition will maintain similar drainage patterns to the natural site and pre-development conditions." (FoF 83c)

- "The natural drainage patterns will not be significantly altered as a result of the landfill development ...." (FoF 84)

C. Findings of fact on the hydrogeology and groundwater monitoring issue.

The TCEQ's findings on the hydrogeology and groundwater monitoring issue included the following:

- Stratum III is the "uppermost aquifer" at the Landfill site. (FoF 46c)

- Stratum IV "has relatively low permeability" and constitutes part of the "lower aquitard or confining unit for Stratum III." (FoF 48a, c)

- "The most likely pathways for pollutant migration from the landfill are within the saturated base of Stratum III and along the Strata III/IV contact." (FoF 49)

- The monitoring wells proposed by WMTX will properly "monitor the groundwater encountered at the monitored location" and will be "able to detect a release from the facility." (FoF 59)

- "The proposed expansion of the facility is designed to be protective of groundwater." (FoF 61)

D. Findings of fact on the operating hours issue.

The TCEQ departed from the recommendation of the ALJ and refused to incorporate WMTX's agreed "Landfill operations hours" into the Order. Rather, the TCEQ applied the agreed limitations only to "waste acceptance hours," not "operating hours." The TCEQ found that "waste acceptance hours should be limited to those stated in its agreement with Guadalupe County." (FoF 99) Other operations, such as use of heavy equipment and transporting materials on and off site, were allowed to be done outside of the agreed hours.[49]

E. The TCEQ's conclusions of law.

Based in part on the above-described findings of fact, the TCEQ entered the following (among others) as conclusions of law:

- WMTX "submitted a complete permit amendment application, as required by TEX. HEALTH & SAFETY CODE ANN. §§ 361.066 and 361.068, which demonstrated that Applicant will comply with all relevant aspects of the application and design requirements ...." (CoL 4)

- The record evidence was "sufficient to meet the requirements of applicable law for issuance of the Draft Permit," and the expansion "will not adversely affect public health and welfare, physical property of the people of Texas, or the environment." (CoL 6 & 7)

[49] *Id.* p. 33.

- The requested permit should be granted "[p]ursuant to the authority of, and in accordance with, applicable laws and regulations." (CoL 15)

4. The District Court Affirmed the TCEQ's Decision.

Appellants timely filed a motion for rehearing at the TCEQ. After it was overruled by operation of law, they filed an appeal pursuant to the Administrative Procedure Act in Travis County District Court. The TCEQ was the requisite defendant in that case; WMTX intervened as a defendant as well. The local administrative judge, Hon. John K. Dietz, assigned the case to himself.

After briefing from the parties and a hearing on the merits, Judge Dietz entered a final order on December 9, 2009. The entirety of the trial court's findings was that the "decision of the Commission is not contrary to the substantial evidence in this case. The Court further finds that TJFA, L.P. and Concerned Citizens and Landowners are not entitled to the additional relief sought. The Order of the Texas Commission on Environmental Quality is, therefore, AFFIRMED." A copy of the District Court's Final Order is attached as Apdx. A.

SUMMARY OF ARGUMENT

First, the TCEQ erred in finding that the proposed Landfill expansion site is not located in a 100-year floodplain and that WMTX had complied with regulatory requirements regarding floodplain analyses. Every witness who testified on the issue – including those from WMTX and the TCEQ – admitted that there is, in fact, a 100-year floodplain associated with Mesquite Creek at the Landfill site. In erroneously alleging that the site is not in a floodplain, WMTX relied solely on a FEMA floodplain map that showed no indication of any kind of a 100-year floodplain anywhere along Mesquite Creek, making it unclear whether FEMA actually studied Mesquite Creek in order to identify its floodplain. If FEMA did study Mesquite Creek, it undisputedly erred in not mapping a floodplain and thus the map is inherently unreliable.

Second, the TCEQ erred in finding that WMTX's Landfill expansion development plans will not significantly alter natural drainage patterns. The application shows that total runoff volume at the northeast corner of the Landfill will increase by about 75 percent after development. WMTX failed to analyze the potential downstream environmental impact of such a substantial increase. In failing to consider downstream impact, the TCEQ violated the Legislature's command that the agency ensure protection of the environment. If the TCEQ's failure to consider potential downstream impact was proper, then it erred in finding that a 75 percent increase does not constitute a significant alteration – particularly given its own guidelines indicating that such a large increase in runoff volume is not to be expected from the development of a landfill.

Third, the TCEQ erred in granting WMTX's application when WMTX did not conduct actual testing of all soil layers at the Landfill expansion site. The TCEQ erroneously found that WMTX's groundwater monitoring plan would be protective of groundwater, despite WMTX's reliance on old testing data from the current Landfill site (not the expansion site). WMTX failed to prove that groundwater would not move through the upper, fractured portions of the soil layer known as Stratum IV, and thus should be required to monitor the groundwater in the upper portion of that layer. The TCEQ erred by not requiring such groundwater monitoring.

Finally, Guadalupe County originally opposed WMTX's expansion application, which expands the existing Landfill from Comal County into Guadalupe County. The County agreed to withdraw as a party opponent at the administrative level when WMTX agreed to limit its "landfill operating hours." The ALJ accepted the hours in the settlement agreement. However, the TCEQ erroneously expanded those hours, allowing WMTX to conduct some landfill operations at times other than those stated in its settlement with the County. The TCEQ erred by disregarding the hours agreed upon in the settlement and accepted by the ALJ.

ARGUMENT AND AUTHORITIES

I. Standards of Review.

A. Reversal is mandated for legally erroneous orders, conclusions not supported by substantial evidence, and arbitrary and capricious actions.

In this Administrative Procedure Act appeal, reversal "**shall**" be ordered if the TCEQ's actions were in excess of its statutory authority, if its order was affected by error

of law, if its findings and conclusions are not supported by substantial evidence, if its actions were arbitrary and capricious, or if it abused its discretion. TEX. GOV'T CODE § 2001.174.

An agency's decision is arbitrary or results from an abuse of discretion if the agency fails to consider relevant factors, considers an irrelevant factor, or weighs only relevant factors but still reaches a completely unreasonable result. *TGS-NOPEC Geophysical Co. v. Combs*, 268 S.W.3d 637, 652 (Tex. App. – Austin 2008, pet. granted) (citing *City of El Paso v. Public Util. Comm'n*, 883 S.W.2d 179, 184 (Tex. 1994) and *Gerst v. Nixon*, 411 S.W.2d 350, 360 n. 8 (Tex.1966)).

B. A party seeking to amend a landfill permit must show that the landfill will be protective of the environment, the public and their property.

Texas has a stated policy of regulating municipal solid waste landfills, in the words of the Legislature, "to safeguard the health, welfare, and physical property of the people and to protect the environment." TEX. HEALTH & SAFETY CODE § 361.002(a). When it adopts regulations, the TCEQ must ensure that those regulations are consistent with this command. "An agency can only adopt rules that are authorized by and consistent with its statutory authority." *Gulf Coast Coalition of Cities v. Public Utility Comm'n*, 161 S.W.3d 706, 711 (Tex. App. – Austin 2005, no pet.) (citing *Railroad Comm'n v. Lone Star Gas Co.*, 844 S.W.2d 679, 685 (Tex. 1992)). An agency's rules must be "in harmony with the general objectives of the statutes involved." *Texas Orthopaedic Ass'n v. Texas State Bd. of Podiatric Medical Examiners*, 254 S.W.3d 714, 719 (Tex. App. – Austin 2008, pet. filed). A regulation that is not consistent with the

grant of statutory authority is void. *Office of Pub. Util. Counsel v. Public Util. Comm'n*, 104 S.W.3d 225, 232 (Tex. App. – Austin 2003, no pet.).

To comply with the statutory command of protection of health and the environment, the TCEQ requires a landfill permit holder who seeks an amendment of its permit to present, in its permit amendment application, "data of sufficient completeness, accuracy, and clarity to provide assurance that operation of the site will pose no reasonable probability of adverse effects on the health, welfare, environment, or physical property of nearby residents or property owners." 30 TEX. ADMIN. CODE § 330.51(b)(2). (References herein to Chapter 30 of the Texas Administrative Code are to the version in effect at the time of, and applicable to, the application here at issue; relevant excerpts are attached as Apdx. K.)

When a permit amendment application is contested, the application is subject to an evidentiary contested case hearing. The purpose of the hearing is "to determine whether the substance of the information provided in the application can fulfill the statutory purpose of safeguarding the health, welfare, and physical property of the people and protecting the environment." *Citizens Against Landfill Location v. Texas Comm'n on Environmental Quality*, 169 S.W.3d 258, 272 (Tex. App. – Austin 2005, pet. denied).

To ensure fulfillment of the statutory purpose – protection of the environment, public health and welfare, and property – a landfill permit amendment applicant must follow specific rules and include data in the application addressing topics such as:

- ensuring that landfills are protected when in a floodplain, 30 TEX. ADMIN. CODE § 330.301;

- ensuring that drainage patterns are not significantly altered, *id.* § 330.56(f)(4)(A)(iv); and
- ensuring that local water resources are protected from contamination through active and appropriate groundwater monitoring, *id.* § 330.231.

II. The TCEQ Committed Reversible Error by Failing to Require WMTX to Comply with Rules and Precedent Regarding Floodplains.

A. TCEQ's own rules require identification of 100-year floodplains but WMTX claimed none existed on the site, contrary to the evidence.

TCEQ rules mandate that an application for a permit amendment determine the existence of any nearby 100-year floodplains, identify whether the landfill will be located within any such floodplain, and if so, take appropriate measures to protect the public, their property and the environment. For example:

- An applicant is required to identify whether the landfill site is in the 100-year floodplain, including the source of all data. 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i).
- If the landfill site is in the 100-year floodplain, information must be provided "detailing the specific flooding levels and other events ... that impact the flood protection of the facility" and documenting that "the site shall be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood." 30 TEX. ADMIN. CODE §§ 330.56(f)(4)(B)(ii); 330.55(b)(7).

WMTX, in its application, claimed that none of the Landfill is in a 100-year floodplain.[50] But, as set forth above in the Statement of Facts, the TCEQ's staff witness and WMTX's engineer *admitted* during the hearing that this is not accurate.[51] Surprisingly, the WMTX's engineer even contended that this inaccuracy actually

[50] A.R. Vol. 1, p. 159.
[51] A.R. Vol. 12, T-7, p. 999.

complies with the TCEQ rules.[52] In spite of these facts and contrary to this evidence, the TCEQ approved the application. That approval was error requiring reversal.

B. WMTX and the TCEQ cannot properly rely on the FEMA floodplain map when there is no evidence of its accuracy, and uncontested evidence of its inaccuracy, for use in making the requisite floodplain determinations.

WMTX's false representations in its permit amendment application that the Landfill site contains no 100-year floodplain were based on the assertion that the FEMA floodplain map shows no floodplain for Mesquite Creek.[53] WMTX engineer Scott Graves testified that because the TCEQ "typically" accepts this FEMA map as a reliable source of information, he used this map exclusively to conclude that this landfill site is not within a 100-year floodplain of any stream or creek, including Mesquite Creek.[54]

But this FEMA map cannot be used to determine whether the site is in the 100-year floodplain of Mesquite Creek: the map identifies *no* such floodplain for the creek, whereas the undisputed evidence in this case shows there *is, in fact*, a Mesquite Creek floodplain. No statute or rule provides that the FEMA map is conclusive evidence of the existence (or non-existence) of floodplains. Indeed, there is no statute or rule allowing an applicant to rely on a FEMA floodplain map with no other investigation, particularly when the FEMA map shows no floodplain and *all witnesses (including technical experts) who addressed the issue admitted that there is, in fact, a floodplain.*

Based on the testimony from Mr. Graves and Mr. Prompuntagorn admitting that there is, in fact, a 100-year floodplain at the Landfill, it is clear that the FEMA floodplain

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[52] A.R. Vol. 10, T-3, p. 151, 162.
[53] The relevant FEMA map is attached as Apdx. F.
[54] A.R. Vol. 10, T-3 p. 150-51.

map cannot be relied upon to make the requisite determination as to whether this landfill site is within a floodplain. In addition to not showing a floodplain for any portion of Mesquite Creek, the FEMA map also does not show another significant and obvious flood feature that undisputedly exists in reality: the flood pool that inundates portions of the landfill site. This flood pool is created by a flood control structure that impounds Freedom Lake just downstream of the Landfill site. Conveniently ignored by WMTX in its application, but brought out at the contested case hearing, the flood pool's elevation is 605 feet, approximately three feet higher than both the waste deposited at the existing Landfill and a pond proposed at the expanded Landfill.[55] This raises a very real concern about potential water contamination. Water traveling through, or standing at, a landfill where waste is disposed can erode the soil cover and expose the waste. Further, ponds in the pathway of flood waters can interfere with flows, causing discharge onto other properties, and can increase flood levels.

Given the uncontested existence of a floodplain and flood pool at the Landfill site, WMTX was required by TCEQ rules to conduct a floodplain analysis "detailing the specific flooding levels and other events ... that impact the flood protection of the facility" and documenting that "the site shall be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood." 30 TEX. ADMIN. CODE §§ 330.56(f)(4)(B)(ii); 330.55(b)(7). WMTX's application did not include any such floodplain analysis, as testified to WMTX's own permit engineer, Mr. Graves.

[55] A.R. Vol. 13, App-213; A.R. Vol. 10, T-4, p. 326-8.

As a consequence, the application cannot and in fact does not comply with the TCEQ's own rules.

WMTX has failed to demonstrate that this site is not in the 100-year floodplain of Mesquite Creek or its tributary. The FEMA map is clearly unreliable and inaccurate with respect to identifying the existence of the 100-year floodplain for Mesquite Creek. WMTX's reliance on the map is contrary to the evidence in the application and presented at the hearing. Because Mesquite Creek runs through the middle of the Landfill site, and the undisputed evidence shows that Mesquite Creek actually has a 100-year floodplain that extends beyond its banks, there thus is a *floodplain located on the Landfill site.* Without proper planning, this creates the danger of water contamination and exacerbation of flood conditions. The TCEQ erred by ignoring undisputed evidence that the site is located within a 100-year floodplain.

A FEMA map may be persuasive floodplain evidence only in instances (unlike this case) when is established that (1) FEMA actually analyzed the specific potential floodplain at issue, and (2) its analysis was at least arguably correct. Here, there is no evidence other than unsupported surmise for the first proposition, and absolutely *none* for the second. Mr. Graves first testified that he was "not certain" whether FEMA had actually studied Mesquite Creek,[56] then (when questioned by WMTX's lawyer) noted that Mesquite Creek appeared on the FEMA floodplain map but stopped short of testifying that there was in fact no floodplain associated with Mesquite Creek,[57] then

[56] A.R. Vol. 10, T-3 p. 151.
[57] A.R. Vol. 11, T-4 p. 333-34.

again confirmed that he believed there *is*, in fact, a floodplain at the landfill site.[58] Thus, even if FEMA *had* studied Mesquite Creek – a principle that is simply not supported by substantial record evidence – it would be undisputed that FEMA *erred* in its study. TCEQ abused its discretion by allowing WMTX to rely on a FEMA map that either did not study the issue, or studied it and undisputedly reached the wrong conclusion.

C. The TCEQ arbitrarily failed to follow its own precedent regarding the use of inadequate FEMA floodplain information.

The TCEQ has addressed this issue before. Consistent agency precedent has disallowed reliance on FEMA floodplain maps when there are indications that such maps do not accurately portray floodplains. The TCEQ departed from this precedent in allowing WMTX to rely on a FEMA map that is indisputably either inadequate or wrong.

In 2006, the TCEQ denied a landfill permit application by Tan Terra Environmental Services, Inc., in part because Tan Terra attempted to rely on a FEMA floodplain map index that "does not clearly delineate whether the Facility is or is not located in a floodplain."[59] As is the case here, in *Tan Terra*, "[o]ther testimony in the record provides evidence that the site may flood."[60] In denying the application, the TCEQ cited "the Applicant's failure to provide information in addition to the FEMA map index given the index's failure to indicate whether the site was or was not in a 100-year floodplain and the contrary testimony in the record that the site had flooded in the past ...

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[58] *Id.* p. 381-82.
[59] *An Order Regarding the Application by Tan Terra Environmental Services, Inc., L.L.C.*, Permit No. MSW-2305, TCEQ Docket No. 2004-0743-MSW; SOAH Docket No. 582-05-0868, at 9, Finding of Fact 71B (April 20, 2006) (copy attached at Apdx. Tab M.
[60] *Id.*

and the fact that some floodplain values should have existed for those areas if FEMA had mapped the area."[61]

The TCEQ in *Tan Terra* followed precedent it set two years earlier, in the *Juliff Gardens* case.[62] Applicant Juliff Gardens represented that the proposed landfill site was not in the 100-year floodplain and "relied on the FEMA flood insurance map to reach its conclusion."[63] However, while FEMA had affirmatively studied some areas on the map, there were indications that it had not specifically studied the proposed landfill site.[64] Juliff Gardens did not attempt to make an independent determination of the 100-year floodplain, and evidence received at the hearing indicated that the elevation of the 100-year flood was higher than portions of the site.[65] In denying the application, the TCEQ noted that "Applicant has not shown that it accurately identified whether the Site is located within a 100-year floodplain," and "has not adequately provided information identifying the 100-year flood level and any other special flooding factors that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood."[66]

Tan Terra and *Juliff Gardens* stand squarely for the proposition that an applicant cannot rely solely on a FEMA map or map index for the required floodplain determination when the evidence shows that the FEMA information is incomplete or inaccurate. The TCEQ arbitrarily reversed its course in this case and allowed WMTX to

[61] *Id.* at 15-16, Conclusion of Law 2.
[62] *An Order Denying the Application by Juliff Gardens, L.L.C.*, Permit No. MSW-2282, TCEQ Docket No. 2002-0117-MSW, SOAH Docket No. 582-02-1595 (Oct. 4, 2004) (copy attached at Apdx. L).
[63] *Id.* at 5, Findings of Fact 46-47.
[64] *Id.* at 5, Findings of Fact 48-49.
[65] *Id.* at 5-6, Findings of Fact 51-53.
[66] *Id.* at 10-11, Conclusions of Law 6, 9.

rely on a FEMA map that was either inadequate or indisputably *wrong*. Its finding that the Landfill is not in a floodplain is not supported by substantial evidence and is arbitrary and capricious. Its failure to follow its established policy without notice of intent to adopt a new policy is arbitrary and capricious, as well as in violation of due process.[67]

D. WMTX conceded that the flood calculations it conducted were not floodplain analyses; thus, those calculations do not satisfy the rules' requirements regarding floodplains.

WMTX lead engineer Scott Graves performed some calculations to determine some 100-year flood levels under certain conditions, as shown in Section 6H of Attachment 6 of the Application.[68] But Mr. Graves testified that this analysis was *not* a determination of the 100-year floodplain for Mesquite Creek. He admitted that he failed to consider downstream features, such as Kohlenberg Lane and Freedom Lake.[69] He made it clear that it was not his intent to delineate the 100-year floodplain for Mesquite Creek when he was conducting this limited analysis.[70] He even discussed how he would go about making an analysis of the floodplain for Mesquite Creek, which would include taking into account downstream obstructions.[71]

Mr. Prompuntagorn, the TCEQ engineer, agreed that an analysis for determining the floodplain along Mesquite Creek should consider all features that would affect the 100-year water level, including downstream obstructions.[72]

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[67] *Flores v. Employees Retirement System*, 74 S.W.3d 532, 542-45 (Tex. App. – Austin 2003, pet. denied).
[68] A.R. Vol. 5, p. 02107.
[69] A.R. Vol. 10, T-3 p. 158-63, 172-73.
[70] A.R. Vol. 10, T-3 p. 177.
[71] A.R. Vol. 10, T-3 p. 179-80.
[72] A.R. Vol. 12, T-7 p. 995.

There simply is no provision allowing for a limited non-floodplain analysis such as that conducted by Mr. Graves to substitute for the floodplain analysis required by the applicable rules. Neither WMTX nor the TCEQ can rely on the limited non-floodplain analysis to satisfy the floodplain requirements discussed above.

E. The TCEQ erred in its findings of fact and conclusions of law regarding floodplain issues.

Adequate characterization of floodplains is essential to ensure that flooding does not cause release of waste or waste-related pollutants into surface water or groundwater. This is a real concern. Evidence at the hearing conclusively established that Mesquite Creek does indeed flood, and has recently flooded to the extent that flood waters ran over the road bordering the Landfill.[73] The TCEQ has failed to require WMTX to adequately characterize the Landfill with regard to floodplain issues and require the necessary protective measures when a landfill site is in the floodplain.

Based on the foregoing, the TCEQ's Findings of Fact 26.c, 33.b, 74, and 79[74] – all related to the floodplain issue – are **not** supported by substantial evidence, and are arbitrary and capricious. Similarly, the TCEQ's Conclusions of Law 4 (specifically relating to the floodplain issue), 6, 7, and 15 (regarding purported compliance with applicable laws) are legally erroneous, unsupported by substantial evidence, and arbitrary and capricious.

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[73] A.R. Vol. 10, T-3 p. 40-41.
[74] TCEQ Order (Apdx. B).

III. The TCEQ Committed Reversible Error by Failing to Require WMTX to Adequately Demonstrate that Increased Runoff Volume from the Landfill Would Not Significantly Alter Natural Drainage Patterns or Significantly Increase Flooding.

A. TCEQ rules require an applicant to demonstrate that changes in drainage due to landfill construction will not have significant adverse effects.

TCEQ rules require an applicant to show that the design of a proposed landfill expansion will not cause problems due to altered and/or increased water runoff. These rules further the State's objective that municipal solid waste landfills be constructed and operated in a manner that safeguards the environment as well as public health and safety. The rules include the following provisions:

- An application must include sample calculations "to verify that natural drainage patterns will not be significantly altered."[75]

- An application must include "discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development."[76]

In requiring a showing of "no significant alteration" of drainage patterns, the TCEQ operates in harmony with the Legislative mandate that the agency adopt rules and procedures "to safeguard the health, welfare, and physical property of the people and to protect the environment." TEX. HEALTH & SAFETY CODE § 361.002(a). These rules are analogous to others aimed at controlling drainage and runoff in similar situations. For

[75] 30 TEX. ADMIN. CODE § 330.55(b)(5)(D).
[76] 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(iv).

example, TCEQ rules regarding levies and similar improvements require a showing that the design

> will not increase flooding or divert waters in such a way that any person's life or property will be endangered or subjected to significantly increased flooding. The TCEQ shall not approve plans for levees or other improvements which will significantly increase flood rises on any person's land ....[77]

The "no significant alteration" requirement is also consistent with Texas drainage law, such as is found in Section 11.086 of the Texas Water Code. This provision states that "no person may divert or impound the natural flow of surface waters in this state ... in a manner that damages the property of another by the overflow of the water diverted...."[78]

These rules share the common-sense principle that in order to ensure environmental protection, the impact of altered or diverted drainage on adjoining properties must be considered.

B. An important TCEQ guidance document directs applicants to analyze potential impacts from drainage changes.

To assist applicants in meeting the requisite demonstration that the proposed landfill will not cause any significant alteration of natural drainage patterns, the TCEQ issued a regulatory guidance document RG-417 ("TCEQ Drainage Guidance") in June 2004.[79] The TCEQ Drainage Guidance provides, among other things, that:

- an applicant should consider alterations to drainage patterns caused by increased volumes of water discharged at various points resulting from the design storm – the 25-year, 24-hour storm event – along with ***the potential impacts resulting from such changes;***[80]

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[77] 30 TEX. ADMIN. CODE § 301.34(3).
[78] TEX. WATER CODE ANN. § 11.086 (Vernon Supp. 1997).
[79] A.R. Vol. 13, APP-209 (copy attached as Apdx. G).
[80] *Id.* p. 3 (emphasis added).

- an applicant has the responsibility to demonstrate that any volume increase is not significant.[81]

C. WMTX failed to demonstrate that the substantial increase in runoff volume at Discharge Point E will not have a significant adverse impact on downstream land.

WMTX admits that it did virtually no analysis to determine whether the greatly increased discharge volume at the northeast corner of the expanded landfill site – Discharge Point E – would have a negative impact on adjoining land, despite the recognition of genuine and legitimate concern that the increased runoff would lead to greater flood risk. The TCEQ's approval of the application without requiring off-site impact analysis is inconsistent with the statutory command of environmental protection.

1. Consideration of "peak flow" alone is not sufficient to meet the requirements of the rules and statutes; other flow parameters and off-site effects must be examined.

WMTX engineer Scott Graves testified that he did not consider the increase in runoff at Discharge Point E to be a significant alteration of natural drainage because the single "peak" discharge rate at that point would be reduced.[82] His conclusion that reduction of the peak rate was sufficient to ensure no significant downstream impact was based on so-called "engineering judgment," considering site-specific behavior of the watershed and the site itself.[83]

Yet, as amply displayed by the testimony excerpts set forth at pages 8-9, above, Mr. Graves did virtually *no* examination of off-site, downstream water flows and flooding conditions, or how the increased *total* runoff volume would affect downstream

[81] *Id.* p. 4, 13.
[82] A.R. Vol. 10, T-4 p. 346-48.
[83] A.R. Vol. 10, T-4 p. 349-50.

property. This lack of examination rendered him unable to reach any reliable conclusions about the potential for significant downstream impact of increased runoff.

Mr. Graves admitted that increased flooding on off-site properties can occur even with a reduction in the peak discharge rate at the permit boundary, if the total volume of runoff increases enough.[84] An increase of more than 75 percent in total runoff volume at the permit boundary is a significant alteration of natural drainage patterns, under any reasonable definition. Yet here the TCEQ accepted such an increase simply because the peak discharge rate leaving this location at the permit boundary is decreased over natural conditions by the use of a detention pond. This mere fact, however, simply does not prove that there will be no adverse affects on downstream properties. WMTX simply did no analysis in order to actually determine if such an increase in runoff volume would cause any adverse affects downstream.

Mr. Graves and WMTX could not have reached any rational conclusion about the potential for flooding or adverse impacts immediately downstream from this discharge location of the Landfill site, because they have no site-specific information or knowledge about conditions downstream and the potential for impacts downstream. These are the very things Mr. Graves stated he would need in order to be able to use "engineering judgment" to reach any conclusion about the significance of the increase in runoff volume being shown for Discharge Point E.[85] So-called "engineering judgment" cannot be undertaken when there are no data upon which to base that judgment.

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[84] A.R. Vol. 10, T-4 p. 349-50.
[85] A.R. Vol. 10, T-4, p. 349-50.

2. WMTX's permit amendment application omitted the required discussion of changed stormwater runoff patterns.

Tellingly, WMTX in its permit amendment application included virtually *no* discussion regarding the increased runoff volume at Discharge Point E – despite TCEQ rules mandating such discussion.[86] Likewise, there is no discussion in the application regarding how or why the significant increase of the area draining to Discharge Point E, and the resulting increased runoff volume leaving that point, may or may not impact properties downstream. This issue was simply ignored by WMTX. Anyone reading the application likely would not even become aware that this was an issue.

In fact, WMTX not only attempted to hide the issue, it also attempted to misrepresent the true impact of the Landfill design on natural drainage patterns. Mr. Graves testified that the only place in the application containing any discussion or narrative description of the alteration of natural drainage patterns is within the first paragraph on page 01821 of the application.[87] Within this paragraph of the application, WMTX actually states that the drainage areas and runoff volumes are "similar" for natural conditions, pre-development conditions, and post-development conditions, concluding that "this information demonstrates that natural and currently permitted drainage patterns will not be significantly altered or adversely affected by the proposed expansion."[88]

It defies common sense to claim that a significant increase in the drainage area and an increase of total runoff volume of more than 75 percent between pre- and post-

[86] 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(iv).
[87] A.R. Vol. 10, T-4 p. 282-83.
[88] A.R. Vol. 4, p. 01821.

development conditions of the Landfill would be considered "similar" values. WMTX buried the actual data in a table, and did not present any information on the increase in its short narrative discussion. Under TCEQ rules, it was incumbent on WMTX to specifically identify the 75 percent increase in total runoff volume at Discharge Point E, and to *explain* exactly how such an increase will not impact properties downstream. In failing to do so, WMTX did not meet the TCEQ requirement of "discussion and analysis to demonstrate" no significant alteration of natural drainage patterns due to the landfill development.

D. TCEQ precedent that refuses to consider offsite effects of altered drainage patterns is contrary to the Legislature's directive that public health, safety, and the environment must be protected.

In proceedings below, WMTX has relied on two prior TCEQ decisions, the *Blue Flats* and *North Texas Municipal Water District* cases. To the extent that these two cases reject any off-site analyses of stormwater in determining whether significant alteration of natural drainage patterns would occur, their holdings are directly contrary to the TCEQ's *very own guidelines* (which were issued *after* these two decisions were reached). The *Blue Flats* and *North Texas* decisions are also contrary to the Legislature's command that the TCEQ is "to safeguard the health, welfare, and physical property of the people and to protect the environment." TEX. HEALTH & SAFETY CODE § 361.002(a).

The TCEQ Drainage Guidance document specifically states that off-site analyses can and should be performed in order to make the determination of whether the proposed

development will significantly alter natural drainage patterns.[89] The document sets forth four "[t]ypical methods for addressing this issue":

- Demonstrate that volume will not increase;
- Use stormwater retention ponds;
- Demonstrate that any volume change will not have a significant adverse effects on downstream water rights; or
- Demonstrate any volume increase will not have significant downstream effect.

TCEQ Drainage Guidance at 4. It is uncontested that the total runoff volume at Discharge Point E is increased in WMTX's development plan, so the first option is not available. WMTX's plan uses a *detention* pond for the temporary holding of stormwater to reduce the *peak* discharge, but does not use a *retention* pond to decrease the *total* runoff volume, so the second option is not available. The third option is for situations in which development will *decrease* downstream runoff, so it is not applicable here.

That leaves only one "typical method" from the TCEQ Drainage Guidance that WMTX could have used to demonstrate no significant alteration: demonstrate that any volume increase will not have a significant downstream effect. As shown above, WMTX's application utterly fails to include any such demonstration, because WMTX did no real investigation of downstream conditions at all.

The TCEQ Drainage Guidance is the agency's most recent statement on how to comply with the "no significant alteration" requirement. To the extent that it is

[89] A.R. Vol. 13, APP-209, attached hereto as Apdx. G (specifically Sections 2.1 and 5.3).

inconsistent with the Agency's earlier *Blue Flats* and *North Texas* decisions, the standards in the Guidance document affirmatively represent current TCEQ policy.

Even more fundamentally, to the extent that *Blue Flats* and *North Texas* prohibit consideration of downstream effects of altered drainage, that result cannot be reconciled with the Legislative command that municipal solid waste landfills must "safeguard the health, welfare, and physical property of the people and ... protect the environment."[90] As a matter of simple logic, the environmental impact of altered drainage patterns *cannot* be assessed without consideration of downstream effects.

As just one example, a three-fold increase in runoff volume likely would not result in any negative environmental impact if that runoff goes directly into a large lake or ocean (assuming the runoff is, as required, not contaminated water), whereas a much smaller increase might have substantial negative impact if it is directed to low-lying, flood-prone adjoining land. Given this, the statement in the *Blue Flats* Order that "Commission rules and precedent require that the determination of significant alteration be made at the permit boundary, not off site"[91] cannot be reconciled with, and is not in harmony with, the Legislative objective of environmental protection. Ignoring off-site impact allows errors going both ways: in some cases a large increase at the permit boundary will have no downstream environmental impact but will not be allowed, while in other cases a smaller increase might have significant downstream environmental impact but will be allowed due to its apparent small size at the permit boundary.

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[90] TEX. HEALTH & SAFETY CODE § 361.002(a).

[91] *An Order Denying the Application by Blue Flats Disposal, L.L.C.*, Permit No. MSW-2262, TNRCC Docket No. 98-0415-MSW, SOAH Docket No. 582-98-1390 (Jan. 2, 2001) at p. 8, copy at CR5:1216, 1230.

Thus, to the extent the TCEQ maintains that downstream impact is irrelevant to the "significant alteration" inquiry, its position is not "'in harmony' with the general objectives of the legislation involved" – which is a question of law. *Gulf Coast Coalition of Cities v. Public Utility Com'n*, 161 S.W.3d 706, 711-12 (Tex. App. –Austin 2005, no pet.). Its failure to consider downstream effects – a factor relevant to environmental protection – constitutes arbitrary action and an abuse of discretion. *TGS-NOPEC Geophysical Co. v. Combs*, 268 S.W.3d 637, 652 (Tex. App. – Austin 2008, pet. granted). Because the TCEQ exceeded its statutory authority by adopting rules and policies not "in harmony" with the Health & Safety Code, its approval of WMTX's application should be reversed and the matter remanded.

E. If the TCEQ is correct in refusing to consider offsite effects of altered drainage patterns, then it erred in approving WMTX's application, because a 75 percent increase in total runoff volume is a significant alteration as a matter of law.

In the alternative, if the TCEQ's *Blue Flats* and *North Texas* decisions were correct, then the TCEQ's finding here – that a 75 percent increase in total runoff volume at the Landfill's boundary at Discharge Point E is not a "significant alteration" of natural drainage patterns – is unsupported by substantial evidence, and is arbitrary and capricious.

The TCEQ's Drainage Guidance provides that "the expected volume increase could vary from 5 percent to 60 percent."[92] If the TCEQ's *Blue Flats* and *North Texas* decisions are correct and binding, and the only relevant consideration is the change in

[92] Apdx. G at p. 4.

discharge at the permit boundary, then the amount of change is the only possible determinant of whether an alteration is "significant." In turn, the only guidelines promulgated by the TCEQ in evaluating the amount of change is the Drainage Guidance, which anticipates volume increases of up to 60 percent. Therefore, an increase of 75 percent must *per se* be considered "significant."

The situation leaves no tenable alternatives to a predetermined ceiling on amount of volume increase. The TCEQ cannot just make *ad hoc*, unguided judgments about what increases are or are not "significant"; if it did, it would be acting without reference to guiding rules or principles – the very definition of "arbitrary and capricious." *See, e.g.*, *General Motors Corp. v. Bray*, 243 S.W.3d 678, 684 (Tex. App. – Austin 2007, no pet.).

F. The TCEQ erred in its findings of fact and conclusions of law regarding drainage patterns.

Based on the foregoing, the TCEQ's Findings of Fact 75, 83.c, and 84[93] – all related to the drainage issue – are **not** supported by substantial evidence, and are arbitrary and capricious. Similarly, the TCEQ's Conclusions of Law 6, 7, and 15 (regarding purported compliance with applicable laws) are legally erroneous, unsupported by substantial evidence, and arbitrary and capricious.

[93] A copy of the TCEQ's Order is attached as Apdx. B.

IV. The TCEQ Committed Reversible Error by Granting the Application Without Requiring WMTX to Adequately Test and Characterize the Geology/Hydrogeology of the Expansion Site, Leading to an Inherently Unreliable Groundwater Monitoring System.

A. TCEQ rules require an applicant to properly test and characterize the geology/hydrogeology of a proposed landfill expansion site.

Rather than actually testing all the geology/hydrogeology of the soil layers underneath the Landfill's proposed new unit, WMTX relied on tests from underneath the *existing* Landfill site (across Mesquite Creek). However, WMTX's own expert witnesses questioned the reliability of those tests (as shown above in the Statement of Facts). WMTX's failure to adequately test, and correctly characterize, the geology/hydrogeology of the new unit violates the rules and renders its proposed groundwater monitoring system unreliable.

The TCEQ rules at issue include the following:

- An application must identify the uppermost water-bearing zone at the site of a proposed landfill.[94] This is important for identifying potential pathways of migration of groundwater that might become contaminated by landfill leakage.

- An applicant must perform horizontal permeability testing of soil layers or strata along the side of any proposed excavations.[95] This testing determines how likely water is to migrate horizontally through each strata; again, a primary purpose is to identify potential pathways of groundwater migration.

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[94] 30 TEX. ADMIN. CODE § 330.56(d)(5)(A)(ii).
[95] 30 TEX. ADMIN. CODE § 330.56(d)(5)(B)(i)-(ii).

- An applicant must install a groundwater monitoring system to ensure detection of groundwater contamination in the uppermost water-bearing zone.[96]

These rules are intended to provide valuable information about the site-specific characteristics of the hydrogeology of the proposed landfill site so that an adequate groundwater monitoring system can be established in accordance with TCEQ rules.[97] Groundwater protection is an important part of the Legislative mandate of environmental protection.

B. WMTX did no testing of horizontal hydraulic conductivity and permeability in Stratum IV at the new unit.

Geological conditions at a proposed landfill site are assessed primarily through soil borings. TCEQ rules require at least some of the borings to extend at least 30 feet beyond the deepest proposed landfill excavation. WMTX performed the required borings at the new unit, and the results were as expected given the site's general geography: the borings showed the presence of groundwater in Stratum III, the weathered Taylor Clay, and the majority of the unweathered clay (Stratum IV) appeared to be dry. However, the upper portions of Stratum IV showed signs of weathering similar to Stratum III, with fracturing that could provide a pathway for groundwater to travel.[98] WMTX geologist Janet Meaux testified that 10 out of 24 samples showed fractures in Stratum IV.[99] A TCEQ geologist, John Williamson, testified that the data shows the "horizontal hydraulic

[96] 30 TEX. ADMIN. CODE § 330.231(a)(2).
[97] *E.g.*, 30 TEX. ADMIN. CODE § 330.231(e)(1).
[98] A.R. Vol. 11, T-5 p. 473-74.
[99] *Id.*

conductivity" (ability to transmit water horizontally) of Stratum III and Stratum IV were computed to be the same.[100]

Simply looking at the soil borings is inadequate to determine that no portion of Stratum IV is capable of conducting groundwater such that it should not be considered part of the uppermost aquifer (water-bearing zone). Rather, the rules *require* actual testing of each geological layer in order to characterize its geology/hydrogeology. The TCEQ rules mandate:

> (i) A laboratory report of soil characteristics shall be determined from at least one sample from each soil layer or stratum that will form the bottom and side of the proposed excavation and from those that are less than 30 feet below the lowest elevation of the lowest excavation...
>
> (ii) ... Those undisturbed samples that represent the sidewall of any proposed trench, pit, or excavation shall be tested for the coefficient of permeability on the sample's in-situ horizontal axis ..."[101]

It is undisputed that WMTX did no such in-situ permeability tests for hydraulic conductivity on samples of Stratum IV taken from the proposed new unit. WMTX's attorney stipulated that the application contains *no* horizontal hydraulic conductivity data for Stratum IV in the new unit.[102] Nor did WMTX install devices used to detect groundwater (called piezometers) anywhere in Stratum IV at the new unit.[103]

WMTX relies solely on laboratory tests and piezometer readings of Stratum IV samples taken from the *existing* Landfill site, rather than the new unit. This fails to comply with the rules, even if there were no reasons to doubt the reliability of the data

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[100] A.R. Vol. 12, T-8. p. 1092-93, 1096-97.
[101] 30 TEX. ADMIN. CODE § 330.56(d)(5)(B)(i)-(ii).
[102] A.R. Vol. 12, T-8 p. 1093-95.
[103] A.R. Vol. 11, T-5. p. 505, 512-13 (testimony of WMTX geologist Ms. Meaux).

from the existing site, because the rules require samples to be taken and evaluated from the actual proposed excavation area. It is even more clearly improper when, as here, doubts about the data were expressed by WMTX's own geologist.

C. The Stratum IV data relied upon by WMTX is inadequate and of questionable accuracy.

As discussed above, the Stratum IV data now being relied upon by WMTX was obtained as part of a project done *before* the expansion application, at a location different than where the expansion will be, for purposes other than the application at issue, and by persons other than the geologists involved with the expansion application.

Ms. Meaux, WMTX's primary geologist for the permit amendment application, acknowledged that the prior sampling and testing done on Stratum IV yielded unreliable or questionable results, even though in some of the prior project's soil samples, water was detected in Stratum IV.[104] For example, she characterized the piezometers from which the Stratum IV data was derived as "of questionable construction."[105] She also characterized the data itself as "questionable" – "I did notice that we had Stratum IV piezometers, but the data is so questionable."[106]

The data relied upon by WMTX simply was not sufficient to support a conclusion that the upper portion of Stratum IV would not conduct groundwater and therefore was not part of the uppermost water-bearing zone. Plaintiffs agree that a *portion* of Stratum IV is a "confining unit" or aquiclude that does not transmit water. Specifically, below the fractures of the upper portion of Stratum IV near the transition from Stratum III, Stratum

[104] A.R. Vol. 11, T-5 p. 547-51.
[105] A.R. Vol. 11, T-5 p. 510.
[106] *Id.*

IV provides excellent protection against water migration. However, the movement of groundwater within the fractures of the upper portion of the Stratum IV was never tested.

WMTX failed to adequately and accurately characterize *any* of Stratum IV as it exists underneath the proposed new unit. As a result, there simply is insufficient data to conclude that the upper portion of Stratum IV – which will be excavated and have waste placed in it – is not a water-bearing zone that needs to be monitored for the movement of contaminants.

D. WMTX's failure to adequately assess Stratum IV at the new unit led to the design of an inadequate groundwater monitoring system.

Landfill operators are required to monitor groundwater quality via wells located at the boundary of the landfill property. The depth at which groundwater is monitored is determined by the hydrogeology of the site, and must be based on a "thorough characterization" of a site's hydrogeology.[107] Groundwater monitoring wells are required to yield representative samples of groundwater from the uppermost aquifer or water-bearing zone, as determined after the required characterization of the geology/hydrogeology.[108] Put simply, monitoring wells are required to be placed where groundwater is likely to flow.

WMTX has specifically located its groundwater monitoring wells at the proposed new unit in such a way that they will all yield water from Stratum III only. WMTX admits that no wells are planned to extend into Stratum IV, even though portions of the proposed expansion will be excavated, and waste deposited, into that lower soil layer.

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[107] 30 TEX. ADMIN. CODE § 330.231(e)(1).
[108] 30 TEX. ADMIN. CODE § 330.231(a); A.R. Vol. 11, T-5 at 502.

Because, as shown above, WMTX did not thoroughly characterize the site's geology and hydrogeology, it did not comply with the rules requiring that a groundwater monitoring system be based upon such a site-specific characterization. This is demonstrated by WMTX decision to not place any monitoring wells in Stratum IV, even though WMTX (1) failed to adequately demonstrate that the upper portion of Stratum IV is not part of the upper-most water-bearing zone, and (2) chose to excavate into Stratum IV for waste disposal, despite not having any monitoring wells that could detect potential release of contaminants into groundwater at that level.

E. The TCEQ erred in its findings of fact and conclusions of law regarding geology/hydrogeology and groundwater monitoring.

Based on the foregoing, the TCEQ's Findings of Fact 46c, 48a, 48c, 49, 59, and 61[109] – all related to the hydrogeology and groundwater monitoring issue – are **not** supported by substantial evidence, and are arbitrary and capricious. Similarly, the TCEQ's Conclusions of Law 6, 7, and 15 (regarding purported compliance with applicable laws) are legally erroneous, unsupported by substantial evidence, and arbitrary and capricious.

V. The TCEQ Committed Reversible Error by Limiting Only "Waste Acceptance Hours" Rather than All "Operating Hours."

As discussed above in the Statement of Facts, Guadalupe County agreed to drop its challenge to WMTX's application for expansion in exchange for WMTX's agreement to limit Landfill operating hours; however, the TCEQ allowed certain operations at the

[109] A copy of the TCEQ's Order is attached as Apdx. B.

Landfill in excess of those specified in WMTX's settlement agreement with Guadalupe County.

The TCEQ limited only those landfill operations dealing with "waste acceptance" to the agreed hours.[110] Other operations, such as use of heavy equipment and transporting materials on and off site, were allowed outside of the agreed hours.[111] Thus, under the operative TCEQ Order, WMTX can *operate* at the Landfill (which could include excavation, application of soil cover, and other activities generating light and noise) at times outside of the agreed hours, and is limited only to the agreed hours when it can *accept waste* from haulers and the public. This is plainly inconsistent with the settlement agreement WMTX entered into to induce Guadalupe County to drop its opposition to the permit expansion application.

If the TCEQ believes its Finding of Fact 99 is a correct interpretation of the settlement agreement, it is in error. The settlement agreement clearly refers to restrictions on "Landfill operations hours," not "waste acceptance hours." Such an interpretation is not supported by the evidence and is arbitrary and capricious, and thus is entitled to no deference from this Court.

Alternatively, if the TCEQ believed it had the authority to depart from the terms of the settlement agreement in setting operating hours in its Order, Appellants submit that such an action also would be arbitrary and capricious. Though Appellants are unaware of binding precedent addressing this issue, an agency should be held to be acting arbitrarily

[110] App. B p. 33.
[111] *Id.*

and capriciously if it enters an order that is specifically and explicitly a departure from a settlement agreement, entered into during the pendency of a contested case hearing, that had the effect of inducing a party to drop its opposition to the application at issue. If an agency is free to ignore the terms of settlement agreements entered under such circumstances, it would act as a powerful disincentive to settlements.

The TCEQ's Finding of Fact 99, Conclusion of Law 14 and its Order (also regarding "waste acceptance hours" and allowing other activity outside of those hours) are thus unsupported by substantial evidence and are arbitrary and capricious.

CONCLUSION AND PRAYER

WMTX failed on several fronts to submit a permit amendment application that included "data of sufficient completeness, accuracy, and clarity to provide assurance that operation of the site will pose no reasonable probability of adverse effects on the health, welfare, environment, or physical property of nearby residents or property owners."[112] Despite this failure – and despite the application's clear violation of the TCEQ's own rules – the TCEQ accepted the application and granted the permit amendment. The agency's action is unsupported by substantial evidence, and its failure to enforce its own rules and precedent is arbitrary and capricious.

Therefore, Appellants TJFA and CCL respectfully pray that this Court vacate the permit issued by the Texas Commission on Environmental Quality to WMTX, remand the matter to the TCEQ for further proceedings, and award Appellants costs incurred together with all other relief to which Appellants may show themselves entitled.

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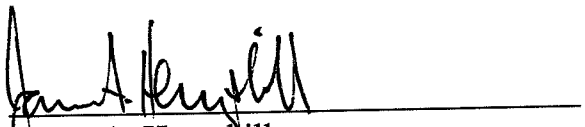
[112] 30 TEX. ADMIN. CODE § 330.51(b)(2).

Respectfully submitted,



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CERTIFICATE OF SERVICE

I certify that a true and correct copy of the foregoing document has been served on the following as indicated below, on this the 3rd day of May, 2010.

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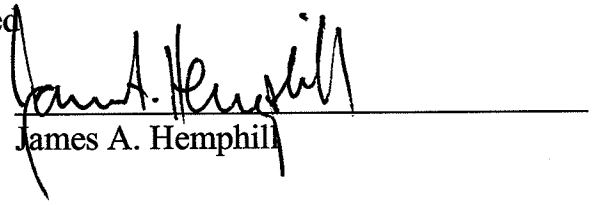

James A. Hemphill

INDEX TO APPENDIX

CAUSE NO. D-1-GN-08-004503

TJFA, L.P. and CONCERNED CITIZENS AND LANDOWNERS, Plaintiffs	§	IN THE DISTRICT COURT OF
v.	§	TRAVIS COUNTY, TEXAS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, Defendant	§	53RD JUDICIAL DISTRICT

FINAL ORDER

On the 9th day of December, the Court heard the administrative appeal of TJFA, L.P. and Concerned Citizens and Landowners from the Order of the Texas Commission on Environmental Quality granting the Application of Waste Management of Texas, Inc. for Permit No. MSW-66B in TCEQ Docket No. 23006-1931-MSW and SOAH Docket No. 582-07-0863. The Court finds that decision of the Commission is not contrary to the substantial evidence in this case. The Court further finds that TJFA, L.P. and Concerned Citizens and Landowners are not entitled to the additional relief sought. The Order of the Texas Commission on Environmental Quality is, therefore, AFFIRMED.

All relief not granted herein is DENIED.

Signed this 10th day of December, 2009.

John K. Dietz

JOHN K. DIETZ
JUDGE PRESIDING

EXHIBIT
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN ORDER Granting the Application for Permit No. MSW-66B to Waste Management of Texas, Inc., TCEQ Docket No. 2006-1931-MSW, SOAH Docket No. 582-07-0863

On August 6, 2008 and September 10, 2008, the Texas Commission on Environmental Quality (Commission or TCEQ) considered the application of Waste Management of Texas, Inc. (Applicant) for Permit No. MSW-66B to authorize Applicant to laterally expand the existing Comal County Landfill in Comal County and into Guadalupe County, Texas, and to rename the facility the Mesquite Creek Landfill. Sarah G. Ramos, Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH), presented a Proposal for Decision (PFD), which recommended that the Commission grant the application for Permit No. MSW-66B. After considering the ALJ's PFD, the Commission adopts the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

General Findings/Procedural Issues

1. The Applicant is Waste Management of Texas, Inc., 9708 Giles Lane, Austin, Texas 78754.

2. The facility is the Comal County Landfill, to be renamed the Mesquite Creek Landfill (Mesquite Creek Landfill), and is owned and operated by Applicant.

3. The facility is located at the southwest intersection of FM 1101 and Kohlenberg Lane, approximately five miles north of the intersection of State Highway 46 and FM 1101 and approximately two miles east of the I-35 Kohlenberg Road exit, north of the City of New Braunfels in Comal County.

EXHIBIT
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B

4. The street address for the current site is 1000 Kohlenberg Lane, New Braunfels, Texas, but a new entrance is planned in the expansion.

5. The facility is an existing Type I Municipal Solid Waste (MSW) landfill consisting of approximately 96 acres and permitted pursuant to Permit No. MSW-66A.

6. Of the currently permitted areas on the site, Unit 3, which is not yet built, is on the westernmost side. Unit 1, which is nearly filled, is adjacent to Unit 3 to the east. The area for which Applicant seeks a permit, Unit 2, is on the easternmost side of the property.

7. Applicant has sufficient property rights in the facility to ensure right of entry until the end of the post-closure care period.

8. Applicant filed Application No. MSW-66B (application), which requests an amendment of Permit MSW-66A to laterally expand the existing 96-acre facility to approximately 244 acres and into Guadalupe County. The application proposes to expand the actual area of waste disposal from approximately 79 acres to approximately 164 acres.

9. The facility is currently authorized to accept municipal solid waste, Class 2 and Class 3 industrial solid waste, special waste as defined by 30 TEX. ADMIN. CODE (West 2006) (TAC) § 330.2, and Class 1 industrial waste that is Class 1 only because of asbestos content.

10. Scott M. Graves, P.E., a professional engineer registered in Texas, affixed his seal to all engineering plans and drawings and on the application cover pages.

11. The application was initially submitted to the TCEQ on November 18, 2005.

12. On December 13, 2005, the Executive Director (ED) issued notice that the application was deemed administratively complete, and on August 23, 2006, the ED issued notice that the application was found technically complete.

13. The Notice of Receipt of Application and Intent to Obtain Municipal Solid Waste Permit Amendment containing the information specified in 30 TAC § 39.11 was published on December 19, 2005, in the *San Antonio Express News*.

14. The Revised Notice of Application and Preliminary Decision for a Municipal Solid Waste Permit Amendment containing the information required by 30 TAC § 39.11 was published on August 29, 2006, in the *New Braunfels Herald-Zeitung* and the *Seguin Gazette-Enterprise*.

15. The Notice of Hearing containing the information specified in 30 TAC § 39.11 was published on March 12 and 13, 2007, in the *New Braunfels Herald-Zeitung*, the *Seguin Gazette-Enterprise*, and the *San Antonio Express News*.

16. A combined notice including the Notice of Receipt of Application and Intent to Obtain Permit, Notice of Application and Preliminary Decision, Notice of Public Meeting, and Notice of Hearing was issued by TCEQ on March 8, 2007, and published on March 12 and 13, 2007, in the *New Braunfels Herald-Zeitung*, the *Seguin Gazette-Enterprise*, and the *San Antonio Express News*.

17. On March 9, 2007, the TCEQ Chief Clerk mailed the Notice of Hearing on the application to the then-identified participants to the proceeding, to other potentially affected persons identified in the application, to various state and local agencies and officials, to state legislators for the district in which the facility is located, and to other persons specified in 30 TAC § 39.13. Potentially affected persons receiving notice generally included those landowners whose property was within one mile of the facility.

18. The preliminary hearing was conducted on April 13, 2007, at the New Braunfels Municipal Court, 1486 South Seguin Avenue, New Braunfels, Texas 78130.

19. The following persons were named as parties to the proceeding: Applicant, the ED, the Office of Public Interest Council (OPIC); TJFA, L.P. (TJFA); the City of New Braunfels; Guadalupe County; and Concerned Citizens and Landowners (CCL) (representing Nancy Schwarzlose, the Holtman family, Sandra Elbel Taylor and Lilian Schriewer Elbel, James F. and Vera B. Langford, and the Krueger-Westmeyer families). Guadalupe County was named as a party but withdrew its party status during the hearing, after it had reached a settlement agreement with Applicant about the facility's operating hours.

20. A contested case hearing on the application was conducted on October 22-29, 2007, at the offices of the State Office of Administrative Hearings, William Clements Building, 300 West 15th Street, Austin, Texas 78701 and the New Braunfels Municipal Court, 1486 South Seguin Avenue, New Braunfels, Texas 78130.

Sufficiency of Permit Application and Draft Permit

21. There are no site-specific conditions that require special design consideration.

22. Applicant coordinated with all appropriate agencies, officials, and authorities that may have a jurisdictional interest in the application.

23. Applicant has provided complete information concerning permits or construction approvals received or applied for.

24. The ED has prepared a draft permit for Permit No. MSW-66B.

Geology and Hydrogeology Investigations

25. The facility is located along the western edge of the Gulf Coastal Plain physiographic province, in the Blackland Prairies subprovince.

    a. The Gulf Coastal Plain is located south of the Balcones Fault Zone, which trends northeast-southwest across north central Comal and Guadalupe Counties and separates the Gulf Coastal Plain from the Edwards Plateau.

    b. The Blackland Prairies subprovince is the westernmost subprovince within the Gulf Coastal Plain and is characterized by a hilly to rolling prairie surface covering deep clayey soils.

26. The topography of the area surrounding the facility is composed of two natural hillsides towards the northwest and southeast ends of the site, which are separated by a valley associated with Mesquite Creek in the middle of the site.

    a. The highest natural ground elevation on the northern side of the facility is approximately 665 feet above mean sea level (ft/msl); and on the southern side, it is 712 ft/msl.

    b. The lowest natural ground elevation of approximately 585 ft/msl occurs in the middle of the site, along the northern site boundary, which is the point at which Mesquite Creek leaves the site.

    c. There are no topographic features such as floodplains, which, if present, would limit the development of the site as an MSW landfill.

27. The regional geology of the facility's surrounding area consists of Cretaceous, Tertiary, and Quaternary-age limestone, marls, calcareous marine clays, and fluvial deposits. Below the veneer of alluvium and undifferentiated gravel (Uvalde Gravel) are the Cretaceous-age

Lower Taylor, the Austin Chalk or Austin Group, the Eagle Ford Group, the Washita Group, the Edwards Group, and the Trinity Group.

28. The Edwards Aquifer is the principal regional aquifer in the facility's vicinity and for the entire New Braunfels region.

a. The Edwards Aquifer comprises the Edwards Limestone and the overlying Georgetown Limestone.

b. The overlying Gulfian Series formations have a low permeability and are too clayey to be used as an aquifer.

c. The Quaternary terrace deposits overlying the facility yield insufficient water to be considered an aquifer. The facility is located south of the freshwater part of the Edwards Aquifer in an area characterized by high sulfate and dissolved solids concentrations.

29. In the facility's vicinity, the Lower Taylor Group, Austin Chalk, Eagle Ford Shale, Del Rio Clay, and Buda Limestone serve as an aquitard, separating the ground surface from the top of the Edwards Aquifer.

30. The facility is located in a geologically stable area that is not subject to active geologic faulting, differential subsidence, or seismic movement.

a. The facility is not near an active fault area, and no surface expressions or differential subsidence that has had displacement in Holocene time were identified within 200 feet of the facility.

b. No earthquake epicenters were identified within 20 miles of the facility.

c. No subsidence is expected from withdrawal of water from the Edwards Aquifer.

d. The facility is not subjected to any natural or man-induced events that could reactivate the pre-Holocene inactive faults.

31. One inactive fault was identified on the existing landfill area in 1990 near the northern site boundary in an area excavated for landfill development.

a. The faults' vertical displacement is approximately 40 to 50 feet and the displacement affects only the contact between Strata III and IV.

b. The fault does not displace Stratum I or II; therefore, the movement of the fault ceased before deposition of Stratum II, indicating that the fault has been inactive during Holocene time.

32. Two additional potential faults, 200 feet and 450 feet southeast of the facility, were identified in previous geologic studies of the existing landfill.

a. The 200-foot potential fault is an inferred fault and geologic studies show that no fault is present in the proposed expansion area.

b. The 450-foot fault has not experienced movement in Holocene time, as indicated by its consistency with other faults in the Balcones Fault Zone, which is pre-Holocene in age.

33. The facility's pre-development surface had low relief, with slopes ranging from approximately 3% to 9%.

a. Excessive erosion due to surface-water processes such as overland flow, channeling, and gullying is not anticipated.

b. The waste disposal limits of the currently permitted landfill and proposed expansion are not located in a 100-year floodplain; therefore, excessive erosion by fluvial processes associated with meandering stream channels should not occur within the waste footprint.

34. Nineteen wetlands were identified at the facility, including both the existing and the expansion areas.

a. Eight of the 19 identified wetlands are jurisdictional waters of the United States (jurisdictional waters). Of these eight waters, four are also state wetlands regulated by TCEQ.

b. Six of the eight identified jurisdictional waters will be impacted by the proposed expansion and, if so determined by the United States Army Corps of Engineers (USACE), will require permitting and likely require mitigation before these waters can be disturbed.

c. At present, the USACE has not determined over which jurisdictional waters it will exercise jurisdiction and has also not indicated a time frame for its determination.

35. A revised USACE Nationwide Permit 14 Pre-Construction Notification was submitted to the USACE on June 7, 2007, for the unavoidable impact to approximately 0.10 acres of jurisdictional waters due to the expansion of the road crossing over Mesquite Creek, and the USACE granted the Nationwide Permit 14 on September 14, 2007.

36. In the vicinity of the facility, the upper Edwards Aquifer units are approximately 500 to 600 feet below the ground surface.

a. Three water wells were identified within one mile of the facility. Two of these wells are 600 and 650 feet deep and are screened in the Edwards Aquifer.

b. The use of the 600-foot well is not specified, and the 650-foot well has been plugged.

c. The third well is 36 feet deep and documented as being completed in the Uvalde Gravel and used for domestic purposes.

37. Subsurface conditions at the facility were evaluated using existing geologic data generated from past field investigations and from field investigations performed in October 2004 through September 2005, in connection with the proposed expansion.

a. A total of 65 soil borings were drilled at the facility, 24 of which relate to the expansion area.

b. Completed depths ranged from 28 feet below ground surface (ft/bgs) to 185 ft/bgs.

c. Boring samples were taken at discrete intervals and continuously.

38. The elevation of the deepest excavation (EDE) for the entire facility is 560 ft/msl and has already occurred at the facility. It is located at the Unit 1, Phase III, Cell 2 sump.

a. Of the eight previous borings proposed as part of the application, seven were drilled to a depth at least five feet below the EDE, and one was drilled to a depth at least 30 feet below the EDE.

b. All 24 of the expansion area soil borings were advanced to a depth of at least five feet below the EDE, 16 borings were drilled to a depth of at least 30 feet below the EDE, and five were completed to elevations more than 50 feet below the EDE.

39. Fifteen of the expansion area soil borings were advanced and completed as piezometers.

40. Monthly groundwater level data were collected from March 2005 to September 2005 from existing and newly installed piezometers and groundwater monitor wells.

41. Based on the historic and recent geologic investigations, four stratigraphic units, Strata I through IV, exist beneath the site down to the maximum depth drilled, approximately 187 ft/bgs.

a. Stratum I is generally 0 to 14.5 feet thick, the thickness of Stratum II ranges from 1 to nine feet, and Stratum III is approximately 15 to 63 feet thick.

b. No soil borings penetrated the entire Stratum IV, but it is approximately 200 feet thick at the facility.

42. Stratum I corresponds to the uppermost fine-grained Quaternary deposits; it is mostly continuous in the existing site except where removed by landfill excavation activities.

a. In the expansion area, Stratum I was encountered in 20 of the 24 borings. Stratum I is an unsaturated brown to dark gray, medium-to-high plasticity clay with a stiff-to-hard consistency.

b. In two borings, 0.5 and 1.0 feet of gravelly clay was present between 0.5 and 3.5 ft/bgs.

43. Stratum II corresponds to the Quaternary-Tertiary Uvalde Gravel.

a. In the existing area, Stratum II ranges from olive green, white or gray limestone and/or chert gravel, occasionally in a clay or silty clay matrix, to firm black clayey gravel.

b. In the expansion area, Stratum II is clayey gravel to gravelly clay.

c. A one-foot thick gravel stratum was observed in one soil boring at approximately one ft/bgs.

44. Stratum III corresponds to the oxidized clays or claystones of the Lower Taylor Group, which was previously referred to as the Navarro Group.

a. Stratum III ranges in thickness between 18 and 58.5 feet at the existing site and between 15 and 63 feet at the expansion area.

b. Stratum III is characterized by a gray or brownish yellow to yellow oxidized, very stiff -to-hard clay with thin bedding planes.

c. The base of Stratum III was not encountered in every boring.

d. High angle clay, gypsum filled fractures, and calcite seams are more prevalent near the bottom of Stratum III.

e. Some of the fractures and calcite seams are water-bearing.

45. Stratum IV corresponds to the primarily unoxidized clay and/or claystone of the Lower Taylor Group.

a. Stratum IV is typically a dry, calcareous, green gray to dark gray clay or claystone across the entire site.

b. A few borings in Stratum IV contained evidence of fracturing and/or weathering.

46. At the facility, groundwater was encountered in the lower portion of Stratum III between 578 and 665 ft/msl.

a. Of the four units investigated, Stratum III is the uppermost stratum which consistently yielded groundwater and contained the greatest occurrence of fractures and variations in cementation to provide the most likely migration pathway if a release from the landfill were to occur.

b. All 15 of the installed piezometers consistently contained sufficient quantities of water for groundwater sampling purposes.

c. Because Stratum III is capable of yielding representative samples of groundwater that could identify a potential release from the landfill, it is considered the uppermost aquifer (30 TAC § 330.231(a)).

47. Hydraulic gradients and groundwater flow directions observed at the facility appear to be controlled by surface topography and the elevation of the Stratum III/IV contact.

a. Groundwater elevations in the existing site and expansion area are lowest adjacent to Mesquite Creek and highest near the site's topographic highs in the northeastern corner (for the existing landfill) and the southern boundary (for the expansion area).

b. Groundwater elevations depict a consistent pattern over time with only slight changes in groundwater flow direction.

c. Recharge to Stratum III likely occurs as infiltration during periods of high precipitation.

d. No noteworthy seasonal changes in the groundwater flow patterns are apparent.

48. The uppermost aquifer is not hydraulically connected with the underlying Edwards Aquifer.

a. Monitoring wells and piezometers in Stratum IV were dry or contained insufficient quantities of groundwater for sampling purposes, and the unit has relatively low permeability.

b. In the vicinity of the facility, Stratum IV is approximately 200 feet thick and underlain by approximately 200 to 300 feet of low-permeability clays.

c. Stratum IV and the underlying clays are, collectively, the lower aquitard or confining unit for Stratum III.

49. The most likely pathways for pollutant migration from the landfill are within the saturated base of Stratum III and along the Strata III/IV contact.

a. Stratum III is the main stratum intersected by the liner system side slopes and base.

b. Neither the inactive fault in the existing site nor Mesquite Creek appear to be potential pathways for pollutant migration.

c. Any contaminant released from the landfill would move at the same rate and direction as the groundwater beneath the facility.

d. Because the horizontal and vertical hydraulic conductivities decrease with depth, there is no potential for landfill constituent migration from the facility to the Edwards Aquifer during the active life, closure, and post-closure care periods.

Groundwater Monitoring

50. The facility currently operates a groundwater monitoring system for detection monitoring composed of seven monitoring wells generally screened in Stratum III.

51. Groundwater monitoring has been conducted at the facility since February 1992 and is currently conducted on a semi-annual basis.

52. Historical groundwater quality data indicate that all statistically significant changes over background of the inorganic parameters listed in the Groundwater Sampling and Analysis Plan (GWSAP) have been addressed in an alternate source demonstration approved by TCEQ.

a None of the statistically significant failures were found to be related to the facility, but were attributed to natural variations in background water quality.

b. No statistically significant changes over background for the organic compounds have triggered assessment monitoring in any well at the facility nor any corrective action.

53. Groundwater analyses indicated that there is presently no known plume of contamination that has entered the groundwater from the facility.

54. Groundwater and flow directions at the permitted facility and lateral expansion area are consistent with flow mainly toward the Mesquite Creek area, which is centrally located between the existing and proposed waste footprints.

a. The proposed groundwater monitoring system for the facility is comprised of two physically separate groundwater monitoring systems that collectively serve as the groundwater monitoring system for the entire site.

b. All 22 of the monitoring wells in the proposed groundwater monitoring network are or will be completed in Stratum III.

55. The existing facility monitoring network will use a total of eight monitoring wells, one upgradient and seven downgradient; four of the currently permitted monitoring wells will remain, one permitted monitoring well will be moved 500 feet to the southeast to make it a downgradient well, and three new monitoring wells will be installed downgradient.

56. The expansion area's monitoring network has two upgradient wells and 12 downgradient wells for a total of 14 groundwater monitoring wells.

57. Three of the piezometers installed as part of this application will be converted to wells and 11 new monitoring wells will be installed along the perimeter of the expansion property.

58. A relevant point of compliance has been established for each portion of the groundwater monitoring system.

a. The seven downgradient groundwater monitoring wells in the existing facility monitoring network will form the point-of-compliance boundary for Units 1 and 3.

b. The 12 downgradient groundwater monitoring wells in the expansion area monitoring network will form the point of compliance boundary for Unit 2.

59. The proposed monitoring wells will be:

- activated after the permit amendment is approved to collect intra-well background data;

- properly screened to monitor the groundwater encountered at the monitored location;
- able to detect a release from the facility.

60. The GWSAP provides for collecting representative samples from groundwater monitoring wells and quality assurance/quality control procedures required to ensure valid analytical results; it also includes methodology for establishing background water quality in each well and for comparison of the subsequent results to background values in the same well so that any statistically significant increase may be detected.

Groundwater Protection

61. The proposed expansion of the facility is designed to be protective of groundwater.

a. Quality control procedures will be used during the construction and installation of the liner system.

b. A Soil and Liner Evaluation Report (SLER) and/or a Geomembrane Liner Evaluation Report (GLER) will be submitted to TCEQ detailing the final construction and lining of a new disposal cell prior to the placement of any waste in that cell.

62. The composite liner system for Unit 2, the area of proposed expansion, will consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec overlain by a minimum 60-mil high-density polyethylene (HDPE) geomembrane, a leachate drainage layer of either geocomposite (geonet bonded to geotextiles) or geotextile, and a minimum 2-foot thick protective soil layer.

63. The un-built but permitted Unit 3 will have either the same liner system proposed for Unit 2 or an equivalent alternate that uses a geosynthetic clay liner instead of the compacted soil layer.

64. For Units 2 and 3, leachate percolating through the waste will be collected in a drainage layer constructed above the liner and will flow by gravity to a leachate collection corridor or sideslope chimney drain.

a. The leachate collection system materials are expected to be chemically resistant to the anticipated leachate and of sufficient strength to prevent collapse of the leachate collection drainage layers due to the pressures exerted by overlying materials.

b. The leachate collection components are designed to function through the active life, scheduled closure, and post-closure care period.

c. The proposed leachate collection corridors, centrally located within each phase of Unit 2 and within Unit 3, will collect leachate from the floor drainage layer and convey it to the leachate collection sumps.

d. The leachate collection corridor will consist of either granular drainage media encased within a geotextile filter or a perforated six-inch diameter HDPE SDR-11 pipe embedded within a granular drainage media encased within a geotextile filter.

e. Collected leachate within each phase will be carried to the leachate collection sump located at the low point of the phase.

f. The leachate collection system for Units 2 and 3 is designed to maintain a head of less than 30 cm (12 inches) over the liner system.

g. Leachate recovered from sumps will be pumped directly into a tanker truck and disposed off site at a TCEQ-approved treatment facility, recirculated, or pumped through a force main system to leachate evaporation ponds or other on-site storage or treatment facilities.

65. Leachate will be recirculated only on landfill areas that have a liner that complies with 30 TAC § 330.299(a)(2).

66. The minimum strength values for the liner and final cover systems are incorporated into the Soil and Liner Quality Control Plan (SLQCP).

67. A factor of safety is a ratio of resisting forces compared to driving forces.

68. When waste is placed too steep or too high, the waste can move along the liner system upon which it is placed. Minimum acceptable safety factors for slope stability depend on project-specific conditions and uncertainties.

69. Applicant's targeted slope safety factors for interim conditions is 1.25, and for long-term conditions, it is 1.5.

70. For Unit 1, a 1.25 targeted factor of slope safety for final landfill slopes is appropriate based on project-specific liner testing and measured strength parameters demonstrating the safety of this slope.

71. For large-displacement strengths, a 1.0 target factor of safety is appropriate for short-term conditions and 1.15 for long-term conditions.

72. The SLQCP specifies materials, equipment, and construction methods for the compacted soil liners; details installation methods and quality control testing and reporting for the flexible membrane liners; provides guidance necessary for testing and reporting evaluation procedures for the person preparing the SLER and/or the GLER; and describes implementation procedures.

73. Liner excavations will extend into Stratum III and portions of the liner may be constructed below the seasonal high water table.

a. Stratum III is of such low permeability that groundwater cannot move sufficiently to exert a force that would damage the liner.

b. Should localized sweeps or wet areas occur during excavation, the affected areas will be over-excavated and backfilled/compacted with competent material.

c. If fracture water is observed in the clay and claystones during construction which could exert an uplift force on the liner, an evaluation will be made regarding the magnitude of groundwater present and, if needed, the construction of liner systems will incorporate short-term groundwater control and ballasting as described in the SLQCP.

d. If short-term liner stability is needed, long-term liner stability will be accomplished by the presence of soil and/or waste ballast.

e. After construction of the liner and placement of ballast, the pressure relief/de-watering system will be terminated.

Drainage and Floodplain Analyses

74. The facility is designed and will be constructed to prevent the discharge of any solid wastes or pollutants adjacent to or into waters of the State of Texas or the United States, non-point source pollution of the waters of the United States, and discharge of dredged or fill material into waters of the State of Texas or the United States in violation of Section 404 of the Clean Water Act.

75. Surface water controls at the proposed expansion will be designed to prevent rainfall run-off from coming in contact with leachate or refuse, maintain natural drainage patterns, and minimize erosion.

76. The Groundwater and Surface Water Protection Plan and Drainage Plan shows the locations, details, and typical sections of the surface drainage controls at the facility consisting of drainage benches and terraces, channels, detention ponds, culverts, berms, and other facilities.

77. Applicant has received Texas Pollutant Discharge Elimination System (TPDES) Multi-Sector Permit No. TXR05K953, in compliance with the federal Clean Water Act § 402, as amended, and the National Pollution Discharge Elimination System.

78. No contaminated water will be discharged without authorization by TCEQ and in accordance with the TPDES permit.

79. The landfill will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

a. The waste disposal limits of the facility are located outside the 100-year floodplain, as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Community Panel Number 4854630130C (1986).

b. The central portion of the site associated with Mesquite Creek is within the flood pool of the downstream Freedom Lake.

c. The permitted waste disposal limits and the expansion area's waste disposal areas, perimeter roads/berms, and leachate evaporation pond areas do not extend into the Freedom Lake flood pool.

d. Two storm water ponds are partially within the upper elevations of this flood pool, but are designed to allow backflow into the ponds during a flood event through their principal spillway pipes so as not to change the flood storage capacity of Freedom Lake.

e. Flood protection levees or other improvement to provide protection from the 100-year flood are not necessary.

80. There will be no nonpoint source of pollution that will violate any requirement of any areawide or statewide water quality management plan approved under the federal Clean Water Act.

81. Applicant will use working face berms, drainage benches, or a combination of the two to control and minimize any contact between surface waters and solid waste.

82. Run-off from undeveloped, closed, or final or intermediate covered portions of the site will be controlled using berms, channels, and storage pond areas to prevent flow onto the active portion of the landfill during the peak discharge from the 24-hour, 25-year storm.

a. Uncontaminated water may be used for site operations, evaporated naturally, or discharged offsite as authorized under TCEQ and TPDES permits.

b. A Storm Water Pollution Prevention Plan has been developed and implemented for the construction and operation of the facility.

83. The entire site is part of the Mesquite Creek Watershed.

a. The natural site condition consists of five drainage basins.

b. The pre-development watershed condition incorporates the currently permitted surface water management system within the 96-acre permit area, and the remainder of the watershed area is the same as the natural site condition, including offsite areas and the proposed expansion area.

c. The post-development condition will maintain similar drainage patterns to the natural site and pre-development conditions.

d. For all three conditions (natural, pre-development, and post-development), five locations were identified to represent the points of concentrated discharge of storm water from the site.

84. The natural drainage patterns will not be significantly altered as a result of the landfill development; an increase in run-off volume will occur for three discharge points, but the post-development discharge rate will be less than the pre-development discharge rate.

85. The surface water management system design with its perimeter drainage channels, storm water ponds, and diversion berms will be used during development and operation of the facility and will ultimately transport sediments from the final cap or interim cover slopes to storm water ponds.

86. Best management practices will be used to further minimize soil erosion and sedimentation during the development and operational periods.

87. Applicant's drainage facility maintenance plan consists of periodic inspections of surface water facilities and repair of those which have been impacted by erosion or other causes; provisions of the Erosion and Sediment Control Plan will be incorporated into the drainage facility maintenance plan, as appropriate.

Geotechnical Investigation

88. Stratum I soil is suitable for soil liner and infiltration layer material, as demonstrated by the successful construction over a portion of the existing facility of a cover system infiltration layer having a hydraulic conductivity less than 1×10^{-7} cm/sec.

89. Strata III and IV soils will be suitable for use in liner system and final cover system construction; the hydraulic conductivities for Strata III and IV ranged from 2.8×10^{-8} to 3.5×10^{-8} cm/sec.

90. The facility will be stable if designed and constructed as proposed in the application.

91. For all conditions evaluated, the calculated factor of safety is greater than or equal to the minimum target factor of safety.

92. Since positive drainage will be maintained, calculated foundation settlements beneath the landfill are considered acceptable.

a. The highest differential settlements along the leachate collection corridor will occur where the corridor is underlain by the thickest, most compressible materials, *i.e.*, the Stratum III clays, and the differential loads along the corridor are the greatest.

b. The minimum calculated post-settlement slope for the evaluated sections in Units 1, 2, and 3 is 0.4%.

Site Operating Plan

93. The entire application – including the site development plan, Site Operating Plan (SOP), final closure plan, post-closure care plan, landfill gas management plan, and any other required plan – will be placed into the facility's site operating record and will become operational requirements for the facility.

94. All information placed in the operating record of the facility will be retained for the life of the facility, including the post-closure period.

95. After Applicant requested authorization to operate its facility 24 hours a day, seven days a week, it entered into a settlement agreement with Guadalupe County by which it agreed to conduct operations on Monday through Friday from 4:00 a.m. to 8:00 p.m. and on Saturday form 4:00 a.m. to 3:00 p.m., unless an emergency requires extended operating hours.

96. Even though Applicant plans buffer zones around the premises, continuous operations could be disturbing to nearby residents.

97. The operating hours in the settlement agreement will provide Applicant with several more hours per day for waste acceptance activities than Applicant currently has.

98. Applicant has been operating for many years with fewer waste acceptance hours than those described in the settlement agreement.

99. Applicant's waste acceptance hours should be limited to those stated in its agreement with Guadalupe County.

100. During emergency conditions, Applicant may seek the ED's approval of alternate operating hours.

101. Actual facility operating hours in effect at any given time will be posted at the entrance.

102. Applicant will cover portions of the working face with soil throughout the day, as filling operations are completed in one area of the working face and expanded into another.

103. Only part of the working face will be uncovered at any given time.

104. Applicant must have sufficient on-site equipment to place a six-inch layer of earthen material on any uncovered waste within one hour of detecting a fire.

105. Special waste will be received at the facility in accordance with the Special Waste Acceptance Plan and the permit.

106. Class 1 regulated asbestos-containing material will be accepted for disposal within the fill area and is specifically approved for this facility. Procedures regarding acceptance and handling of asbestos are outlined in the Asbestos Management Plan.

107. Wastes specifically prohibited from landfill disposal will not be accepted for disposal.

108. The SOP contains procedures to ensure that regulated hazardous and PCB wastes will not be accepted at the facility.

109. To prevent the disposal of unauthorized waste at the facility, the SOP provides that the Applicant will post signs regarding hazardous and other unacceptable wastes, screen incoming waste at the gate or offsite before disposal, provide personnel training, reject haulers carrying unauthorized wastes, and perform random sampling in accordance with the random inspection procedures for the facility.

110. Access to the facility will be controlled using artificial barriers, including a perimeter fence and a gated entrance.

a. The gated entrance will restrict access when the facility is not open, but allow sufficient access for vehicles to maneuver through the gate when the facility is open.

b. The perimeter fence will consist of chain-link fence at least five feet in height.

111. The unloading of waste will be restricted to the active working face, and the working face will be confined to as small an area as practical.

112. A trained employee will be present at the entrance at all times during operating hours to monitor all incoming loads of waste and will direct traffic to the appropriate unloading area.

113. The working face will be maintained and operated in a manner to control windblown solid waste.

a. Daily cover or the approved equivalent, litter fences, and litter collection will be employed to protect the working face from prolonged exposure.

b. A minimum of six-inches of daily cover will be used in order to prevent disease vectors, control windblown debris and odors, reduce the possibility of fire, prevent scavenging, and improve the operation of the facility.

114. Solid waste unloading, storage, disposal, or processing operations may not take place within any easement that crosses the site or within any buffer zone.

115. The landfill operator will take the necessary steps to ensure that vehicles hauling waste to the site properly secure the load in order to prevent the escape of any part of the load.

116. The operator will, as necessary, post signs at the landfill entrance requiring loads to be covered or enclosed and stating the potential consequences for non-compliance, including assessing litter control surcharges.

117. On a daily basis during daylight hours when the facility is in operation, all public roads and rights-of-way serving the facility will be inspected and cleaned of spilled materials and wind blown waste for a distance of two miles in either direction from any entrance used for the delivery of waste to the site. This litter pick-up area will extend along Kohlenberg Lane, FM 1101, and Schwarzlose Lane.

118. The landfill manager will ensure that no unit of the landfill violates any applicable requirements of the approved state implementation plan under the federal Clean Air Act.

a. The facility has applied for a TCEQ Title V General Operating Permit and is operated in accordance with a TCEQ Air Permit by Rule Registration O. 50924 for the landfill gas flare.

b. No open burning of waste will be permitted on-site.

119. Applicant will institute an odor management plan that uses a combination of identifying the sources of odor and methods to minimize or eliminate those odors; methods to achieve these objectives include waste and leachate handling procedures, timely placement of cover materials, the elimination of ponded water, and gas control.

120. Vector control will be achieved through application of daily cover, eliminating ponded water, minimizing the working face, and if necessary, application of appropriate chemicals using appropriate health and safety practices. Non-lethal bird control measures such as pyrotechnics, baiting and decoys, may be used to discourage birds at the site.

121. Applicant will minimize the tracking of any mud and trash by vehicles entering or exiting the facility onto public roadways. Vehicles will traverse all-weather site access roads and paved site entrance roads allowing for mud to be removed from the vehicle.

122. No scavenging will be permitted.

123. Salvaging will be allowed with specific authorization from the landfill manager in accordance with the SOP, but will not be allowed to interfere with prompt sanitary disposal of solid waste or to create a public health nuisance.

124. Landfill gas will be monitored and controlled in accordance with the Landfill Gas Management Plan.

125. Ponding of water over waste areas will be minimized and eliminated.

a. The area in which the ponding occurred will be filled in and regraded within seven days of the occurrence.

b. Ponded water from an area with at least 12-inches of intermediate cover will be pumped or otherwise removed to the facility's drainage system.

c. The ponding prevention plan will use high density compaction during placement of the wastes along with constructing and maintaining proper cover and slope on all areas to prevent ponding over waste areas.

126. The SOP prohibits discharge of contaminated water without specific written authorization from TCEQ; water that has become contaminated by contact with the working face or with leachate shall be segregated from uncontaminated surface and groundwater and properly managed.

Transportation

127. The roadways in the vicinity of the facility are adequate to handle the existing and projected future traffic.

a. Access to the facility is provided via FM 1101 to Kohlenberg Lane.

b. FM 1101 is primarily accessed from the south via Highway 46, from the west via I-35 to Kohlenberg Road, or from the north via Highway 123.

c. FM 1101 is a 24-foot wide, two-lane undivided, asphalt-paved road. Kohlenberg Lane is an approximately 22-foot wide, two-lane, undivided, asphalt-paved road.

128. Applicant notified the Texas Department of Transportation regarding the proposed expansion, and the agency determined that the impact on the surrounding area roadways as a result of the proposed expansion would be minimal.

129. The current site entrance is off Kohlenberg Lane in Comal County, and the proposed entrance is on the same road but across the Guadalupe County line.

130. The proposed site entrance, which is near a bend and at a dip in the road, may not comply with line-of-sight standards established by the American Association of State and Highway

Transportation Officials (AASHTO), which require approximately 70 meters of sight distance before a turn.

131. Applicant agreed that, prior to construction of the new site entrance, it will submit documentation to TCEQ showing that entrance will meet AASHTO standards.

132. Prior to constructing the proposed new site entrance, Applicant will submit its design to the Executive Director, and the entrance must meet the line-of-sight requirements established by the American Association of State and Highway Transportation Officials

133. The U.S. Department of Transportation Federal Aviation Administration issued a "Determination of No Hazard to Air Navigation" for the lateral expansion and for the currently permitted landfill.

Land Use

134. The land use information provided in the application contains the technical information specified in 30 TAC § 330.53(b).

135. The United States Department of the Interior Fish and Wildlife Service confirmed that the facility is not located within designated critical habitat of any federally-listed threatened or endangered species.

136. The Mountain Plover, a bird species identified as rare, previously has been sighted in the general area near the landfill.

137. Mountain Plovers are known to frequent plowed fields and areas of disturbance.

138. While the Texas Parks and Wildlife Department (TPWD) does not anticipate adverse impacts to any threatened or endangered species from the proposed project activities, TPWD recommended measures to avoid impacts to the Mountain Plover that could prevent the listing of the species in the future.

139. The TPWD's recommendation included educating landfill personnel about Mountain Plovers so that adverse impacts to the species are avoided.

Reporting and Transcription Costs

140. Applicant will be the primary beneficiary of the application's approval.

141. Applicant and TJFA participated significantly in the hearing.

142. [Deleted]

143. As statutory parties to the proceeding who cannot appeal the Commission's decision, the ED and OPIC, by rule, cannot be assessed reporting or transcription costs. TEX. WATER CODE ANN. §§ 5.228, 5.273(a), 5.275, and 5.356; 30 TAC § 80.23(d)(2).

144. The ED's participation was limited to providing information to complete the administrative record.

145. Protestant CCL is comprised of individual landowners whose financial means are, presumably, more limited than those of the corporate parties, and CCL did not participate significantly in the questioning of witnesses at the hearing.

146. Applicant was billed $15,192 in reporting transcription costs for the preliminary hearing and hearing on the merits.

147. Of that total cost, $8,999.05 was for daily delivery of the transcript, which Applicant requested.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the disposal of municipal solid waste and the authority to issue this permit under TEX. HEALTH & SAFETY CODE ANN. § 361.061.

2. Notice was provided in accordance with TEX. HEALTH & SAFETY CODE ANN. § 361.0665, 30 TAC §§ 39.5 and 39.101, and TEX. GOV'T CODE ANN.§§ 2001.051 and 2001.052.

3. SOAH has jurisdiction to conduct a hearing and to prepare a Proposal for Decision. TEX. GOV'T CODE ANN. § 2003.47.

4. Applicant submitted a complete permit amendment application, as required by TEX. HEALTH & SAFETY CODE ANN. §§ 361.066 and 361.068, which demonstrated that Applicant will comply with all relevant aspects of the application and design requirements as provided in 30 TAC §§ 330.4(m) and 330.51(b)(1).

5. The application was processed and the proceedings described in this Order were conducted in accordance with applicable law and rules of the TCEQ, specifically 30 TAC § 80.1 *et seq.*, and the State Office of Administrative Hearings, specifically 1 TAC § 155.1 *et seq.*, and Subchapter C of the TEX. HEALTH & SAFETY CODE ANN. Chapter 361.

6. The evidence in the record is sufficient to meet the requirements of applicable law for issuance of the Draft Permit, as modified by this Order, including all requirements of the Solid Waste Disposal Act, TEX. HEALTH & SAFETY CODE ANN. Chapter 361, and 30 TAC Chapter 330.

7. The expansion of the proposed Mesquite Creek Landfill, if constructed and operated in accordance with the Solid Waste Disposal Act, 30 TAC Chapter 330, and the Draft Permit as modified by this Order, will not adversely affect public health and welfare, physical property of the people of Texas, or the environment.

8. The application conforms to the applicable requirements of the Engineering Practice Act, TEX. REV. CIV. STAT. ANN. art. § 3271a, as provided in 30 TAC § 330.51(d) and 22 TAC § 131.166.

9. Applicant should be required to pay the cost of daily delivery.

10. The remaining cost of $6,192.95 should be equally divided between Applicant and TJFA.

11. Transcription costs of $3,096.47 should be assessed to TJFA and $12,095.53 should be assessed to Applicant.

12. Prior to construction of the new site entrance, Applicant should submit documentation to TCEQ showing that the entrance will meet AASHTO standards.

13. The SOP should provide that, as part of regularly scheduled training, Applicant will instruct its key site personnel about Mountain Plovers so that adverse impacts to the species may be avoided.

14. The facility's waste acceptance hours should be Monday through Friday from 4:00 a.m. to 8:00 p.m. and Saturday from 4:00 a.m. to 3:00 p.m., unless an emergency requires extended waste acceptance hours. Transportation of materials on- and off-site and operation of heavy equipment should be allowed Monday through Saturday, from 4:00 a.m. to 9:00 p.m., and on Sunday from 5:00 a.m. to 9:00 p.m. Other activities should not be limited to specified hours and may be conducted by the facility, as necessary, at any time.

15. Pursuant to the authority of, and in accordance with, applicable laws and regulations, the requested permit should be granted.

EXPLANATION OF CHANGES

1. The Commission made non-substantive, typographical corrections to Finding of Fact Nos. 20, 32, 37.b., 58.b., and 143 consistent with the Applicant's exceptions, which were agreed to in writing by the ALJ by letter dated May 5, 2008. In addition, the Commission corrected a legal citation in Finding of Fact No. 46.c. from "33.231[a]" to "330.231(a)."

2. The Commission added new Ordering Provision No. 3, adopting the Executive Director's Response to Comments. Since this is a HB801 matter, Commission rule 30 TAC § 50.117(f) requires the Commission to either adopt the Executive Director's response to public comment in whole or in part or to prepare a Commission response. In this matter, the Commission determined that it was appropriate to wholly adopt the Executive Director's Response to Comments. The remaining ordering provisions were re-numbered accordingly to accommodate the addition of new Ordering Provision No. 3.

3. The Commission deleted proposed Finding of Fact No. 142 regarding transcript costs. The Commission determined that the proposed finding was irrelevant to the Commission's consideration on apportionment of transcript costs.

4. The Commission determined to modify proposed Finding of Fact Nos. 97-99, Conclusion of Law No. 14, and Ordering Provision No. 1.a. consistent with the Applicant's exceptions. The Commission determined that it was appropriate to limit the hours for waste acceptance and hours of other specified activities (*i.e.* transportation of materials on- and off-site and operation of heavy equipment) to those agreed to between the Applicant and Guadalupe County, as set forth in detail in the Applicant's exceptions.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, IN ACCORDANCE WITH THESE FINDINGS OF FACT AND CONCLUSIONS OF LAW THAT:

1. Permit No. MSW-66B for a Type I MSW landfill in Comal and Guadalupe Counties, Texas, is hereby issued to Waste Management of Texas, Inc., as set out in Draft Permit No. MSW-66B, with the following modifications:

   a. The facility's waste acceptance hours should be Monday through Friday from 4:00 a.m. to 8:00 p.m. and Saturday from 4:00 a.m. to 3:00 p.m., unless an emergency requires extended waste acceptance hours; transportation of materials on- or off-site and operation of heavy equipment may be conducted Monday through Saturday, from 4:00 a.m. to 9:00 p.m., and on Sunday from 5:00 a.m. to 9:00 p.m.; other activities are not limited to specified hours and may be conducted by the facility, as necessary, at any time;

   b. Prior to construction of the new site entrance, Applicant shall submit documentation showing that the entrance will meet AASHTO standards; and

   c. As part of regularly scheduled training, Applicant will instruct its key site personnel about Mountain Plovers so that adverse impacts to the species may be avoided.

2. The Applicant shall pay $12,095.53 of the transcript costs, and TJFA shall pay the remaining $3,096.47.

3. The Commission adopts the Executive Director's Response to Public Comment in accordance with 30 TAC § 50.117.

4. The Chief Clerk of the Commission shall forward a copy of this Order to all parties and issue the attached permit as changed to conform to this Order.

5. All other motions, requests for specific Findings of Fact or Conclusions of Law, and other requests for general and specific relief, if not expressly granted, are denied for want of merit.

6. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of this Order.

7. The effective date of this Order is the date the Order is final, as provided by 30 TAC § 80.273 and TEX. GOV'T CODE ANN. § 2001.144.

ISSUED: OCT 01 2008

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Buddy Garcia

Buddy Garcia, Chairman
For the Commission

SOAH DOCKET NO. 582-07-0863
TCEQ DOCKET NO. 2006-1931-MSW

APPLICATION OF WASTE MANAGEMENT OF TEXAS, INC. FOR A MUNICIPAL SOLID WASTE PERMIT AMENDMENT; PERMIT NO. MSW-66B	§ § § § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

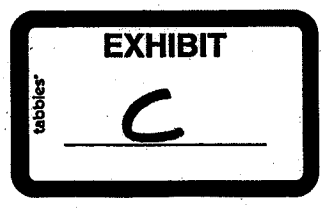
PROTESTANTS' MOTION FOR REHEARING

TO THE HONORABLE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

COME NOW TJFA, L.P. (TJFA) and Concerned Citizens and Landowners (CCL), the landowner Protestants in the above referenced matter, and hereby file this motion for rehearing of the Texas Commission on Environmental Quality ("TCEQ" or "the Commission") Order granting the referenced permit application to Waste Management of Texas, Inc. ("WMTX") issued on October 1, 2008. This motion for rehearing is being requested pursuant to 30 TAC §80.272. Because the Applicant failed to meet its burden of proof that the application complies with all legal requirements, this motion should be granted and the above-requested permit application should be **DENIED** by the Commission. In support of this motion, Protestants respectfully show as follows:

I. BACKGROUND

A preliminary hearing was held on April 13, 2007 that established jurisdiction and named parties including TJFA and CCL. The hearing on the merits was held October 22, 2007 through October 29, 2007 and the PFD was issued by Administrative Law Judge Sarah G. Ramos on



March 18, 2008. At its agenda meeting on September 10, 2008, the Commission granted WMTX its permit after having changed the Administrative Law Judge's Proposal for Decision, Findings of Fact and Conclusions of Law. The Commission's Order was mailed on October 3, 2008 and Protestants are presumed to have been notified on the third day after the date that the Order was mailed, making the date for filing this motion for rehearing no later than October 27, 2008, as indicated on the TCEQ website.

II. COMMISSION ERRORS

The Commission erred in granting this permit as follows:

A. SUMMARY OF ERRORS

In this filing, Protestants object and except to certain factual statements and legal conclusions as presented in the TCEQ Order as set forth below. Protestants believe the TCEQ Order is therefore fatally flawed under the TCEQ rules, due in part to the following:

(1) the failure of the Applicant to properly characterize the geology, and related groundwater, associated with the uppermost aquifer (that fails to but should include Stratum IV), in clear violation of TCEQ rules;

(2) the failure of the Applicant to develop an adequate groundwater monitoring system that is in compliance with the TCEQ rules, particularly with regards to the location and depth of the wells;

(3) the failure of the Applicant to present an adequate surface water protection and drainage plan that is in compliance with Commission rules, and especially:

(a) the TCEQ's incorrect legal conclusion that the Applicant has properly identified that the site is not located in the 100-year floodplain of Mesquite Creek (even though it is), by using the FEMA floodplain map which shows no floodplain for this creek (since FEMA never studied or determined the floodplain for this creek). This is

contrary to Commission precedent in both the *Juliff Gardens* and *Tan Terra* cases on this very issue; and

(b) the TCEQ's incorrect legal conclusion that a doubling in the amount of storm water runoff volume at the permit boundary (due to the diversion of the natural flow of surface water as a result of drainage areas being redirected by the proposed landfill design) is not a significant alteration of natural drainage patterns, regardless of the potential adverse impacts on downstream properties and the lack of any analysis or discussion to support such conclusion. This is contrary to Commission precedent, rules and regulatory guidance on this issue.

(4) the failure of the Applicant to provide adequate evidence that landfill slopes will be stable by providing slope stability analyses that do not meet the minimum factor of safety; and

(5) the failure of the Applicant to present an adequate Site Operating Plan (SOP), since it does not include the TPWD recommendations to protect a rare species, nor does it include a safe site entrance design, and its operating hours are contrary to the agreement with the County.

These issues are of particular concern to Protestants, as contrary to Commission precedent and/or unsupported by or contrary to the evidence in the Application and presented at the hearing, potentially producing reversible error as adopted by the Commission and are discussed more fully below.

Finally, the TCEQ and the Applicant have erroneously described the subject permit amendment application (PAA) as being for a "lateral expansion" in direct contradiction as to how that term is used in state and federal MSW regulations.

B. APPLICANT'S LACK OF COMPLIANCE WITH REQUIREMENTS PERTAINING TO GEOLOGY AND HYDROGEOLOGY

1. Uppermost Water-Bearing Zone Incorrectly Identified as Only Stratum III and Should Have Included the Fractured Portions of Stratum IV

Protestants take exception to the TCEQ's findings and conclusion that the Applicant correctly identified, in accordance with 30 TAC 330.56(d)(5)(A)(ii), only Stratum III as the uppermost water-bearing zone or aquifer and that there are no hydraulically interconnected aquifers beneath Stratum III, such as the fractured portions of Stratum IV. The basis of the TCEQ's incorrect conclusion is the ALJ's belief that the borings and permeability tests in the Application sufficiently characterized Stratum III as the uppermost water-bearing zone and that there was so little water in the borings that penetrated Stratum IV that the ALJ believes it was reasonable to conclude that water does not move within the fractures identified in Stratum IV (PFD p. 22).

There is no evidence or insufficient evidence in the Application or presented at the hearing to support the ALJ's or the TCEQ's finding and conclusion regarding this subject. The Applicant did not install any piezometers in Stratum IV in order to determine how water moves within the fractures that had been identified in that stratum (PFD p. 20). Thus, the ALJ had no evidence of how groundwater moves through or within the fractures of Stratum IV. The ALJ simply concluded that water does not move within the fractures in Stratum IV because there was so little water noted in the borings in Stratum IV, according to the Applicant (PFD p. 22). However, this is not conclusive that water does not move within the fractures of Stratum IV and contrary to the evidence presented at the hearing. Also, there were at least two borings in the Application in which it was noted that water was "lost" somewhere in the fractures in Stratum IV (PFD p. 17). Yet, without any further investigation by the Applicant of this water "loss" in

Stratum IV, the ALJ somehow concludes water does not move within this stratum. This is contrary to the evidence presented in the Application and at the hearing.

Protestants agree with the ALJ's conclusion that Stratum IV is a confining unit at its base and at least the lower portion is the aquiclude underneath the site (PFD p. 22). However, there are fractures and weathering in the upper portion of Stratum IV that the Applicant failed to investigate as to whether this portion of the Stratum transmits groundwater. The upper portion of Stratum IV is essentially a hydraulically connected underlying aquifer. Even the ED's geologist, Mr. Williamson, testified about this and noted that this upper portion of Stratum IV exhibits the same kind of hydraulic conductivity (ability to transmit water) as Stratum III (PFD p. 21). This evidence is contrary to the TCEQ findings and conclusions that all of Stratum IV is an aquitard.

This evidence further establishes that the Applicant failed to fully characterize the soil characteristics of Stratum IV, the upper portions of which contain fractures and should have been included as part of the upper-most water bearing zone or aquifer, in accordance with 30 TAC 330.56(d)(5)(A)(ii). Because the Applicant failed to include the upper portions of Stratum IV into the uppermost aquifer, the application also cannot meet the groundwater monitoring requirements of 30 TAC 330.231(a).

2. Applicant Failed to Conduct Testing of Groundwater Flow for Stratum IV Into Which Excavations will Extend

Protestants take exception to the ALJ's and TCEQ's incorrect finding and legal conclusion that the Applicant adequately analyzed data regarding the site's hydrogeology (PFD p. 22). The ALJ was incorrect in finding that the PAA complies with TCEQ rules, specifically

30 TAC 330.56(d)(5)(B)(i) and (ii) requiring permeability testing of soil layer or stratum along the side of and below proposed excavations, because the facts and evidence in the Application and presented at the hearing do not support, and in fact are contrary to, such a finding and conclusion.

The ALJ specifically noted the evidence presented during the hearing that excavations will extend into Stratum IV (PFD p. 27 and 28). The ALJ also correctly notes that the "*Applicant tested neither Stratum IV's groundwater flow direction and rate nor its horizontal hydraulic conductivity...*" and that "*... Ms. Meaux admitted that previous field tests conducted by others in Stratum IV under Unit 1 were unreliable for use in this application...*" (PFD p. 20 and 21). The Application does not meet the MSW rules associated with the requirements for the Geotechnical Report, clearly stated at 30 TAC 330.56(d)(5)(B)(i) and 330.56(d)(5)(B)(ii):

> "*(i) A laboratory report of soil characteristics shall be determined from at least one sample from each soil layer or stratum that will form the bottom and side of the proposed excavation and from those that are less than 30 feet below the lowest elevation of the lowest excavation...*"
>
> "*(ii) ... Those undisturbed samples that represent the sidewall of any proposed trench, pit, or excavation shall be tested for the coefficient of permeability on the sample's in-situ horizontal axis ...*"

As can be seen, this rule requires the horizontal permeability of the stratum that will form the sidewall of any excavation to be tested. The ALJ and TCEQ know that excavations will extend into Stratum IV and that no reliable testing of the horizontal permeability of this stratum was conducted by the Applicant or provided in the Application. Yet both the ALJ and the TCEQ

somehow find that the PAA complies with these rules. This is contrary to the evidence presented at the hearing.

For example, the evidence at the hearing revealed that the Applicant did not conduct any permeability testing within the upper portions of this Stratum IV, and this was even stipulated to by the Applicant's attorney (Tr. P. 1093, L. 16 – P. 1095, L. 18); therefore, neither the Applicant, the ALJ nor the TCEQ can know if and/or how groundwater moves through the fractures in the weathered portions of this soil layer. The only evidence presented at the hearing regarding groundwater movement in Stratum IV is associated with permeability tests previously conducted by others under Unit 1 of the existing landfill only. However, the three permeability tests that were run previously by others on the upper portions of Stratum IV under Unit 1 were found by Ms. Meaux at the hearing to be "unreliable" (Tr. P. 510, L. 15 – P. 511, L. 17).

Therefore, Protestants contend that the evidence presented at the hearing shows that the Applicant clearly failed to comply with this TCEQ rule regarding the determination of soil characteristics along the side of and beneath the landfill excavation in Stratum IV. This determination is necessary to provide the appropriate depth of screening for groundwater monitoring wells that need to extend below the landfill, as discussed below. This fatal flaw in the Application requires this permit request be DENIED and that this motion for rehearing be granted.

3. Other Relevant Issues Not Addressed by ALJ in the PFD

The PFD failed to address other defects in the Application that were raised by the Protestants and discussed in their briefing on Closing Arguments, one of which is as follows:

GEOLOGY REPORT FAILS TO COMPLY WITH TCEQ RULES

TJFA raised an issue during the hearing and in its Closing Argument that the Geology Report failed to comply with TCEQ rules. Specifically, Attachment 4 of Part III of the PAA contains the Geology Report, which is required to include certain information as listed in 30 TAC § 330.56(d). However, this Geology Report does not contain all of the required information.

For example, any limitations associated with the facility due to unfavorable topography, such as floodplains, must be discussed in this report (see 30 TAC § 330.56(d)(1)). As discussed below regarding the FEMA floodplain map, no such floodplain information is provided in this report, even though this site is located within the floodplain associated with Mesquite Creek.

Therefore, this Geology Report fails to provide the requisite information to satisfy the legal requirements of the TCEQ regarding a permit application for a municipal solid waste facility. This is contrary to the TCEQ Finding of Fact No. 26.c. Therefore, Protestants contend that this PAA must be denied and this motion for rehearing be granted.

C. INADEQUATE GROUNDWATER MONITORING SYSTEM

Protestants object and except to the TCEQ's findings and conclusion that the proposed groundwater monitoring system complies with the TCEQ rules. The failure of the Applicant's

geologist, Ms. Meaux, to adequately characterize the geology and hydrogeology of the site as discussed above results in an inadequate groundwater monitoring system. Furthermore, Ms. Meaux is not even identified in the PFD as a "qualified groundwater scientist" as that term is defined and required in the MSW regulations (e.g. PFD, page 8). The application's groundwater monitoring system will not meet 30 TAC 330.231(e). Specific inadequacies are discussed below.

1. Wells Should Be Screened Below Excavation into Stratum IV

Protestants object and except to the ALJ's conclusion and the TCEQ findings and conclusion that the proposed groundwater monitoring wells that will be screened only into Stratum III and not into the fractured portions of Stratum IV (where some excavation and landfilling will extend) meet TCEQ's regulatory requirements. According to the ED's geologist, Mr. Williamson, portions of the landfill will be excavated into Stratum IV and the pollutant pathway could be in this stratum (PFD p. 23 and 27). As such, failing to screen any monitoring wells below this excavation and into the fractured portions of Stratum IV fails to comply with TCEQ rules, e.g. 30 TAC 330.231(e)(1).

Apparently, the ALJ and TCEQ are only concerned about potential contamination from this proposed landfill reaching the Edwards Aquifer (PFD p. 28). This is <u>not</u> what concerns the landowner Protestants. The concern is the potential contamination of the groundwater in both Stratum III and the upper portions of Stratum IV, and subsequent contamination of surface

waters in the area. Yet only Stratum III will be monitored. This is not being protective of human health and the environment, contrary to the TCEQ findings and conclusions.

2. Wells Should Be Located Along Kohlenberg Lane Adjacent to Unit 1

Protestants object and except to the ALJ and TCEQ's findings and conclusion that it is not necessary to place a monitoring well along Kohlenberg Lane adjacent to Unit 1 (PFD p. 34). The ALJ based her conclusion on the testimony of Mr. Williamson, the ED's geologist, who said that groundwater does not move towards Kohlenberg Lane, based on the potentiometric maps contained in the Application (PFD p. 33-34).

There is clearly the need for monitoring wells along Kohlenberg Lane adjacent to Unit 1. This landfill is one of the oldest landfills (MSW-66) still in operation in the state. Unit 1 includes the original landfill disposal cells from the 1970s at a time when no requirements existed for the construction or testing of liners or leachate collection systems. There is no evidence that approved landfill liners were installed in these old cells that were filled adjacent to Kohlenberg Lane.

Currently, there is only one monitoring well along this roadway, MW-2. However, the Applicant proposes to remove this well, as being at best a side-gradient well, leaving no wells along this roadway adjacent to Unit 1. The groundwater contour map (Drawing 4-13A on page 1105 of APP-202) contained in the Application shows that groundwater does flow downgradient towards and potentially under this roadway before reaching Mesquite Creek (Tr. P. 890, L. 6 – P. 891, L. 14). It is interesting to note that in recent draft guidance for evaluating permit

modifications related to the placement of monitoring wells as required by the March 2006 rule revisions, the TCEQ staff stated that side-gradient wells should be considered downgradient and included in the Point of Compliance. Therefore, it is important that there be monitoring wells along this flow path, in order to be in compliance with the TCEQ rules (30 TAC § 330.231(a)(2)). Having too many monitoring wells versus too few is in keeping with the intent of the TCEQ rules as being protective of human health and the environment.

Therefore, Protestants contend that MW-2 must remain as a down-gradient well along Kohlenberg Lane and not be removed as proposed by the Applicant and as recommended in the PFD. By allowing for such removal, the TCEQ Order does not comply with TCEQ rules as being protective of human health and the environment.

3. Wells Adjacent to Unit 1 Will Be Influenced by Water in Ponds A and B

Protestants object and except to the ALJ's conclusion, and any TCEQ finding and conclusion consistent with or based on this conclusion, that water in Ponds A and B will not influence wells adjacent to Unit 1, as being contrary to the evidence presented at the hearing or not supported by any evidence (PFD p. 35). The ALJ based her conclusion on the mistaken belief that these ponds are designed for "detaining" water rather than "retaining" water (PFD p. 35). This is in spite of the testimony of the Applicant's own geologist who testified that there was a possibility that the stored water in Pond A could influence MW-2A (PFD p. 35). And she doesn't know if MW-4 would be influenced by Pond B, since neither she nor Mr. Graves know the elevation of Pond B (Tr. P. 620, L. 24 – P. 625, L. 19).

The Applicant argued in its Closing Argument that Ms. Meaux's acknowledgement of a possible influence of these ponds on groundwater monitoring wells is predicated on the assumption (also made by the ALJ) that these ponds are "retention" ponds rather than "detention" ponds (Appl. Closing Argument p. 20). However, the only assumption Ms. Meaux was asked to make at the hearing when asked this question was that water could sit within Pond A between its bottom (at elevation 593.0) and six inches higher (at elevation 593.5), which is what Mr. Graves testified as being how Pond A functions as constructed (TR. p. 146:14-20). Within this six-inch range, Pond A does function like a retention pond, according to Mr. Graves, unlike all of the real detention ponds proposed around Unit 2. Ms. Meaux reached her conclusion that Pond A could influence MW-2A only after considering this information and checking groundwater levels in this area.

The lack of information in the Application or presented at the hearing regarding these two storm water ponds is disturbing. These two ponds were not part of the previous permit amendment application for MSW-66A, and yet were constructed some time after that permit amendment was granted by the TCEQ and before this current permit amendment application was filed. There was no evidence presented during the hearing that the TCEQ ever approved the design or construction of these two ponds.

Mr. Graves testified that he did not include much information about these two ponds in the Application because they were existing ponds (TR. p. 142:1-5). Ms. Meaux obviously did not know anything about these two ponds nor did she consider how they might influence

groundwater in the vicinity of these ponds when she was characterizing groundwater flow in the area and proposing her groundwater monitoring system.

This lack of information in the PAA regarding these two ponds and their potential for influencing groundwater flow in the area is a failure to comply with the TCEQ rules and forms a basis for denial of this permit application request.

Therefore, Protestants contend that the evidence presented in the application or at the hearing does not support the ALJ's findings, nor the findings and conclusion of the TCEQ regarding these two ponds influencing groundwater in nearby monitoring wells and its flow direction, and contend that these two ponds must be lined so that any standing water in them will not influence groundwater in the vicinity of these ponds.

4. Applicant Should Have Been Required to Conduct Assessment Monitoring

Protestants object and except to the ALJ's conclusion, and any TCEQ finding or conclusion based thereon, that the Applicant was not required to conduct assessment monitoring due to the detection of 1,1-DCE at MW-3 (PFD p. 37). The ALJ reached her conclusion based on her finding that "... 1,1-DCE was not confirmed..." through re-sampling, although if had it been, then assessment monitoring would have been required (PFD p. 37).

The evidence presented in the Application and at the hearing showed that on at least four separate occasions over a two-year period, the contaminant, 1,1-dichloroethylene (DCE), was detected in the groundwater at MW-3 (TJFA Exhibit 3 P. 9, L. 38-44). This well is located down-gradient of the existing Unit 1 (where unlined cells were filled as part of the old landfill)

and just up-gradient of Mesquite Creek. The level of contamination detected in this monitoring well was at or above 0.007 mg/l, which is the Maximum Contaminant Level (MCL) for this contaminant (see 30 TAC § 330.200(d)(8) Table 1). The minimum level of detection or the reporting limit for this contaminant is 0.005 mg/l (Tr. P. 1213, L. 25 – P. 1214, L. 19). Each time a re-sampling was conducted by the Applicant, the level was below the detectable level of 0.005 mg/l. The repeated detection of this contaminant at or above the MCL should have triggered an assessment monitoring according to the TCEQ rules at 30 TAC 330.235 to determine its source, yet this was not done by the Applicant, and the ED did not require it.

At the hearing, the Applicant brought forward Mr. Kerfoot, a witness who confirmed that 1,1-DCE occurred in the groundwater, but only before and during landfill gas exceedances, (PFD p. 37). This is an admission by the Applicant that this contaminant was detected in the groundwater, and therefore this should have triggered an assessment monitoring.

Protestants contend that the TCEQ rules require the Applicant to conduct an assessment monitoring of MW-3 for the presence of 1,1-DCE that had previously been detected in order to determine its source. Elimination of any influence by Pond A on this monitoring well may be needed to accomplish this.

D. INADEQUACY OF GROUNDWATER AND SURFACE WATER PROTECTION PLAN AND DRAINAGE PLAN

1. Doubling in Runoff Volume Due to Diverted Drainage Area Violates TCEQ Rules and State Law

Protestants object and except to the ALJ and TCEQ's findings and conclusion that sufficient analyses and discussion was provided showing natural drainage patterns will not be significantly altered by the development of the proposed landfill, despite the fact that the runoff volume will double at the permit boundary associated with Discharge Point E (PFD p. 39). The ALJ based her conclusion on the fact that the Applicant showed that the "peak" discharge rates will be reduced by the use of storm water "retention" ponds (PFD p. 39).

The use of "retention" ponds is one of the specific methods which the TCEQ Guidance Document RG-417 provides for controlling increases in "runoff volume" so as not to have a significant alteration at the permit boundary (PFD p. 40). However, the evidence in the Application and presented at the hearing shows that the pond controlling runoff at Discharge Point E, where the runoff volume is shown to double, is NOT a "retention" pond, but rather a "detention" pond. Specifically, the ALJ noted that Mr. Graves explained that increased volumes of storm water runoff resulting from the landfill's development will be "detained" and subsequently discharged at the site's drainage points, and that the "... peak flow will be reduced by the use of the ponds..." (PFD p. 41). As such, even after the storm water leaves this "detention pond", the runoff volume is still significantly more than natural conditions at the permit boundary, even though the "peak" flow will be reduced.

Assuming the ALJ meant to write "detention pond" rather than "retention pond" in her PFD (she does use "detention" ponds on pages 41 and 44 of her PFD), the evidence provided at the hearing and in the Application establishes that only the "peak" discharge rate is being reduced at Discharge Point E. Almost all other discharge rates less than the peak rate crossing

the permit boundary at this location will be greater than would naturally occur due to the substantial increase in runoff volume (about 200%), diverted away from where it naturally flows and redirected towards Discharge Point E.

The evidence presented in the Application and at the hearing shows that the area draining to Discharge Point E, and the resulting runoff volume, will about double as a result of the development of the landfill (APP-202 Table 3.5.1-3 p. 01820). This doubling of the runoff volume is a direct result of the design of the landfill's drainage plan, in which certain drainage areas are to be diverted away from their natural pathways and redirected towards other areas, such as Discharge Point E (APP-202 Table 3.5.1-1 p. 01819). This is not something that had to be done; the design could have easily been done so as not to cause this diversion of storm water away from its natural pathway (Tr. P. 96, L. 6-18). Yet in this case it was done in order to make other "peak" discharges not be significantly altered as storm water leaves the site at those other locations (Tr. P. 101, L. 4-10). So what happens with all of this storm water that is to be artificially diverted away from its natural direction and towards Discharge Point E?

The permit engineer, Mr. Scott Graves, testified that even though the runoff volume increases by almost a factor of two at Discharge Point E, he didn't think that such a doubling is a significant increase because the associated "peak" discharge would be reduced at that point (Tr. P. 346, L. 14 – P. 348, L. 15). Therefore, he is confident that there would be no significant impacts downstream (Id). He stated that he came to this conclusion using "engineering judgment" based on site-specific behavior of the watershed, the site itself and the potential for anything downstream to be affected. (Tr. P. 349, L. 20 – P. 350, L. 10). He stated he wasn't

concerned at all about the doubling of the storm water runoff volume leaving Discharge Point E because he said he considered the timing of the flows leaving the site in relation to flows off-site (Tr. P. 99, L. 5 – P. 100, L. 14). Yet, Mr. Graves knows little to nothing about flows off-site at Discharge Point E.

Mr. Graves recognized that the timing of the discharge rates is an important parameter that is typically looked at in making these types of evaluations (Tr. P. 290, L. 12 – P. 291, L. 5). Timing is important to know as storm water leaving the landfill site combines with storm water occurring off-site. Timing was one of the parameters that Mr. Graves testified to as something to be looked at in determining if the design complies with the TCEQ rules regarding no significant alteration (Tr. P. 66, L. 18 – P. 68, L. 5). The ED's witness, Mr. P. Hunt Prompuntagorn, also testified that the timing of the discharge was an important parameter that he considers in his review of the drainage aspects of a landfill permit application, and that this timing parameter is sometimes critical to concerns about properties downstream, which needs to be considered on a case-by-case basis (Tr. P. 945, L. 24 – P. 948, L. 5). Timing is an important parameter to evaluate even according to the TCEQ Guidance Document RG-417 (see Section 5.3).

Yet, on cross-examination, neither the ED nor the Applicant witnesses had any idea how the timing and quantity of storm water leaving Discharge Point E combines with the timing and quantity of storm water runoff off-site and immediately downstream of Discharge Point E. For example, the Applicant's permit engineer, Mr. Graves, acknowledged that there was the potential for impacts just downstream of Discharge Point E where a natural drainage course runs along the properties of others (Tr. P. 350, L. 11-22). However, he has no idea what that natural drainage

course looks like or how it functions during a major storm event. He admitted that he doesn't know the following:

1. If this drainage course has banks or not;
2. How deep water would rise in this drainage course for different flood events:
3. If this drainage course floods properties that it crosses;
4. The peak discharge in this drainage course running across various properties;
5. The time when the peak discharge occurs in this watercourse; and
6. The drainage area of this watercourse upstream of Discharge Point E, and whether it is greater than or less than 13 acres, the natural drainage area of DP-E (Tr. P. 351, L. 12 – P. 353, L. 11; Tr. P. 355, L. 19 – P. 356, L. 1).

Therefore, Mr. Graves could not have been able to reach any conclusion about the potential for flooding or adverse impacts immediately downstream from this discharge location of the landfill site since he has no site-specific information or knowledge about conditions downstream and the potential for impacts downstream. These are the very things Mr. Graves stated he would need in order to be able to use "engineering judgment" to reach any conclusion about the significance of the increase in runoff volume being shown for Discharge Point E. Engineering judgment cannot be undertaken when there are no data upon which to base that judgment.

Even the ED's witness, Mr. Prompuntagorm, admitted that he was concerned about the almost doubling of the runoff volume leaving the landfill site at Discharge Point E and the potential for impacting the properties downstream along the natural watercourse, and so should

the people who live there (Tr. P. 980, L. 20 – P. 981, L. 13; Tr. P. 982, L. 18 – P. 983, L. 9). He admitted that he also has no idea how storm water leaving Discharge Point E would affect, relate to, interfere with or combine with water flowing across those other properties along this natural watercourse just downstream of Discharge Point E (Tr. P. 984, L. 13 – P. 985, L. 6). But he acknowledged that providing for this diversion of storm water away from its natural pathway and instead towards Discharge Point E helped the design of the landfill maintain the peak discharge at Discharge Point B, which is along Mesquite Creek, at its natural drainage conditions (Tr. P. 985, L. 7 – P. 986, L. 10).

Therefore, since the Applicant, the ED, the ALJ and the TCEQ have not and could not have determined whether or not the significant increase in runoff volume to be discharged at Discharge Point E will adversely impact properties immediately downstream, this Application fails to comply with TCEQ rules regarding "no significant alteration of natural drainage patterns".

In addition, the following TCEQ rule is also of importance in establishing the requirement that the Applicant must make such an off-site evaluation:

- 30 TAC 301.34(3) - (referenced in 30 TAC 330.53(b)(12)(A) & 330.55(b)(7)) - Criteria for approval of preliminary plans for drainage improvements by the Commission shall include the requirement that the design "... will not increase flooding or divert waters in such a way that any person's life or property will be endangered or subjected to significantly increased flooding. The Commission shall not approve plans for levees or other improvements which will significantly increase flood rises on any person's land..."

Such increased flooding on off-site properties can occur even with a reduction in the "peak" discharge rate at the permit boundary, if the timing of flows changes or the volume of

runoff increases enough. A doubling in runoff volume at the permit boundary is a significant alteration of natural drainage patterns at this location under any reasonable definition. Yet the ALJ and the Applicant believe that this is acceptable simply because the "peak" discharge rate leaving this location at the permit boundary is decreased over natural conditions by the use of a detention pond; and, therefore, this somehow proves that there will not be any adverse affects on downstream properties. However, the Applicant did no analysis off-site in order to determine if this was actually true, claiming such is not required by TCEQ rules.

The ALJ states on page 44 of her PFD that she finds that "... the application complies with the Commission's guidelines as well as with the applicable rule..." (i.e. that natural drainage patterns shall not be significantly altered). As noted above, the ALJ only cites the rules – specifically 30 TAC 330.55(b)(5)(D) and 330.56(f)(4)(A)(iv) - relative to "*natural drainage patterns will not be significantly altered.*" She further cites to the *Blue Flats* and *North Texas* cases as Commission precedent on this issue (PFD p. 44). According to the ALJ, these two cases rejected any off-site analyses of storm water in determining whether significant alteration of natural drainage patterns would occur (PFD p. 44). Yet the Commission's guidelines specifically state that off-site analyses can/should be performed in order to make this determination (RG-417, specifically Sections 2.1 and 5.3). Furthermore, 30 TAC 301.33 specifically requires the Commission to consider the potential for increased flooding of off-site properties in evaluating drainage improvements for a landfill.

Finally, the Guidance Document RG-417 states that even with a detention pond, not only should the "peak" flow rate not significantly change, but also the "volume of storm water ...

should not change significantly when compared with predevelopment conditions..." (Section 7.1).

Therefore, this Application cannot comply with both Commission precedent as cited and interpreted by the ALJ in her PFD and Commission guidance and rules on this issue because the guidelines and rules are not consistent with the Commission precedent, as it is being interpreted by the ALJ. Relying on a decrease in "peak" discharge rate at the permit boundary as the sole factor for determining that "natural drainage patterns are not significantly altered" from the landfill is contrary to common sense and the Commission's ruling in the *Blue Flats* case, TCEQ rules and TCEQ Regulatory Guidance. An almost doubling in area, and corresponding runoff volume, draining to and off the permit boundary should be per se a significant alteration of natural drainage patterns, unless it can be demonstrated otherwise by the Applicant, as provided for in the Guidance Document - RG-417.

Finally, the ALJ states that the June 2004 Guidance Document acknowledges that an increase in volume may need to be mitigated by controlling the rate of discharge (PFD p. 44). Protestants agree that the Guidance Document say this. However, the ALJ and the Applicant do not contend that the rate of discharge is being controlled, only the "peak" rate of discharge (PFD p. 42). Virtually all other discharge rates leaving the permit boundary from Discharge Point E are greater than natural conditions because of this increased volume of discharge, and the Applicant's engineer does not know how these increased discharge rates will affect downstream flooding when they combine with storm water runoff off-site (PFD p. 43).

TCEQ's Guidance Document, RG-417, presents a discussion of the various parameters associated with "natural drainage patterns" that are not to be significantly altered by the development of the landfill, as proposed in the permit application. One of those parameters is the runoff volume, the total amount of water that runs off of the property after a storm event. The PAA identified the runoff volume leaving the landfill site at five discharge points (A, B, C, D and E). The PAA tabulated this information and showed that the runoff volume at Discharge Point E would almost double as a result of the landfill as compared to conditions before the landfill. Yet, there is no discussion in the PAA regarding this issue, as required by the TCEQ rules, and how or why the almost doubling of the area draining to, and the resulting runoff volume leaving Discharge Point E, may or may not impact properties downstream. This issue was simply ignored by the Applicant. Anyone reading the PAA likely would not become aware of this issue.

In fact, not only did the Applicant attempt to hide this issue, the Applicant attempted to misrepresent what is really happening here. Mr. Graves testified that the only place in the PAA where there is any discussion or narrative description of the alteration of natural drainage patterns is within the first paragraph on page 01821 of the PAA (Tr. P. 282, L. 14 – P. 283, L. 17). Within this paragraph of the PAA, the Applicant actually states that the drainage areas and runoff volumes are "similar" for natural conditions, pre-development conditions and post-development conditions, and thereby is able to conclude that "... this information demonstrates that natural and currently permitted drainage patterns will not be significantly altered or adversely affected by the proposed expansion."

No one with any common sense would believe that an almost doubling of the drainage area and runoff volume between pre- and post- development of the landfill would be considered "similar" values. The Applicant was simply hoping that no one would notice the tabulated data, and instead, would simply read and rely on the narrative discussion to accurately portray the information and results of the technical analyses contained within the PAA. This is why the TCEQ rules require a "discussion" and analyses. It is incumbent on the Applicant to explain exactly how a doubling of the runoff volume being discharged off-site will not impact properties downstream. Only by doing so can the Applicant meet the TCEQ requirement of demonstrating no significant alteration of natural drainage patterns due to the landfill development. The very lack of such a discussion regarding a significant increase in runoff volume is what led the Commission to deny the permit application in the *Blue Flats* Case.

Therefore, Protestants contend that this PAA fails to demonstrate that natural drainage patterns will not be significantly altered as a result of the development of the proposed landfill, in violation of TCEQ Regulatory Guidance, 30 TAC 301.33 and 30 TAC 330.56(f)(4)(A), as well as Section 11.086 of the Texas Water Code. As such, this PAA must be DENIED and this motion for rehearing be granted.

It is disturbing that the TCEQ has ignored all of this in its Findings and Conclusions and has failed to even attempt to discuss or reconcile the inconsistencies between its rules, the Guidance document and prior rulings by the Commission as presented above.

2. Applicant Used Unreliable FEMA Floodplain Map

Protestants object and except to the ALJ and TCEQ's findings and conclusion that the evidence demonstrates that the landfill would comply with requirements regarding protections from flooding, because the TCEQ, the ALJ and the Applicant erroneously relied on the FEMA floodplain map to determine that this site is not in the 100-year floodplain of Mesquite Creek (PFD p. 50).

While it is true that it is generally acceptable to TCEQ to rely on the FEMA map to determine floodplain areas, this is only true when FEMA has actually studied and determined the floodplain of the creek of interest. If FEMA never studied or analyzed the floodplain of a particular stream or creek, FEMA will not show an indication of a 100-year floodplain along such a creek on its floodplain map. Use of such a FEMA map to conclude that this creek does not have a floodplain would be arbitrary and capricious, especially when it is known that this creek does in fact have a floodplain. The TCEQ rules provide for means by which to determine if a site is in the 100-year floodplain other than the FEMA map if it's not useful (30 TAC 330.56(f)(4)(B)(i)). Use of such a FEMA map has previously been found to be inadequate and unreliable by the Commission in both the *Juliff Garden* and *Tan Terra* cases. Yet the ALJ recommended that the Commission allow this very thing to happen in this case, and the Commission agreed with the ALJ, contrary to Commission precedent and common sense, without any discussion by the TCEQ of its rationale to change its position on this issue, even though it is contrary to its own rules.

The TCEQ rules require that a permit application identify whether a landfill will be located within a 100-year floodplain (e.g. see 30 TAC § 330.56(f)(3), 30 TAC §

330.56(f)(4)(B)(i) and 30 TAC § 330.301). "Floodplain" is defined by the TCEQ as essentially areas inundated by the 100-year flood (30 TAC § 330.2(48)). If a site is determined to be located within a 100-year floodplain, then the Applicant must provide the specific 100-year flooding levels and any other special flooding factors that need to be considered in designing the landfill or that may impact the flood protection of the facility (see 30 TAC § 330.56(f)(4)(b)(i) and (ii)). The Applicant must also demonstrate that the landfill design will not restrict the flow of the 100-year flood associated with that floodplain, reduce the temporary water storage capacity of that floodplain, or result in the washout of solid waste so as to pose a hazard to human health and the environment (see 30 TAC § 330.301).

The PAA contains statements that this landfill site is not located within the 100-year floodplain. These statements are based on the fact that the FEMA floodplain map for this general area does not show this site to be located within a floodplain associated with Mesquite Creek (see APP-211). Mr. Graves testified that since the TCEQ "typically" accepts this FEMA map as a reliable source of information, he used this map to conclude that this landfill site is not within a 100-year floodplain of any stream or creek, including Mesquite Creek (Tr. P. 150, L. 21 – P. 151, L. 16).

Contrary to the assertion of the Applicant, this FEMA map cannot be used to determine whether the site is in a 100-year floodplain since the FEMA map does not identify whether or not there is any 100-year floodplain associated with Mesquite Creek. Mr. Graves admitted that he doesn't know if FEMA has ever determined if Mesquite Creek has a floodplain (Tr. P. 151, L. 17 – P. 152, L. 5). But he did admit that he believes that Mesquite Creek does in fact have a 100-

year floodplain (Tr. P. 381, L. 25 – P. 382, L. 4). He even performed some calculations to determine some 100-year flood levels under certain conditions, as shown in Section 6H of Attachment 6 of the Application (APP-202 p.02107). But he testified that this analysis of his is not a determination of the 100-year floodplain for Mesquite Creek, since he did not take into consideration downstream features, such as Kohlenberg Lane and Freedom Lake (Tr. P. 158, L. 4 – P. 163, L. 19; Tr. P. 172, L. 13-18; Tr. P. 173, L. 18-22). He made it clear that it was not his intent to delineate the 100-year floodplain for Mesquite Creek when he was conducting this limited analysis (Tr. P. 177, L. 7-13). He even discussed how he would go about making an analysis of the floodplain for Mesquite Creek, which would include taking into account downstream obstructions (Tr. P. 179, L. 22 – P. 180, L. 21).

The ED's witness, Mr. Prompuntagorn, also agreed that there is a floodplain associated with Mesquite Creek, and that there are areas along Mesquite Creek that would be inundated by a 100-year flood (Tr. P. 993, L. 10-15). But he didn't know if FEMA looked at or determined whether or not Mesquite Creek has a floodplain (Tr. P. 996, L. 2-8). Yet he acknowledged that the Applicant nonetheless used the FEMA map to conclude that the site is not located within a floodplain (Tr. P. 998, L. 17 – P. 999, L. 1). He further agreed that an analysis for determining the floodplain along Mesquite Creek should consider all features that would affect the 100-year water level, including downstream obstructions (Tr. P. 995, L. 12-17). Finally, Mr. Prompuntagorn agreed that the TCEQ rules do not indicate that the "floodplain" being referred to in these rules is limited to being only the one defined by FEMA (Tr. P. 996, L. 9 – P. 999, L. 18).

Based on the above testimony from Mr. Graves and Mr. Prompuntagorn, it is clear that the FEMA floodplain map available for this area cannot be used or relied upon to make the requisite determination as to whether this landfill site is within the 100-year floodplain of Mesquite Creek. This is because the FEMA map does not show a floodplain for any portion of Mesquite Creek, even though a floodplain does exist for this creek. The FEMA map also doesn't show the flood pool that inundates portions of the landfill site that is created by a flood control structure that impounds Freedom Lake located just downstream of the landfill site. Neither witness knew whether or not FEMA even made any type of analysis of the floodplain for this creek. In such a case, the Applicant must conduct its own floodplain analysis in order to comply with the requirements of the TCEQ rules regarding locating a landfill in a floodplain.

In this case, the Application does not include any floodplain analysis for Mesquite Creek, as testified to by the Applicant's own permit engineer, Mr. Graves. As a consequence, the Application cannot and in fact does not comply with the applicable TCEQ rules regarding locating a landfill in a floodplain.

Therefore, Protestants assert that the Applicant has failed to demonstrate that this site is not in the 100-year floodplain of Mesquite Creek, or its tributary, based solely on its reliance on the FEMA floodplain map. The FEMA map is clearly unreliable with respect to Mesquite Creek, and the Applicant's reliance on it is contrary to the evidence in the application and presented at the hearing. Mesquite Creek is bordered by a floodplain where it crosses the landfill site but the Applicant does not know the extent of it (see PFD, Page 50, first and second paragraphs – The Applicant "*admitted that Mesquite Creek has floodplain characteristics and is within Freedom*

Lake's flood pool..."). Thus, Protestants object to any TCEQ finding or conclusion based on this erroneous finding that the site is not located within a 100-year floodplain.

3. Other Relevant Issues Not Discussed in PFD or TCEQ Order

There are some other issues regarding the Drainage Plan that were presented in the hearing and in TJFA's briefing that were not discussed in the PFD or specifically mentioned in the TCEQ Order, as follows:

1. Failure to Show Floodplain Areas on Attachments 3 and 7

The TCEQ rules require that the areas subject to flooding by the 100-year flood be shown on Attachments 3 and 7 of Part III of the PAA (see 30 TAC § 330.56(c) and (g), respectively). The purpose of this is to demonstrate that the landfill design will not adversely impact the 100-year floodplain of any adjacent or nearby creek or stream, or that the landfill itself will not be adversely impacted by flood waters up to and including the 100-year event.

In reviewing the PAA, it is clear that these attachments do not show any areas subject to flooding by the 100-year flood along Mesquite Creek or its tributary. Mr. Graves agreed as much (Tr. P. 177, L. 24 – P. 178, L. 8). Mr. Prompuntagorn agreed as much (Tr. P. 990, L. 3 – P. 992, L. 8). Yet both Mr. Graves and Mr. Prompuntagorn agreed and testified that in fact there is a floodplain associated with Mesquite Creek for the 100-year event (Tr. P. 999, L. 2-5).

Therefore, even though there are areas along this creek that would be inundated during a 100-year flood, such areas were not identified and located on these two attachments, as required

by the TCEQ rules. As such, no one, including the TCEQ, the public or the Applicant, can conclude if any of the landfill features would be located within the 100-year floodplain, as required by the TCEQ rules.

2. Required Information Missing regarding Existing Ponds A and B

The TCEQ rules require complete information be provided in a permit application regarding the design of the landfill, including the Drainage Plan (see 30 TAC § 330.55(b)(5)(C), 30 TAC § 330.56(f) and 30 TAC § 330.56(f)(4)(A)(iii) and (v)). For example, included in Attachment 6 of Part III of the Application must be a maintenance plan to ensure the continued operation of drainage and/or storage facilities (see 30 TAC § 330.56(f)(4)(A)(vi).

Part of the Drainage Plan presented in this PAA for providing and handling the drainage of storm water off the landfill includes the existing Ponds A and B, located between Unit 1 and Mesquite Creek. These ponds were not included in the previous permit amendment MSW-66A, but were constructed after that permit amendment was issued and before this current Application was filed (Tr. P. 966, L. 13-16). The purpose of these ponds being constructed was apparently to help control the release of sediment from the existing landfill due to some erosion problems (Tr. P. 966, L. 17-23). There is no evidence that TCEQ has ever reviewed or approved the design and/or construction on these ponds.

Mr. Graves testified that these two ponds are sediment ponds that allow sediment to build up within them and as such they need to be cleaned out on a regular basis (Tr. P. 138, L. 8-21).

Yet no such maintenance plan is included in the Application, as required by the TCEQ rules (Tr. P. 138, L. 22 – P. 140, L. 1).

Mr. Graves also testified that these two ponds help reduce flow rates at Discharge Point B to less than natural conditions (Tr. P. 84, L. 13-25). Yet, he stated that he failed to show any plan view of Pond A, as he had done for the other ponds, since this pond was already constructed (Tr. P. 141, L. 17 – P. 142, L. 5). He doesn't know if a prior design of these two ponds was ever done (Tr. P. 147, L. 21 – P. 148, L. 10). In fact, he didn't have any information about Pond B, in order to determine how high water can get in that pond before it would overflow (Tr. P. 143, P. 17 – P. 144, L. 2). For Pond A, he admitted that the Application does not identify the outlet for this pond; therefore, he doesn't know where the emergency spillway is located or if one even exists (Tr. P. 144, L. 23 – P. 145, L. 8).

The failure of the Applicant to include in its PAA any design information for Pond B and incomplete design information for Pond A is not in compliance with the TCEQ rules that require such information be included in a permit application (e.g. see 30 TAC § 330.55(b)(5)(C). This is contrary to TCEQ Finding of Fact No. 76.

E. NONCOMPLIANCE WITH GEOTECHNICAL REQUIREMENTS FOR SLOPE STABILITY

Protestants object and except to the ALJ's conclusion and any TCEQ finding and conclusion that the Application presents a safe design regarding slope stability in accordance with TCEQ rules (e.g. 330.305). The ALJ found that the Applicant's slope stability analysis demonstrated that the waste slopes will be stable, based on the testimony of the Applicant's

engineer, Dr. Gross, regarding this analysis (PFD p. 54). However, the evidence presented at the hearing does not support such a conclusion, particularly with regards to the minimum factor of safety acceptable for such analyses.

The ED's witness, Mr. Prompuntagorn, testified that the TCEQ policy regarding minimum factor of safety for slope stability analyses for municipal solid waste landfills is 1.25 (TR 1011, L 1-18, TR 1014, L 12-18, TR 1016, L 2-5). Yet, some of the factors of safety used in the Applicant's slope stability analyses were as low as 1.0 (APP-202, pages 01632—01633), clearly below the acceptable level set by TCEQ policy.

In addition, applicant's "expert" witness, Dr. Gross, whose testimony was somehow found by the ALJ to be credible, testified that she didn't know if U.S. EPA had minimum recommended factors of safety for slope stability (see TR p. 751-752). Further, she testified that she was not aware of any U.S. EPA document that has minimum factors of safety for MSW landfill slope stability (see TR p. 756, L 9-15; TR 758, L 17-19: TR 758, L 20-24). In apparent contradiction to this "credible" opinion by the Applicant's witness, the Application itself references a current U.S. EPA document that contains U.S. EPA's recommended minimum factors of safety for slope stability analyses for MSW landfills (see TR p. 745, L 6-12; APP-202 p. 01649, *Solid Waste Disposal Facility Criteria, Technical Manual*, p. 55).

Since Dr. Gross' slope stability analyses fail to meet the minimum standard of the U.S. EPA and TCEQ policy, Protestants object to any TCEQ findings or conclusion to the contrary and believe that this permit request should be denied.

F. INADEQUACY OF SOP AND FACILITY ENTRANCE DESIGN

1. Operating Hours in Settlement Agreement with County Should be in Permit

Protestants agree with the ALJ's recommendation that the operating hours in the Draft Permit be changed to reflect the operating hours in the Applicant's agreement with Guadalupe County. These operating hours were a critical part of the agreement that the Applicant entered into with the County in order to get the County to withdraw its opposition to the PAA. There is no evidence that longer operating hours are required for normal landfill operations at this facility. Also, TCEQ rules already provide for extended operating hours in response to an emergency.

The decision to overrule the ALJ and incorporate the interpretation solely by the Applicant of what was meant by the parties to the settlement agreement is contrary to the plain reading of the agreement, the reading of the agreement by the ALJ, and the interpretation of Guadalupe County presented to the Commission in a letter delivered to the TCEQ Clerk and the TCEQ General Counsel and the Applicant just prior to the Commission hearing on September 10, 2008.

2. TPWD's Four Recommendations Should All Be Included in the SOP

Protestants object and except to the ALJ and TCEQ accepting only one of the four TPWD recommendations regarding the protection of a rare species (the Mount Plover) into the proposed Site Operating Plan (SOP) for this landfill. Protestants agree with the OPIC that "... all four of TWPD's recommendations be included in the landfill's construction plan and SOP..." (PFD p. 68). The ALJ concluded that only the first TPWD recommendation be included in the

SOP, i.e. that landfill personnel should be educated about the Mountain Plover so that adverse impacts to this rare species are avoided, since including such a recommendation would not be too onerous on the Applicant (PFD p. 63 and 66). Protestants agree that such a requirement should not be onerous on the Applicant; however, such should not be the standard. Rather, the standard is to protect the environment.

Yet, based on this ALJ's standard, the ALJ and TCEQ chose not to agree with the second TPWD recommendation, which was for placing a restriction on land-clearing activities during bird-nesting season. The ALJ rejected this recommendation stating her concern that the term "land-clearing activities" could be construed to encompass various types of landfill operations and therefore be too onerous on the Applicant (PFD p. 66). Protestants believe that if this is a concern of the ALJ, then the SOP could be clarified so that "land-clearing activities" would only involve the disturbance of native vegetation (where bird nesting might occur) so as not to prohibit waste disposal operations or other normal landfill operations that do not involve the clearing of such vegetation. It would not seem to be an onerous burden on the Applicant to limit its land-clearing activities to those parts of the year that are not the bird-nesting season.

The third TPWD recommendation involved maintaining vegetated buffer zones along the riparian corridors to minimize adverse impacts to valuable ecosystems (PFD p. 63). The ALJ failed to discuss this particular recommendation in her PFD, other than to state that "the ALJ suggests no changes regarding vegetation in the SOP" (PFD p. 66). Again, Protestants believe preserving the riparian vegetated buffers, such as they exist, is not an onerous burden on the Applicant and sees no reason why this should not be done, especially since all the witnesses at

the hearing, even the Applicant's own expert, agreed that this recommendation of the TPWD should be included in the SOP.

Finally, the TPWD recommended that disturbed areas be re-vegetated with specific native plant species (PFD p. 63). The ALJ disagreed, believing that almost any actively-worked area could be considered "disturbed" and, thus, the timing of re-vegetation would not be clear (PFD p. 66). Again, Protestants contend that any such confusion could be clarified in the SOP and that the timing of such re-vegetation could be clarified as well, as is the normal practice in other SOPs.

3. Site Entrance as Designed is Unsafe and Fails to Meet Standards

Protestants object and except to the ALJ and TCEQ finding and concluding that the Applicant can fix the unsafe design of its proposed new landfill entrance by submitting to the TCEQ staff prior to construction a different location and design for its new entrance that complies with safety design standards. The ALJ acknowledged that the application had to include sufficient data to show the design will not pose adverse effects on nearby persons or property owners (PFD p. 69), but the evidence presented at the hearing showed that the current design does not meet AASHTO standards regarding safe line-of-sight distances. The Applicant provided an alternative location and design for its new entrance at the hearing, but did not offer to amend its Application to incorporate this new design. Therefore, the PAA is deficient and fails to comply with TCEQ rules regarding a safe landfill design.

G. TRANSCRIPT COSTS SHOULD BE APPORTIONED JUSTLY

TJFA takes exception to the TCEQ apportioning half of the normal transcript costs to TJFA for having significantly participated in the hearing.

The ALJ acknowledged that the Protestants, including TJFA, raised reasonable concerns regarding the application during this public hearing (PFD p. 71). A number of issues were identified regarding the lack of an adequate and safe design, some of which even the ALJ has identified and has recommended be changed in order to make the Application more protective of human health and the environment (PFD p. 71).

TJFA believes that this is the very purpose for having public hearings and the TCEQ should recognize the valuable role played by Protestants, such as TJFA, and the public in this permitting process. For these Protestants to then be penalized for actively participating in the public hearing, bringing up reasonable concerns about the application and its proposed landfill design, and identifying issues that will result in an improved and safer design with which even the ALJ and the TCEQ agree, would tend to stifle participation by protestants in future public hearings.

Furthermore, the financial burden on Protestants who participate in these hearings is significant already. There is no financial reward for the Protestants even if they are successful in their efforts, unlike for the Applicant. The Applicant should expect that its application may be contested and anticipate that there will be costs associated therewith. The Applicant assumes the risk of such a hearing and the costs that go along with it, especially when reasonable concerns

are raised regarding the adequacy of its design, as is the case here. This is why all of the transcript costs should be borne by the Applicant in this case.

In addition, the ALJ assumed that TJFA, a real estate investment limited partnership, had the financial ability to pay for a share of the transcript costs based on her conclusion that since Mr. Bobby Gregory, TJFA's representative in this matter, also is the principal owner of a separate corporation that owns a landfill, this somehow means TJFA has the financial ability to pay a portion of the transcript costs (PFD p. 70). It is unclear how Mr. Gregory's involvement in a different corporation that owns a landfill facility is relevant to whether TJFA has the financial ability to pay transcript costs in this case. Certainly his ownership interest in a landfill elsewhere has no bearing on TJFA's status in these proceedings, nor should it. The fact that the ALJ even mentions this other landfill business at all raises the question of whether this influenced the ALJ in the rendering of her PFD. Even the TCEQ recognized the irrelevance of discussing and considering Mr. Gregory's involvement in apportioning transcript costs by deleting the ALJ's proposed Finding of Fact No. 142 regarding transcript costs.

H. NO "LATERAL EXPANSION" INVOLVED

Protestants object and except to the TCEQ, ALJ and the Applicant all erroneously describing this PAA as being for a "lateral expansion", given how this term is defined in the regulations (PFD p. 1). The testimony during the hearing verified that the PAA is for a new "*unit 2, which will not be physically connected to the areas that are already permitted, Units 1 and 3...*" (PFD p. 4).

Construction of a new MSW landfill unit, as is the case here, does not meet the regulatory definition of a "lateral expansion", which is defined as "a horizontal expansion of the waste boundaries of an existing municipal solid waste landfill unit" (30 TAC 330.2(63)). The TCEQ Order, PFD and the Applicant all erroneously use the term "lateral expansion" to describe the current permit amendment being sought by Waste Management of Texas, Inc. (WMTX). This misuse of this term has continued throughout this permitting process even after TJFA had the Applicant read the TCEQ rule 330.2 definition of "lateral expansion" into the record to avoid any ambiguity as to the regulatory meaning of that term (TR 344, L 1-3).

Applicant's representative, Mr. Don Smith, testified:

- the proposed disposal area is in no way connected to the current permitted disposal area (TR 17, L 2-5);
- a new disposal unit is proposed in 66B [application] and is in no way connected to the disposal unit in 66A [current permit] (TR 18, L 6-12); and
- Mesquite Creek separates the current permitted disposal area and the proposed disposal area (TR 19, L 12-15).

Applicant's Engineer of Record, Mr. Scott Graves P.E., further testified:

- the proposed permit amendment proposes three discrete areas or landfill units (TR 344, L 17-20); and
- the proposed permit amendment would not expand [existing] Unit No. 1 (TR 344, L 22-25)

Applicant's intent to construct a new MSW landfill unit was even confirmed by Applicant's own closing argument "*The existing facility consists of two disposal units, Unit 1 and Unit 3... WMTX is seeking to expand the facility to add a third* [new] *disposal unit, Unit 2.*" (page 3, paragraph 1, lines 5-6, paragraph 2, lines 3-4). Construction of the new MSW landfill Unit 2 does not meet the TCEQ definition of a "lateral expansion".

The TCEQ's misuse of the term "lateral expansion" for describing this PAA is consistent with that of the ALJ and the Applicant. Such use may be an attempt by the Applicant to circumvent the prohibitions of the federal Ford Aviation Act against siting new landfill units within six miles of public airports. Therefore, Protestants request that the Commission correct its Order, and its findings be clarified to clearly show that this permit amendment request is simply for an expansion of an existing municipal solid waste facility, and not a "lateral expansion", as that term is defined in state and federal regulations.

I. ERRORS IN COMMISSION'S FINDINGS OF FACT

As such, the Protestants object and take exception to the following Findings of Fact (FoF) contained in the Commission's Order:

FoF # 26.c. – This is contrary to the information provided in the application and at the hearing in that there are topographic features such as a floodplain that would limit the development of the site as a MSW landfill.

FoF # 28.c. – This is contrary to the information provided in the application and at the hearing regarding the existence of an aquifer beneath the site besides the Edwards Aquifer.

FoF # 29. – This is contrary to the information provided in the application and at the hearing regarding all of Stratum IV, including the upper portion that contains fractures, being in the Lower Taylor Group serving as an aquitard, as discussed above.

FoF # 33.b. – This is contrary to the information provided in the application and at the hearing in that the location of the 100-year floodplain of Mesquite Creek has not been identified by the Applicant in this case as discussed above, therefore this statement cannot be made.

FoF # 36.a-c – This is contrary to the information provided in the application and at the hearing regarding the depth and use of these three wells.

FoF # 46.c. – This is contrary to the information provided in the application and at the hearing regarding the uppermost aquifer.

FoF # 47. - This is contrary to the information provided in the application and at the hearing regarding the control of groundwater flow directions and gradients as discussed above.

FoF # 48.a and c. - This is contrary to the information provided in the application and at the hearing regarding Stratum IV relative permeability and being the lower aquitard, as discussed above.

FoF # 49 - This is contrary to the information provided in the application and at the hearing regarding the upper portions of Stratum IV being a pollutant pathway and being a stratum intersected by the liner system, as discussed above.

FoF # 53 - This is contrary to the information provided in the application and at the hearing regarding the detection of 1,1-DCE as discussed above.

FoF # 54 - This is contrary to the information provided in the application and at the hearing regarding use of the term "lateral expansion" and groundwater flow directions, as discussed above.

FoF # 55 - This is contrary to the information provided in the application and at the hearing regarding MW-1 and MW-2 as upgradient vs. downgradient wells, and as discussed above.

FoF # 58.a. - This is contrary to the information provided in the application and at the hearing regarding the appropriate point of compliance around the existing facility along Kohlenberg Lane, as discussed above.

FoF # 59 - This is contrary to the information provided in the application and at the hearing regarding the monitoring well system being properly screened and able to detect a release from the facility, as discussed above.

FoF # 61 - This is contrary to the information provided in the application and at the hearing regarding the facility's design being protective of groundwater as discussed above.

FoF # 64 - This is contrary to the information provided in the application and at the hearing regarding the collection and movement of leachate being designed to do so vs. actually doing so, and the recirculation of leachate as discussed above.

FoF # 70 & 71 - This is contrary to the information provided in the application and at the hearing regarding the appropriate factor of safety as discussed above.

FoF # 74 - This is contrary to the information provided in the application and at the hearing regarding the ability of the facility to do so given the uncertainty in the location of the 100-year floodplain as discussed above.

FoF # 75 - This is contrary to the information provided in the application and at the hearing regarding the design of surface water controls maintaining natural drainage patterns as discussed above.

FoF # 76 - This is contrary to the information provided in the application and at the hearing regarding details and typical sections of ponds A and B as discussed above.

FoF # 78 - This is contrary to the information provided in the application and at the hearing regarding the potential problems with contaminated water as discussed above.

FoF # 79 - This is contrary to the information provided in the application and at the hearing regarding the inability to identify if the site is located in the 100-year floodplain as discussed above, and the permitted waste disposal units extending into the Freedom Lake flood pool.

FoF # 83.c. - This is contrary to the information provided in the application and at the hearing regarding maintaining similar drainage patterns as discussed above.

FoF # 84 - This is contrary to the information provided in the application and at the hearing regarding natural drainage patterns not being significantly altered as discussed above.

FoF # 90 & 91 - This is contrary to the information provided in the application and at the hearing regarding the stability of the proposed landfill slopes based on the computed factors of safety as discussed above.

FoF # 95 - This is contrary to the information provided in the application and/or at the hearing regarding the terms of the agreement with Guadalupe County as discussed above.

FoF # 96 - This is contrary to the information provided in the application and/or at the hearing and the finding of the ALJ regarding the time when operations could be disturbing to nearby residents.

FoF # 99 - This is contrary to the information provided in the application and/or at the hearing regarding the terms of the settlement agreement with Guadalupe County limiting all hours of operation.

FoF # 130 - This is contrary to the information provided in the application and at the hearing regarding the proposed site entrance complying with AASHTO standards as discussed above.

FoF # 133 - This is contrary to the information provided in the application and at the hearing regarding use of the term "lateral expansion" and DOT or FAA determinations.

FoF # 139 - This is contrary to the information provided in the application and at the hearing regarding the recommendations by the TPWD as discussed above.

J. ERRORS IN COMMISION'S CONCLUSIONS OF LAW

As such, the Protestants object and take exception to the following Commission's Conclusions of Law (CoL):

CoL # 4 - This is contrary to the information provided in the application and at the hearing, such as the lack of information regarding the identification of the 100-year floodplain and the hydrogeologic characteristics at the site, as discussed above.

CoL # 6 & 7 - This is contrary to the information provided in the application and at the hearing as discussed above.

CoL # 10 & 11 – There was insufficient information presented at the hearing to justify the apportionment of such costs to TJFA as required by TCEQ rules

CoL # 12 – As discussed above, such documentation should have been presented in the application for review and comment by the public.

CoL # 13 – As discussed above, the avoidance of adverse impacts to the species should include more than just training.

CoL # 14 - This is contrary to the information provided in the application and/or at the hearing regarding the agreement on operating hours with Guadalupe County and the impact on nearby residents as discussed above.

CoL # 15 - This is contrary to the information provided in the application and at the hearing and as discussed above such that the requested permit should be denied as not being in compliance with TCEQ rules and regulations and state law.

III. CONCLUSION

In conclusion, Protestants request a rehearing on the permit amendment application and that the permit amendment application be **DENIED**. Protestants believe it will be reversible error if the Commission fails to conduct a rehearing, and fails to alter its Order, particularly the findings and conclusions regarding (1) the site not being in the 100-year floodplain of Mesquite Creek based solely on an unreliable FEMA floodplain map, (2) a doubling in the amount of runoff volume leaving the site as not being a significant alteration of natural drainage patterns without sufficient analyses and discussions to support it, and (3) the failure of the Applicant to conduct horizontal permeability tests in Stratum IV into which the excavation will extend.

Protestants object and except to all of the findings of fact and conclusions of law included in the Order that are contrary to the position taken by Protestants as discussed herein.

Furthermore, TJFA believes that the ALJ's reference to TJFA's representative and his involvement in another landfill business is irrelevant. As such, TJFA believes that the issues raised and argued by TJFA during this proceeding may not have been fairly evaluated and considered by the ALJ, to the prejudice of TJFA and the other Protestants.

Protestants again assert that the Application of WMTX, Inc. ("Applicant") for Permit Amendment No. MSW-66B should be **DENIED** for all of the reasons discussed herein, including:

1. the Application fails to provide the requisite geological and hydrogeological characterizations in order to be able to develop a groundwater monitoring system that would ensure the protection of human health and the environment and be in compliance with the TCEQ rules (e.g. 30 TEX. ADMIN. CODE § 330.56 (d)(5)(B) and 330.231);

2. the Application fails to provide the requisite discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the development of the landfill expansion, particularly as a result of the dramatic doubling in runoff volume shown for Discharge Point E, in violation of TCEQ rules (e.g. 30 TAC 330.56(f)(4)(A)(iv) and 301.33), Regulatory Guidance and the Texas Water Code Section 11.086;

3. the Application fails to demonstrate that the site is not located in the 100-year floodplain of Mesquite Creek, in violation of TCEQ rules (e.g. 30 TAC 330.56(f)(4)(B) and 330.303);

4. the Application fails to demonstrate that the construction and operation of the landfill will be stable due to the lack of an acceptable minimum factor of safety as set by the U.S. Environmental Protection Agency and TCEQ policy;

5. the Application fails to demonstrate that the Site Operating Plan is protective of human health and the environment, especially as it relates to (1) the failure to include the TPWD recommendations to protect a rare species, and (2) the failure to include a site entrance design that complies with AASHTO safe design standards.

. WHEREFORE, PREMISES CONSIDERED, Protestants TJFA and CCL respectfully request that the Commission grant this motion for rehearing and deny this application for permit amendment.

Respectfully submitted,

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by _____
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REPRESENTATIVE FOR CCL

CERTIFICATE OF SERVICE

I certify that a true and correct copy of the foregoing document has been served on the following via hand delivery, express mail, electronic mail, facsimile, and/or U.S. First Class Mail, on this the 27th day of October, 2008.

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Staff Attorney
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John Holtman
1520 Schwarzlose Rd.
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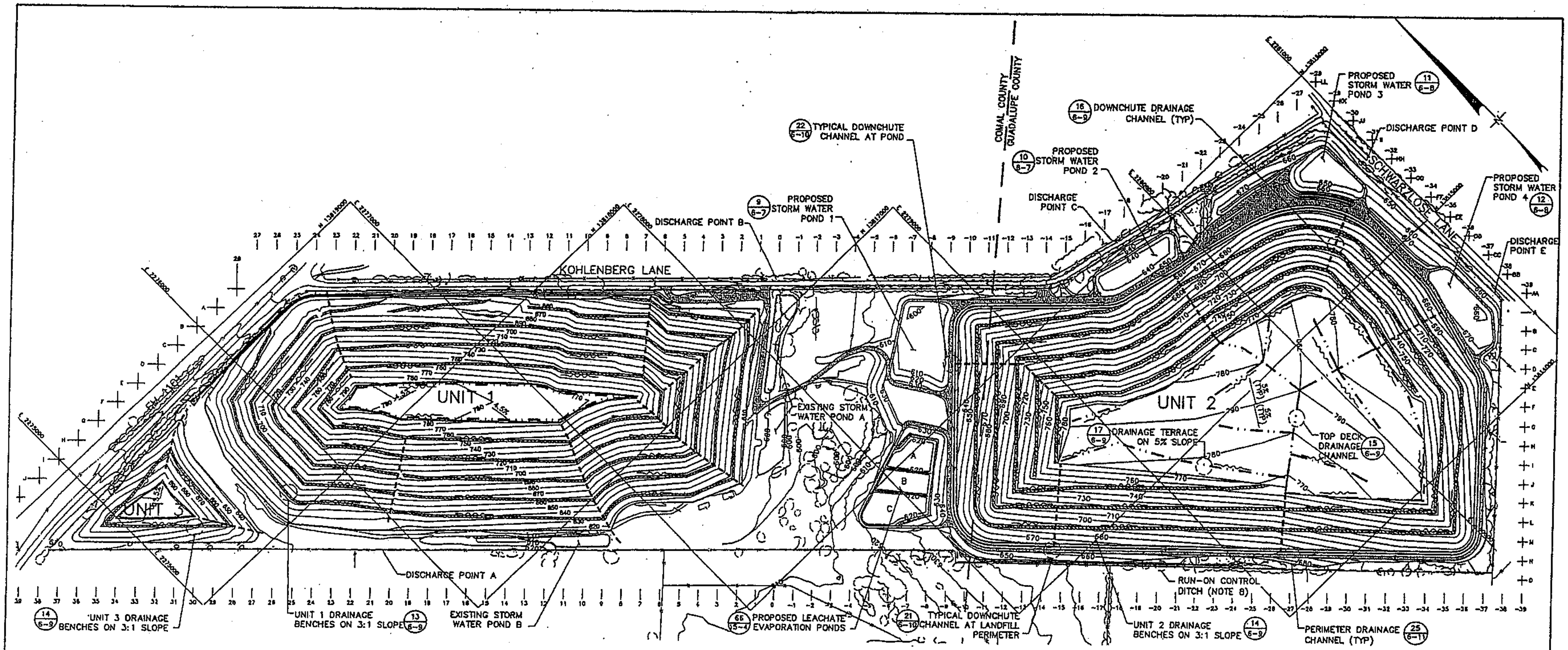
Rep. Concerned Citizens and Landowners

Lawrence G. Dunbar



LEGEND

- 810 — EXISTING GROUND ELEVATION (FT, MSL)
- EXISTING FENCE
- EXISTING ROAD
- EXISTING TREELINE
- 850 — PROPOSED FINAL ELEVATION (FT, MSL)
- PROPOSED PERIMETER ACCESS ROAD
- PROPERTY BOUNDARY (NOTE 4)
- DRAINAGE DOWNCHUTES
- DRAINAGE BENCHES WITH FLOW DIRECTION
- TOP DECK DRAINAGE CHANNEL OR DRAINAGE TERRACE
- LIMIT OF FINAL COVER
- N 13,674,000 E 2,080,000 — STATE PLANE COORDINATES
- SITE GRID

OVERVIEW:

UNIT I WASTE FILLING IS IN PROGRESS. NO CHANGES ARE PROPOSED TO THE PERMITTED UNIT 1 FINAL COVER GRADES OR THE SURFACE WATER MANAGEMENT DESIGN: UNIT 2 (LATERAL EXPANSION AREA) IS PROPOSED. UNIT 3 IS ALREADY PERMITTED AND NO CHANGES ARE PROPOSED TO THE PERMITTED UNIT 3 FINAL COVER GRADES OR THE SURFACE WATER MANAGEMENT DESIGN.

NOTES:

1. THE EXISTING CONTOUR MAP SHOWN ON THIS DRAWING WAS COMPILED USING PHOTOGRAMMETRIC METHODS BASED ON AERIAL PHOTOGRAPHY PERFORMED ON 08 MARCH 2005 BY SURVEYING AND MAPPING, INC. OF AUSTIN, TEXAS.
2. ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (FT, MSL) AS DEFINED BY THE USGS NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929. STATE PLANE COORDINATE GRID CORRESPONDS TO TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM (NAD) 1983.
3. PROPERTY BOUNDARY PROVIDED BY SURVEYING AND MAPPING INC., AUSTIN, TEXAS, DATED 23 MAY 2005.
4. PERMIT BOUNDARY AND PROPERTY BOUNDARY COINCIDE.
5. INFORMATION ON SEDIMENT BASIN APPURTENANCES IS PROVIDED IN TABLE ON DRAWING 6-12.
6. PERIMETER DRAINAGE CHANNEL PARAMETERS ARE PROVIDED IN TABLE ON DRAWING NO. 6-11.
7. STORM WATER POND CONSTRUCTION SCHEDULE:
   PONDS A AND B – ALREADY CONSTRUCTED.
   POND 1–CONSTRUCT WHEN UNIT 2, PHASE I FILLING IS ABOVE-GRADE.
   POND 2–CONSTRUCT WHEN UNIT 2, PHASE II FILLING IS ABOVE-GRADE.
   POND 3–CONSTRUCT WHEN UNIT 2, PHASE IV FILLING IS ABOVE-GRADE.
   POND 4–CONSTRUCT WHEN UNIT 2, PHASE VI FILLING IS ABOVE-GRADE.
8. RUN-ON CONTROL DITCH SHALL BE LOCATED AT TOE OF SLOPE PERIMETER BERM, WITHIN PROPERTY BOUNDARY AS NEEDED, AND GRADED TO DRAIN. DITCH SHALL BE V-DITCH, 2-FT (MIN) DEEP, VEGETATED.

STATE OF TEXAS
SCOTT M. GRAVES
86557
LICENSED PROFESSIONAL ENGINEER
7/14/2006

FOR PERMIT PURPOSES ONLY

MARK	DATE	REVISION	BY	APPROVED
–	07/14/2006	TECHNICALLY COMPLETE	SMG	SMG
–	03/28/2006	RESPONSE TO NOD I	SMG	SMG
–	11/18/2005	INITIAL SUBMITTAL TO TCEQ	SMG	SMG

OWNER / SITE ADDRESS:
WASTE MANAGEMENT OF TEXAS, INC.
1000 KOHLENBERG LANE P.O. BOX 311857
NEW BRAUNFELS, TEXAS 78130
(830) 625-7894

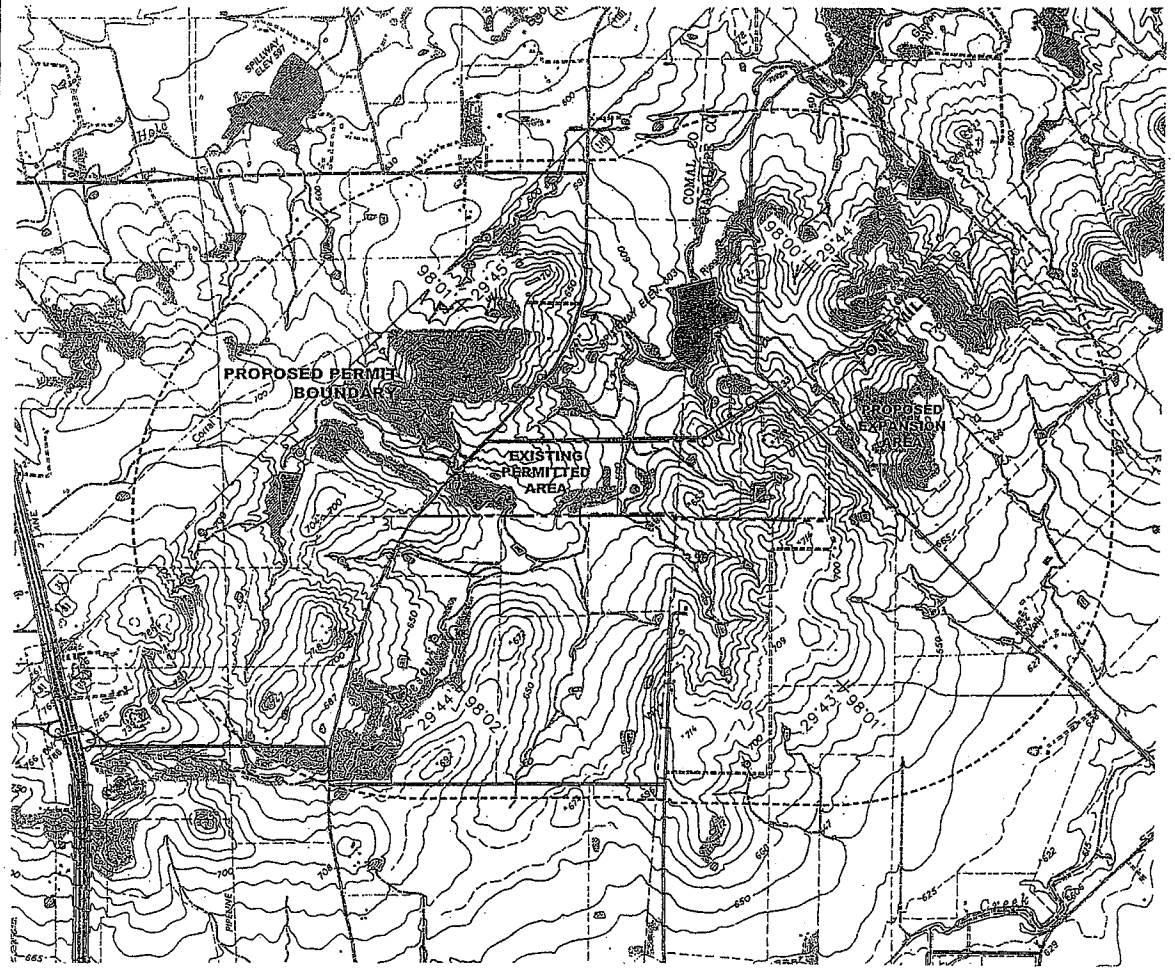
ENGINEER:
GEOSYNTEC CONSULTANTS, INC.
3600 BEE CAVES ROAD, SUITE 101
AUSTIN, TEXAS 78746
(512) 451-4003

PROJECT: MESQUITE CREEK LANDFILL
PERMIT APPLICATION – PERMIT NO. MSW – 66 B

TITLE: SURFACE WATER MANAGEMENT PLAN

PROJECT NO.: GT3435-03	DRAWN BY: JJV	REVIEWED BY: BAG	PART NO.	DRAWING NO.
FILE NO.: 3435-057	CHECKED BY: SMG	APPROVED BY: SMG	III	6-1

EXHIBIT
D



1000 500 0 1000 2000
SCALE IN FEET

LEGEND

STREAM

SURFACE WATER POND FROM AERIAL PHOTOGRAPH

ROAD CLASSIFICATION

Primary highway, hard surface
Light-duty road, hard or improved surface
Secondary highway, hard surface
Unimproved road
Interstate Route U.S. Route State Route

MAP SOURCE: UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY, 7 1/2 MINUTE SERIES QUADRANGLE (TOPOGRAPHIC) MAPS OF:
NEW BRAUNFELS EAST, TEX. DATED 1958 REVISED 1994
SAN MARCOS SOUTH, TEX DATED 1964 REVISED 1994
HUNTER, TEX. DATED 1984 REVISED 1994
GERONIMO, TEX. DATED 1984 REVISED 1994

NOTE:

THERE ARE NO KNOWN SPRINGS WITHIN ONE MILE OF THE SITE.

STATE OF TEXAS
SCOTT M. GRAVES
86557
LICENSED
PROFESSIONAL ENGINEER
7/14/2006

FOR PERMIT PURPOSES ONLY

MARK	DATE	REVISION	BY	APPROVED
–	07/14/2006	TECHNICALLY COMPLETE	SMG	SMG
–	11/18/2005	INITIAL SUBMITTAL TO TCEQ	SMG	SMG

OWNER / SITE ADDRESS:
WASTE MANAGEMENT OF TEXAS, INC.
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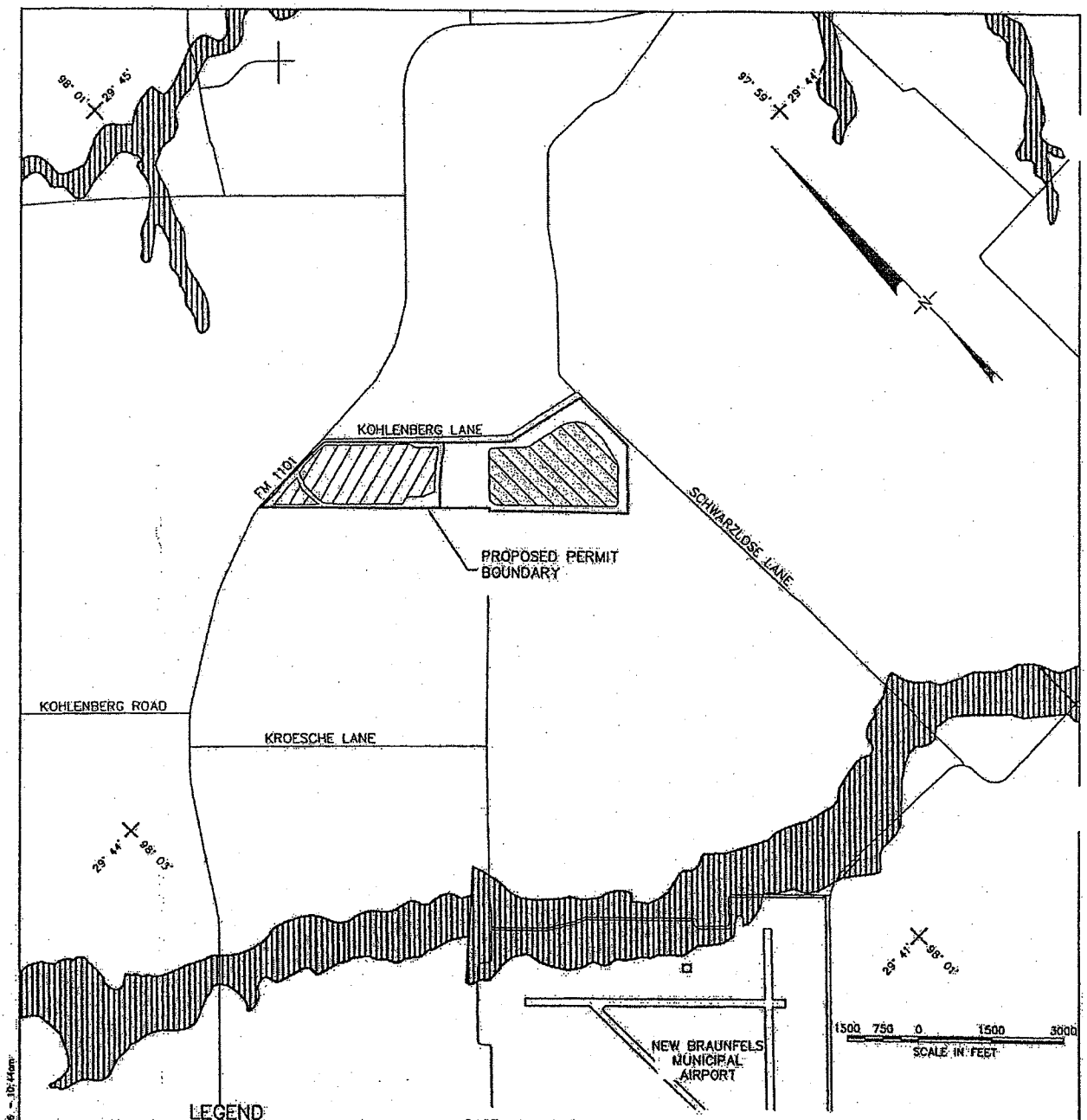
NEW BRAUNFELS, TEXAS 78130
(830) 625-7994

ENGINEER:
GEOSYNTEC CONSULTANTS, INC.
3600 BEE CAVES ROAD, SUITE 101
AUSTIN, TEXAS 78746
(512) 451-4003

PROJECT: MESQUITE CREEK LANDFILL
PERMIT APPLICATION – PERMIT NO. MSW – 66 B

TITLE: GENERAL TOPOGRAPHIC MAP

PROJECT NO.: GT3435-03	DRAWN BY: JJV	REVIEWED BY: BAG	PART NO.	FIGURE NO.
FILE NO.: 3435F002	CHECKED BY: SMG	APPROVED BY: SMG	I / II	2



LEGEND

EXISTING PERMITTED AREA

PROPOSED EXPANSION AREA

100-YEAR FLOODPLAIN

STATE OF TEXAS
SCOTT M. GRAVES
86557
LICENSED
PROFESSIONAL ENGINEER
7/14/2006

FOR PERMIT PURPOSES ONLY

BASE MAP SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), Q3 FLOOD DATA, GUADALUPE COUNTY FILE (C48187.DLG) AND COMAL COUNTY FILE (C48091.DLG). SEPTEMBER 1998. DATA CORRESPONDS TO FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBERS 48026600508 AND 4854630130C. FEMA MAP OVERLAYED WITH TXDOT HIGHWAY MAP FOR REFERENCE.

MARK	DATE	REVISION	BY	APPROVED
-	07/13/2006	TECHNICALLY COMPLETE	SMG	SMG
-	11/18/2005	INITIAL SUBMITTAL TO TCEQ	SMG	SMG

OWNER / SITE ADDRESS:

WASTE MANAGEMENT OF TEXAS, INC.
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NEW BRAUNFELS, TEXAS 78130
(830) 625-7894

ENGINEER:

GEOSYNTEC CONSULTANTS, INC.
3600 BEE CAVES ROAD, SUITE 101
AUSTIN, TEXAS 78746
(512) 451-4003

PROJECT: MESQUITE CREEK LANDFILL
PERMIT APPLICATION - PERMIT NO. MSW - 66 B

TITLE: FLOODPLAIN MAP

PROJECT NO.: GT3435-03	DRAWN BY: JJV	REVIEWED BY: BAG	PART NO.	FIGURE NO:
FILE NO.: 3435F015	CHECKED BY: SMG	APPROVED BY: SMG	I / II	13

DRAWING: P:\CADD\GT3435-03\FIGURES\3435F015.dwg PLOTTED: Aug 11, 2006 - 10:44am

EXHIBIT
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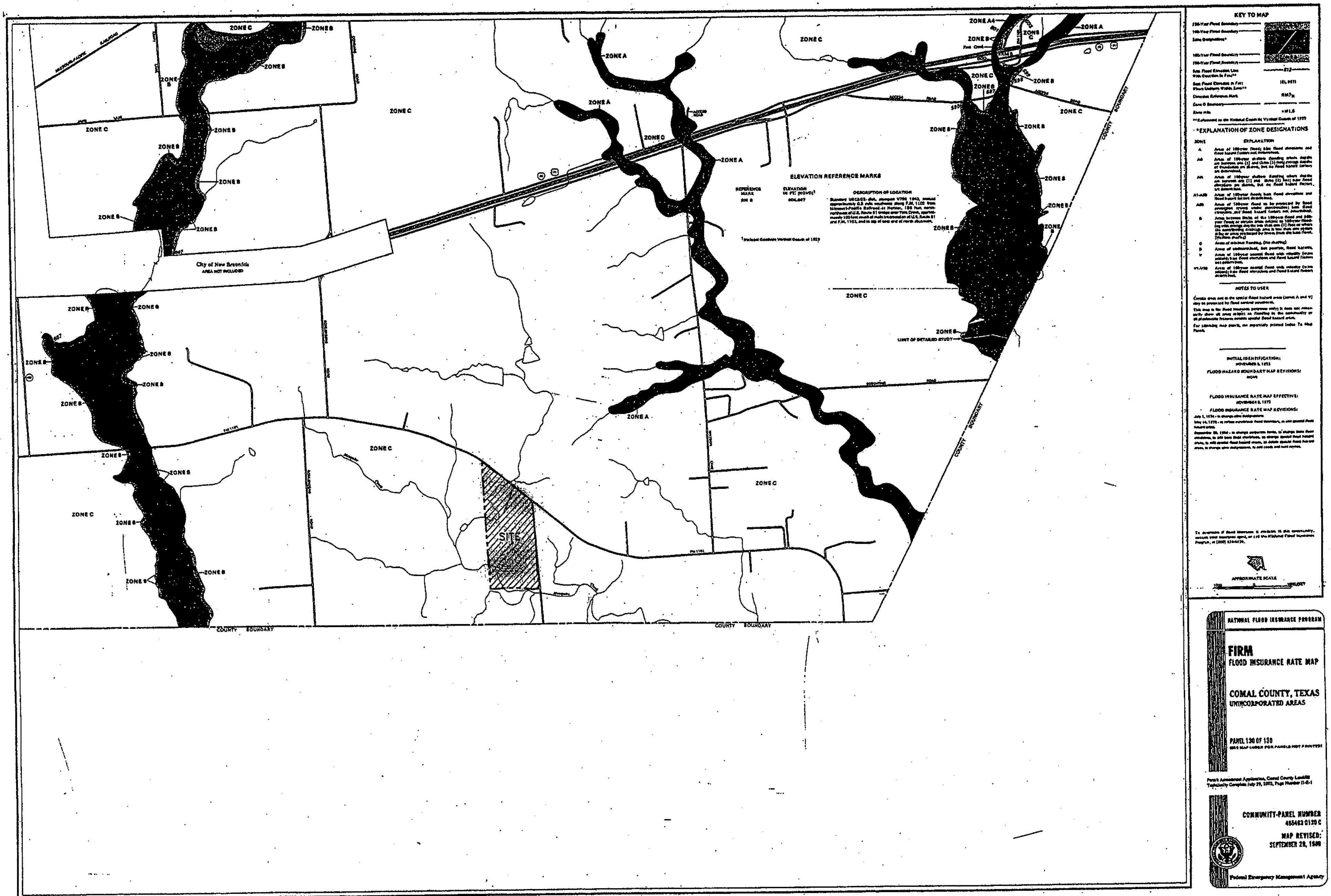


APP211

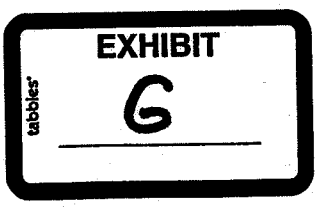
APP1000517

TCEQ REGULATORY GUIDANCE
Waste Permits Division
RG-417
June 2004

Guidelines for Preparing a Surface Water Drainage Plan for a Municipal Solid Waste Facility

Contents

Texas Commission on Environmental Quality • PO Box 13087 • Austin, Texas • 78711-3087



1 Introduction

This guide is intended for those who operate or apply to operate Type I and Type IV municipal solid waste (MSW) facilities in Texas. The Texas Commission on Environmental Quality (TCEQ) regulates these facilities under Title 30 of the Texas Administrative Code (30 TAC), Section 330.56(f). These rules require Type I and Type IV municipal solid waste facilities to have a surface water drainage plan.

The purpose of this guide is to provide suggestions for preparing an adequate surface water drainage plan based on published sources and on staff knowledge and experience. The guide focuses on hydrology issues that can be used to demonstrate that there is no alteration in the drainage pattern at the MSW facility. Other drainage issues—such as compliance with floodplain location restrictions or the design of the final-cover erosion layer—are either addressed in the MSW rules or in other TCEQ guidelines.

1.1 How to Use This Guide

This guide is not intended to be used as rules or policy and does not include all acceptable practices. Stakeholder input has been incorporated into this guide.

For more information on applicable sections from rules in 30 TAC Sections 330.55 and 330.56 (Subchapter E), go to the TCEQ Web site, **www.tceq.state.tx.us**. Follow the "Rules, Policy & Legislation" link to "Rules and Rulemaking" and "Download Rules."

1.2 Where to Get More Information

You can contact the Municipal Solid Waste Permits Section in the following ways:

Phone: 512/239-2334
Mail: Municipal Solid Waster Permits Section MC-124
Texas Commission on Environmental Quality
PO Box 13087
Austin TX 78711-3087
Fax: 512/239-6000
Web: **www.tnrcc.state.tx.us/permitting/wasteperm/mswperm/index.html**

2 Maintaining Natural Drainage Patterns

A goal of the surface water drainage plan is to show that the development of the MSW facility will not adversely alter to any significant degree the natural drainage patterns of the watershed that will be affected by the proposed development. You demonstrate this goal by comparing predevelopment conditions and postdevelopment conditions.

2.1 How to Evaluate Alteration in Natural Drainage Patterns

According to Section 330.56(f)(2) and (4), natural drainage patterns must not be significantly altered as a result of the proposed development of the facility. You can evaluate the significance of changes to drainage patterns based on the impacts of changes on the following:

- receiving streams or channels,
- downstream flooding potential,
- adjacent and downstream properties, and
- downstream water rights and uses.

There is no clear-cut number or percentage of change that can be set to indicate a "significant" change. However, you should demonstrate that drainage patterns will not be significantly altered because of the effect of the site development on (1) peak flows, (2) volumes, and (3) velocities from each permit boundary discharge point. Each is discussed in the following sections.

2.1.1 Peak Flows

It is important to consider how alterations to drainage patterns will affect changes in the magnitude of peak flows. In order to properly evaluate the effects of changes in the magnitude of peak flows, you should consider the timing of peak flows from the site and their contribution to peak-flow rates in receiving streams or channels.

The meaning of "significantly altered" depends on the sensitivity of the area of study; some areas tolerate a change in drainage patterns better than others. For example, a 1 percent deviation of 1,000 cubic feet per second (cfs) is 10 cfs and may be considered "significant" if the area of the study is sensitive, whereas 10 percent of 1,000 cfs is 100 cfs and may be considered an insignificant alteration in a different, less sensitive setting.

What is considered "significant" is a subjective term that cannot be defined as a specific, objective criterion. A significant change would be a large percentage for the Brazos River, but a small percentage for a 20-foot-wide creek that has intermittent flow. Therefore, the "significantly altered" issue is best determined on a case-by-case basis and is one of professional judgment.

2.1.2 Volumes

In preparing your drainage plan, you should also consider alterations to drainage patterns caused by increased or decreased volumes of water discharged at various points resulting from the design storm, along with the potential impacts resulting from such changes. The design storm is the 24-hour, 25-year storm event as delineated in 30 TAC Section 330.55(b)(3). While peak flow can be controlled by detention pond

volumes, they are a function of the area draining to a discharge point, as well as the amount of precipitation losses for a given design storm.

The precipitation losses for solid waste facilities typically result in a comparison between the losses in the predevelopment condition and the expected losses from the final configuration of the proposed landfill. For example, for a greenfield site, the precipitation losses may be modeled using HEC-1, software developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers (**www.hec.usace.army.mil /software/legacysoftware/legacysoftware.html**). You can also use a similar program, the Curve Number Method—also known as the Soil Conservation Service, or SCS Curve Number Method. It was developed by the Natural Resources Conservation Service (formerly the Soil Conservation Service) of the U.S. Department of Agriculture. For more information, see the Texas Department of Transportation's *Hydraulic Design Manual* at **manuals.dot.state.tx.us/dynaweb/colbridg/hyd**. In Chapter 5, go to "Section 7, NRCS Runoff Curve Number Methods."

A greenfield site is a characteristic description of a proposed municipal solid waste site that has a natural condition or an undeveloped condition—for example, virgin land or land with no large permanent structures. A typical curve number for a greenfield site may vary between 65 for a sandy soil located near a coastal region and 84 in a hilly region with clay soils in North Central Texas.

Typical curve number values for final-cover systems range from 85 to 90. Therefore, if the drainage subarea does not change for a specific discharge point, the expected volume increase could vary from 5 percent to 60 percent.

As an applicant, it is your responsibility to demonstrate that any volume increase (or decrease) is not "significant." Typical methods for addressing this issue are listed below:

- Demonstrate that there is no increase in volume at a discharge point.
- Demonstrate that the additional volume will be released at a rate that will not significantly affect the downstream receiving water body. For example, the total volume increase may be 30 percent more for the postdevelopment condition, compared to the predevelopment condition. However, this increase may be demonstrated to be "not significant" if it can be shown that the additional volume of water will be released at a rate that will not adversely affect the downstream receiving water body.
- Use storm water retention ponds.
- Demonstrate that any change in the volumes of water discharged from the permit boundary discharge points will not have a significant adverse effect on downstream water rights and uses.

2.1.3 Velocities

Another important way to show that there is no significant alteration in natural drainage patterns is to demonstrate that the velocity of the flow exiting the site at the discharge point along the permit boundary does not cause an increase in erosion. For example, maximum velocities in grass-lined channels are typically set at 5.0 feet per second.

Velocities are a function of the following:

- flow rate,
- drainage way cross-section geometry,
- surface, and
- slope along the flow line.

Typically, the postdevelopment geometry of the drainage way at the permit boundary, as well as at the surface and flow-line slope, should be consistent with the predevelopment condition. Therefore, if the postdevelopment flow rate is equal to or less than the predevelopment flow rate at the discharge point, the postdevelopment velocity will also be less.

However, in cases where the postdevelopment flow rate is greater than the predevelopment flow rate (but not a "significant" increase), then the postdevelopment velocity at the discharge point may be increased over the predevelopment condition. Typically, an increase in flow rate will be acceptable as long as the velocity is not increased to a point considered erosive (over 5 feet per second).

A focus of a storm water management system design for an MSW facility should be to return the storm water flow to its predevelopment condition before it leaves the permit boundary—a goal that is also consistent with maintaining natural drainage patterns. To achieve this goal, locate detention pond outlet structures and other velocity-dissipation devices upstream from the storm water discharge point to allow flow to return to the predevelopment condition at the permit boundary.

2.2 *How to Analyze Natural Condition*

In designing a municipal solid waste facility, be sure to conduct an analysis of the natural condition of the site. This will give you a baseline for comparison with the postdevelopment condition of the landfill and a way to show that the natural drainage conditions have not changed. Please refer to rules in Sections 330.56(f)(4)(A)(iv) and 330.55(b)(5)(D).

The predevelopment condition must be quantified in order to make a reasonable comparison. If the natural drainage condition has not been altered by previous development on the site, then the natural drainage condition—which is the same as the "existing" drainage condition that is

required by 30 TAC 330.56(c) and is to be shown on Part III, Attachment 3 to the permit application—should be used as the predevelopment condition.

If the site has been previously altered by a well-established development such as an old sand mine or an existing permitted landfill, then consider evaluating the impacts of the proposed facility development by comparing conditions at the time of permit application with the proposed postdevelopment conditions. An exception to this could, for example, be if a relatively new sand or gravel mine exists on the site. In this case, the relevant predevelopment condition may be before the sand or gravel mine was developed.

2.2.1 Conditions to Be Analyzed

In analyzing the natural condition of sites where there has been no prior landfill development (greenfield sites), the appropriate comparison should be between the condition at the time the application is filed and the postdevelopment condition. For expansions of existing facilities, the appropriate comparison should be between the currently approved (permitted) site closure condition and the proposed postdevelopment condition.

2.2.2. Conditions for Permit Modifications

In analyzing the natural condition in cases where a permit modification is requested, the appropriate comparison is between the currently approved (permitted) site closure condition and the postdevelopment condition proposed by the requested permit modification. Permit modifications allow changes to improve drainage conditions for existing permitted or registered sites.

3 Defining Existing, Predevelopment, and Postdevelopment Conditions

The "existing" condition of a landfill site is described as topography and drainage conditions before grading, excavating, or filling operations, or any combination of these activities—30 TAC Section 330.56(c), the section entitled "Attachment 3, Existing Contour Map." This is the naturally occurring drainage condition of the site.

The predevelopment condition is the condition of the drainage pattern at the time the application is submitted, reflecting any previous development activities on the tract that may have changed the natural drainage patterns. If no development has taken place, the predevelopment conditions are those that naturally occur, or the "existing" conditions.

If the application is to amend a permit, the predevelopment condition is the currently permitted condition (final landfill configuration at closure) at the time the permit amendment is submitted. The postdevelopment

condition of a landfill site is the condition of the drainage patterns at the time of the landfill closure. The postdevelopment condition includes: the conditions of a site that are expected to be present at the time the landfill is fully developed to final elevations and closed; as well as on-site, nonlandfill changes to drainage patterns that are expected to occur before landfill closure (county or drainage district improvements to an existing stream or channel crossing the site).

4 Submitting an Application

When you submit an application for a Type I and Type IV MSW facility, you should usually provide the following information, in accordance with 330.56(f)(4):

- description of the hydrologic method and calculations used to estimate peak-flow rates and runoff volumes, including justification of necessary assumptions;
- the 25-year rainfall intensity used for facility design, including the source of the data, and all other data and necessary input parameters (documented and described) used in conjunction with the selected hydrologic method, hydraulic calculations, and designs for sizing the necessary collection, drainage, and/or detention facilities;
- discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development;
- structural designs of the collection, drainage, and/or storage facilities, and results of all field tests to ensure compatibility with soils;
- maintenance plan for ensuring the continued operation of the collection, drainage, and/or storage facilities, as designed, along with the plan for restoration and repair in the event of a washout or failure; and
- erosion and sedimentation control plan, including interim controls for phased development.

4.1 Checkpoints to Analyze

Use the following checkpoints to conduct a point-by-point analysis of the surface water:

1. Determine the specific discharge points for the runoff, or determine the overland (sheet) flow direction for predevelopment conditions from the permit boundary.
2. Determine drainage subareas, and calculate the peak flow rates—units in cfs or cubic meters per second (m^3/s)—for predevelopment conditions for each of the discharge points and/or the overland flow.
3. Calculate the volume of the runoff—units in cubic feet (ft^3), acre-feet, or cubic meters (m^3)—for the storm event for each of the discharge points for predevelopment conditions.
4. Determine the maximum velocity (ft/s or m/s) of the peak runoff at each of the discharge points for predevelopment conditions.

5. Determine the areas off site that contribute flows onto the permit boundary (run-on), and calculate the peak-flow rate, velocity, and volume of run-on from each off-site area onto the site for predevelopment conditions.
6. Determine discharge points for the postdevelopment condition at the permit boundary.
7. Determine drainage subareas, and calculate the peak flow rates for postdevelopment conditions for each of the discharge points.
8. Calculate the volume of the runoff for the storm event for each of the discharge points for postdevelopment conditions.
9. Determine of the maximum velocity of the peak runoff at each of the discharge points for postdevelopment conditions.
10. Determine the areas off site that contribute flows onto the permit boundary (run-on), and calculate the peak flow rate, velocity, and volume of run-on from each off-site area onto the site for postdevelopment conditions.
11. Compare the information for Item 1 to Item 6; Item 2 to Item 7; Item 3 to Item 8; and Item 4 to Item 9. Discuss differences in these values in terms of whether the changes are significant.
12. Determine the conveyance method to carry the runoff to the discharge points.
13. Determine the need for detention and retention of the excess runoff that is generated by the postdevelopment conditions.
14. Calculate the size of any pond, ditch, or other feature that will be used to reduce the peak-flow rate and runoff volume at each discharge point at the permit boundary.
15. Determine the need for feature(s) that will be used to control the velocity to maintain a discharge velocity that does not represent a significant alteration of the value from Item 4.
16. Determine the need for features that will be used to manage the off-site run-on flows that may be diverted around the filled area for Items 5 and 10.
17. Check to make sure that the drainage system is properly sized. Typical items to check are cross-sectional areas, ditch grades, flow rates, water surface elevation, velocities, and flow-line elevations along the entire length of each ditch.
18. Perform analysis of the significance of alterations of natural drainage patterns.

Any off-site drainage feature that is to be considered a component part of the facility drainage system must be accessible through an easement or restrictive covenant. This will allow the TCEQ to access the area for inspections during the active life of the landfill, as well as for the postdevelopment closure period.

5 Demonstrating That Drainage Is Not Significantly Altered

Consider using the following information to demonstrate that natural drainage patterns will not be altered significantly by your MSW facility. Please refer to rule Sections 330.56(f)(4)(A)(iv) and 330.55(b)(5)(D).

5.1 What to Include in Summary of Regional Drainage Information

In this portion of your demonstration, show how the site fits into the regional watershed. Show the percentage of area to be developed versus the watershed area. Also show the designation of downstream creeks and rivers.

5.2 How to Identify Site Drainage Patterns

Identify discharge points at the permit boundary for each condition. Identify drainage subareas for each discharge point at the permit boundary. Summarize the effect of the proposed landfill development on the drainage subareas. Show how each drainage subarea has been changed. Also include a discussion of how a change to a drainage subarea may affect a regional pattern, if it is appropriate.

5.3 How to Show Effects on Peak Flows, Velocities, and Volumes

Your demonstration should show peak flows, volumes, and velocities entering and leaving the site at each discharge point. Illustrate those items or discuss them in Attachment 6 of the permit application. Include discussion about how the proposed development of the landfill affects the shape and time to peak values of hydrographs for each condition at the permit boundary, as well as any relevant downstream analysis point, such as adjacent lands, downstream creeks, and downstream reservoirs.

6 Calculating Runoff

Several methods of calculating runoff are available and are appropriate to use. Some methods are more limited than others.

6.1 Rational Method Versus Computer Models

Because of the lack of volume runoff determination and hydrograph development, the Rational Method is recognized as being limited in providing information that is required to show that there is no significant change to natural drainage patterns. To compensate for the limitations of the Rational Method, determine the volume by using one of the methods from the NRCS *Technical Release 55 (TR-55)*. You can find *TR-55* in TxDOT's *Hydraulic Design Manual*, which is available online at

manuals.dot.state.tx.us/dynaweb/colbridg/hyd. In Chapter 5, go to "Section 7, NRCS Runoff Curve Number Methods."

The Rational Method is needed for small drainage areas of less than 200 acres (note that the 200-acre standard applies to the total area of the watershed(s) above and including the proposed landfill permit boundary).

For areas larger than 200 acres, you can demonstrate that there is no significant alteration to natural drainage patterns using the HEC-1 or HEC-2 computer programs (**www.hec.usace.army.mil/software /legacysoftware/legacysoftware.html**) developed through the Hydrologic Engineering Center of the United States Army Corps of Engineers (**www.hec.usace.army.mil**). You can also use an equivalent or better method approved by the TCEQ executive director. The newer HEC computer models—found at the Web site for the Hydrologic Engineering Center previously listed—should be allowed and are simply not named in the rules. Both HEC-HMS and HEC-RAS are acceptable and preferred methods since they have superseded the old HEC-1 and HEC-2.

HEC computer models are named for the place where they were founded—the Hydrologic Engineering Center of the United States Army Corps of Engineers. The HEC-HMS model is generally thought to supercede HEC-1, and the HEC-RAS model supercedes HEC-2.

The HEC-HMS or HEC-1 methods are more useful ways to demonstrate no significant change to natural drainage patterns because they model a watershed. The HEC-RAS method models rivers, ditches, and channels.

6.2 What Precipitation Data to Provide

Your drainage analysis should include precipitation design data, along with sources that are documented and described. Acceptable precipitation data references include *Technical Paper 40* (*TP-40*) and *Hydro-35*. *TP-40* presents maps of rainfall frequency in the Eastern U.S. for selected durations from 30 minutes to 24 hours, and for return periods from 1 to 100 years. *TP-40* is currently out of print and is superseded in part by two publications: *Hydro-35* and *Atlas 2* of the National Oceanic and Atmospheric Administration (NOAA). You can get copies and electronic

copies of *TP-40* from many sources, including the following Web sites: **manuals.dot.state.tx.us/docs/colbridg/forms/hyd_apxB.pdf** and **www.srh.noaa.gov/lub/wx/precip_freq/precip_index.htm.**

For durations of 1 hour or less, *Hydro-35* supersedes *TP-40* for the eastern two-thirds of the United States; Texas is included in this area. NOAA *Atlas 2* supersedes *TP-40* for the western one-third of the U.S.

In Texas, *TP-40* is the most commonly used reference because it fits the rule requirements for the 24-hour duration and the 25-year return period

specified in the rules, Section 330.55(b)(3). The *Hydraulic Design Manual* of the Texas Department of Transportation (TxDOT) Bridge Division also uses this precipitation data to compute "Rainfall Intensities" and to determine the "Rain Index." The TxDOT manual is referenced in the rules in Section 330.55(b)(5)(A).

The current version of the *Hydraulic Design Manual* of TxDOT's Bridge Division may be viewed or downloaded online from the TxDOT Web site, **manuals.dot.state.tx.us/dynaweb**, which also has links to many of the publications referenced in this guidance.

6.3 How to Determine Water Loss

An acceptable method for determining the volume of water lost and excess volume runoff is the Runoff Curve Method. It was established by the NRCS and was formerly known as the Soil Conservation Service (SCS) Method. You can find this method in *TR-55*.

6.4 How to Establish Direct Runoff

The method typically used in drainage analysis is the Kinematic Wave Method. It is one of the methods the HEC-HMS computer model uses to estimate peak flow and runoff volume. You can find it in the *TR-55* or the *HEC-HMS Reference Manual.*

Direct runoff methods—for example, both Kinematic Wave and Muskingum-Cunge methods—are applicable to small-water catchments with uniform slopes, channels, and drainage patterns. Landfill final-cover areas generally consist of relatively short overland flow lengths that drain into landfill final-cover swales.

Methods for estimating direct runoff are generally applicable to final-cover areas of landfills for the following reasons:

- Direct runoff methods were developed for uniform slopes that drain to collection channels. For a landfill final-cover area, this translates to an overland flow segment, which is typically a 4-horizontal to 1-vertical (4H:1V) slope that drains to a swale.
- Direct runoff methods were developed for a network of relatively small drainage subareas. In designing the various final-cover erosion control structures and perimeter channels, landfill drainage subareas need to be subdivided to obtain a peak flow at several points.
- Direct runoff methods are applied readily to small watersheds because they are based on physical parameters of the watershed, as opposed to other methods. Those other methods generally are developed empirically for various terrains in different climates, and are conservative because flow attenuation is not considered.

6.5 Incorporating Local Government Regulations

Where there are local government drainage regulations or manuals that pertain to a site, follow local government requirements in developing the landfill design, analysis, and demonstrations. In no case should less stringent local regulations supercede requirements of Chapter 330.

6.6 What Storm Event to Use

The design storm event established in the rules is a single 24-hour, 25-year storm event. The requirement is in Section 330.55(b)(3).

6.7 Routing Methods for Hydrographic Data

Two hydrographic methods for flood routing may be found in the TxDOT Bridge Division's *Hydraulic Design Manual*:

- storage routing, which is commonly used to account for inflow and outflow rates and significant water storage characteristics associated with reservoirs and detention; and
- channel routing, which is used when known hydrographic data are located somewhere other than the point of interest, or when the channel profile or plan is changed to alter the natural velocity or channel storage characteristics.

6.7.1 Hydrograph Storage Routing

Several hydrographic methods route flood runoff through reservoirs or other detention facilities. All of the methods require reliable descriptions of the following three items:

- an inflow runoff hydrograph for the subject flood;
- the storage capacity versus water elevation within the facility; and
- the performance characteristics of outlet facilities associated with the operation of the facility.

By definition, a steady-state condition exists when inflow and outflow from a reservoir or any type of storage facility are equal. If the inflow exceeds the outflow, the additional discharge is stored in the system. Conversely, when the outflow exceeds the inflow, water is taken from storage. Storage routing normally is used to account for inflow and outflow rates and significant water-storage characteristics associated with reservoirs and detention/retention.

6.7.2 Hydrograph Channel Routing

Routing of flood hydrographs by means of channel routing procedures is useful in instances where known hydrographic data are not at the point of interest. Also, channel routing can be used where the channel profile or plan is changed in such a way as to alter the natural velocity or channel

storage characteristics. Routing analysis estimates the effect of a channel reach on an inflow hydrograph.

7 Designing Detention Ponds

The purpose of detention ponds in landfill drainage design is to accommodate and attenuate excess rainfall, and to provide a controlled release of that rainfall.

7.1 What Analysis Is Required

In designing a detention pond, the goal of your analysis should be to accommodate and attenuate values of velocity, flow rate, and volume of storm water that exceeds predevelopment conditions resulting from a 24-hour, 25-year storm event. Those three values for storm water being discharged at the point of interest should not change significantly when compared with predevelopment conditions.

7.2 How to Size Detention Ponds

There are many methods and models for sizing detention ponds, but the preferred methods include the Rational Method, as well as the following: HEC-1, HEC-HMS, HEC-2, and HEC-RAS. Other methods that are available through the public domain (not commercial) are also acceptable, such as the NRCS's *TR55*.

The following is an example of a typical approach to find the size of a detention pond.

1. Obtain the excess values of velocity, flow rate, and volume through a drainage analysis comparison using the Rational Method, HEC-1, HEC-HMS, HEC-2, or HEC-RAS models.
2. Calculate the velocity and flow rate.
3. Use the NRCS (or SCS) Runoff Curve Method to calculate the runoff volume.

The results will give adequate information to estimate the pond size. Although not required, a 1- to 2-foot freeboard should be added to the calculated pond size. Some typical input parameters for determining a typical detention pond are design areas, land types and characteristics, land slopes, rainfall intensity, rainfall index, and soil types.

(7) The site shall be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood and in accordance with the rules and regulations of the TWC and successors relating to levee improvement districts and approval of plans for reclamation projects or the rules of the county or city having jurisdiction under the Texas Water Code, §16.236, as implemented by §§301.31-301.46 of this title (relating to Levee Improvement Districts, District Plans of Reclamation, and Levees and Other Improvements).
   (A) Flood protection levees shall be designed and constructed to prevent the washout of solid waste from the site.
   (B) A freeboard of at least three feet shall be provided except in those cases where a greater freeboard is required by the agency having jurisdiction under the Texas Water Code, Chapter 16.236.
   (C) Such levees shall not significantly restrict the flow of a 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain.

(8) The final cover design shall provide effective long-term erosional stability to the top dome surfaces and embankment side slopes in accordance with the following.
   (A) Estimated peak velocities for top surfaces and embankment slopes should be less than the permissible non-erodible velocities under similar conditions.
   (B) The top surfaces and embankment slopes of MSWLF units shall be designed to minimize erosion and soil loss through the use of appropriate side slopes, vegetation, and other structural and non-structural controls, as necessary. Soil erosion loss (Tons/Acre) for the top surfaces and embankment slopes may be calculated using the Soil Conservation Service of US Department of Agriculture's Universal Soil Loss Equation, in which case the potential soil loss should not exceed the permissible soil loss for comparable soil-slope lengths and soil cover conditions.
   (C) Details for final cover shall be depicted on fill cross-sections and provided along with other information in accordance with §330.56(b) of this title (relating to Attachments to the Site Development Plan).

* * *

§330.56. Attachments to the Site Development Plan.

(a) Attachment 1—site layout plan.
   (1) This is the basic element of the site development plan consisting of a site layout plan on a constructed map showing the outline of the units and fill sectors with appropriate notations thereon to communicate the types of wastes to be disposed of in individual sectors, the general sequence of filling operations, locations of all interior site roadways to provide access to all fill areas, locations of monitor wells, dimensions of trenches, locations of buildings, and any other graphic representations or marginal explanatory notes necessary to communicate the proposed step-by-step construction of the site. The layout should include: fencing; sequence of excavations, filling, maximum waste elevations and final cover; provisions for the maintenance of natural windbreaks, such as greenbelts, where they will improve the appearance and operation of the site; and, where appropriate, plans for screening the site from public view.
   (2) A generalized design of all site entrance roads from public access roads shall be included. All designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances should be coordinated with the agency exercising maintenance responsibility of the public roadway involved.
   (3) This plan is the basis for operational planning and budgeting, and therefore shall contain sufficient detail to provide an effective site management tool.

(b) Attachment 2—fill cross-section.
   (1) The fill cross-sections shall consist of plan profiles across the site clearly showing the top of the levee, top of the proposed fill, maximum elevation of proposed fill, top of the final cover, top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas, gas vents or wells, and groundwater monitoring wells, plus the initial and static levels of any water encountered.
   (2) The fill cross-sections shall go through or very near the soil borings in order that the boring logs obtained from the soils report can also be shown on the profile.
   (3) Large sites shall provide sufficient fill cross-sections, both latitudinally and longitudinally, so as to accurately depict the existing and proposed depths of all fill areas within the site. The plan portion shall be shown on an inset key map.

(4) Construction and design details of compacted perimeter or toe berms which are proposed in conjunction with aboveground (aerial-fill) waste disposal areas shall be included in the fill cross-sections.

(c) Attachment 3—existing contour map. This is a constructed map showing the contours prior to any grading, excavation, and/or filling operations on the site. Appropriate vertical contour intervals shall be selected so that contours are not further apart than 100 feet as measured horizontally on the ground. Wider spacing may be used when approved by the executive director. The map should show the location and quantities of surface drainage entering, exiting, or internal to the site and the area subject to flooding by a 100-year frequency flood.

* * *

(f) Attachment 6—Groundwater and surface water protection plan and drainage plan. These plans shall reflect locations, details, and typical sections of levees, dikes, drainage channels, culverts, holding ponds, trench liners, storm sewers, leachate collection systems, or any other facilities relating to the protection of groundwater and surface water. Adequacy of provisions for safe passage of any internal or externally adjacent floodwaters should be reflected here.

(1) A drawing(s) showing the drainage areas and drainage calculations shall be provided.

(2) Cross-sections or elevations of levees should be shown tied into contours. Natural drainage patterns shall not be significantly altered.

(3) The 100-year floodplain shall be shown on this attachment.

(4) As part of the attachment, the following information and analyses shall be submitted for review, as applicable.

(A) Drainage and run-off control analyses:

(i) a description of the hydrologic method and calculations used to estimate peak flow rates and run-off volumes including justification of necessary assumptions;

(ii) the 25-year rainfall intensity used for facility design including the source of the data; all other data and necessary input parameters used in conjunction with the selected hydrologic method and their sources should be documented and described;

(iii) hydraulic calculations and designs for sizing the necessary collection, drainage, and/or detention facilities shall be provided.

(iv) discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development;

(v) structural designs of the collection, drainage, and/or storage facilities, and results of all field tests to ensure compatibility with soils; and

(vi) a maintenance plan for ensuring the continued operation of the collection, drainage, and/or storage facilities, as designed along with the plan for restoration and repair in the event of a washout or failure; and

(vii) erosion and sedimentation control plan, including interim controls for phased development.

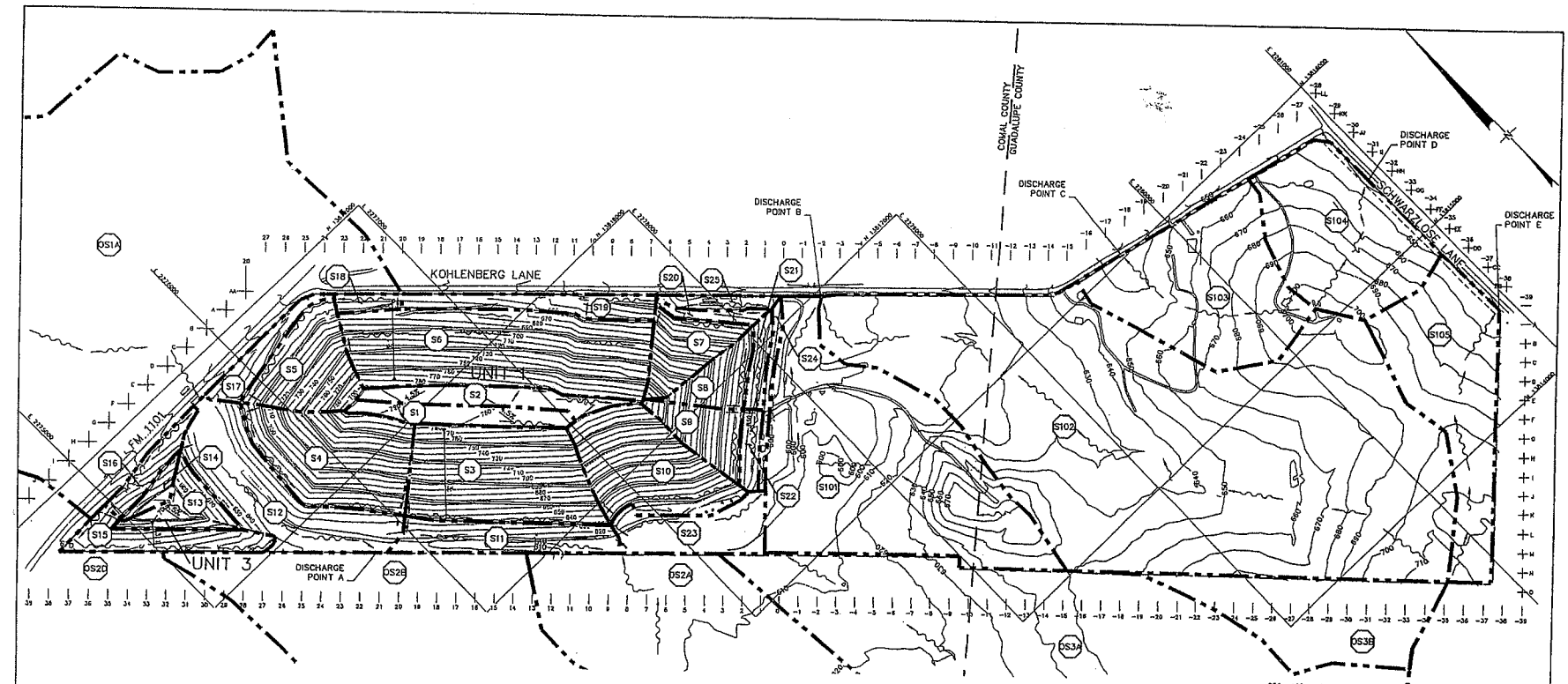
(B) Flood control and analyses.

(i) Identify whether the site is located within a 100-year floodplain. Indicate the source of all data for such determination and include a copy of the relevant Federal Emergency Management Agency (FEMA) flood map, if used, or the calculations and maps used where a FEMA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood. The boundaries of the proposed landfill facility should be shown on the floodplain map.

(ii) If the site is located within the 100-year floodplain, the applicant shall provide information detailing the specific flooding levels and other events (e.g., design hurricane projected by Corps of Engineers) that impact the flood protection of the facility. Data should be that required by §§301.33-301.36 of this title (relating to Approval of Levees and Other Improvements).

(iii) No solid waste disposal and treatment operations shall be permitted in areas that are located in a floodway as defined by FEMA.

* * * *



LEGEND

- 810 — EXISTING GROUND ELEVATION (FT, MSL)
- EXISTING ROAD
- EXISTING BUILDING
- PROPERTY BOUNDARY (NOTE 4)
- 050 — PROPOSED TOP OF FINAL COVER SYSTEM (FT, MSL)
- DRAINAGE AREAS
- S31 — DRAINAGE SUBAREA DESIGNATION
- DRAINAGE DOWNCHUTES
- DRAINAGE BENCHES
- TIME OF CONCENTRATION PATH
- N 13,674,000 E 2,080,000 — STATE PLANE COORDINATES
- SITE GRID

NOTES:

1. THE EXISTING CONTOUR MAP SHOWN ON THIS DRAWING WAS COMPILED USING PHOTOGRAMMETRIC METHODS BASED ON AERIAL PHOTOGRAPHY PERFORMED ON 08 MARCH 2005 BY SURVEYING AND MAPPING, INC. OF AUSTIN, TEXAS.
2. ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (FT, MSL) AS DEFINED BY THE USGS NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929. STATE PLANE COORDINATE GRID CORRESPONDS TO TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM (NAD) 1983.
3. PROPERTY BOUNDARY AND PROVIDED BY SURVEYING AND MAPPING INC., AUSTIN, TEXAS, DATED 23 MAY 2005.
4. PERMIT BOUNDARY AND PROPERTY BOUNDARY COINCIDE.
5. CURRENT PERMITTED SURFACE WATER MANAGEMENT SYSTEM PLAN TAKEN FROM MSW PERMIT 66A, PART III, ATTACHMENT I, DRAWING 1.13.
6. THE PURPOSE OF THIS DRAWING IS TO PRESENT THE DRAINAGE AREAS MODELED IN THE RUNOFF CALCULATION PACKAGE, ATTACHMENT 6A, FOR THE PRE-DEVELOPMENT CONDITION.
7. FOR CLARITY, FULL EXTENT OF THE UPSTREAM OFFSITE DRAINAGE SUBAREAS ARE NOT SHOWN ON THIS DRAWING. THE OFFSITE DRAINAGE AREAS ARE SHOWN IN THEIR ENTIRETY ON DRAWING 3-1 NATURAL CONDITIONS.

PRE-DEVELOPMENT DRAINAGE CONDITIONS
(AS CURRENTLY PERMITTED MSW#66A)

DISCHARGE POINT	CONTRIBUTING DRAINAGE AREAS	WATERSHED AREA (AC)	25-YR, 24-HR STORM		
			FLOW RATE (CFS)	FLOW VOLUME (AC-FT)	FLOW VELOCITIES (FT/S)
A	S4, S5, S12-S18, OS-1	780	1880	400	5.46
B	S1-S25, S101, S102, OS-1, OS-2, OS-3	2334	5501	1195	5.76
C	S103	16	69	8.2	2.24
D	S104	13	65	6.9	4.71
E	S105	13	43	6.9	4.25

STATE OF TEXAS
SCOTT M. GRAVES
86557
LICENSED
PROFESSIONAL ENGINEER
7/14/2006

FOR PERMIT PURPOSES ONLY

MARK	DATE	REVISION	BY	APPROVED
–	07/14/2006	TECHNICALLY COMPLETE	SMG	SMG
–	03/29/2006	RESPONSE TO HDD 1	SMG	SMG
–	11/10/2005	INITIAL SUBMITTAL TO TCEQ	SMG	SMG

OWNER / SITE ADDRESS:
WASTE MANAGEMENT OF TEXAS, INC.
1000 KOHLENBERG LANE P.O. BOX 311687
NEW BRAUNFELS, TEXAS 78130
(830) 625-7691

ENGINEER:
GEOSYNTEC CONSULTANTS, INC.
3600 BEE CAVES ROAD, SUITE 101
AUSTIN, TEXAS 78746
(512) 451-4003

PROJECT:
MESQUITE CREEK LANDFILL
PERMIT APPLICATION – PERMIT NO. MSW – 66 B

TITLE:
PRE-DEVELOPMENT PLAN WITH DRAINAGE PATTERNS

PROJECT NO.: GT3435-03	DRAWN BY: JJV	REVIEWED BY: GAG	PART NO.	DRAWING NO.
FILE NO.: 3435-063	CHECKED BY: MCC	APPROVED BY: SMG	III	6-2

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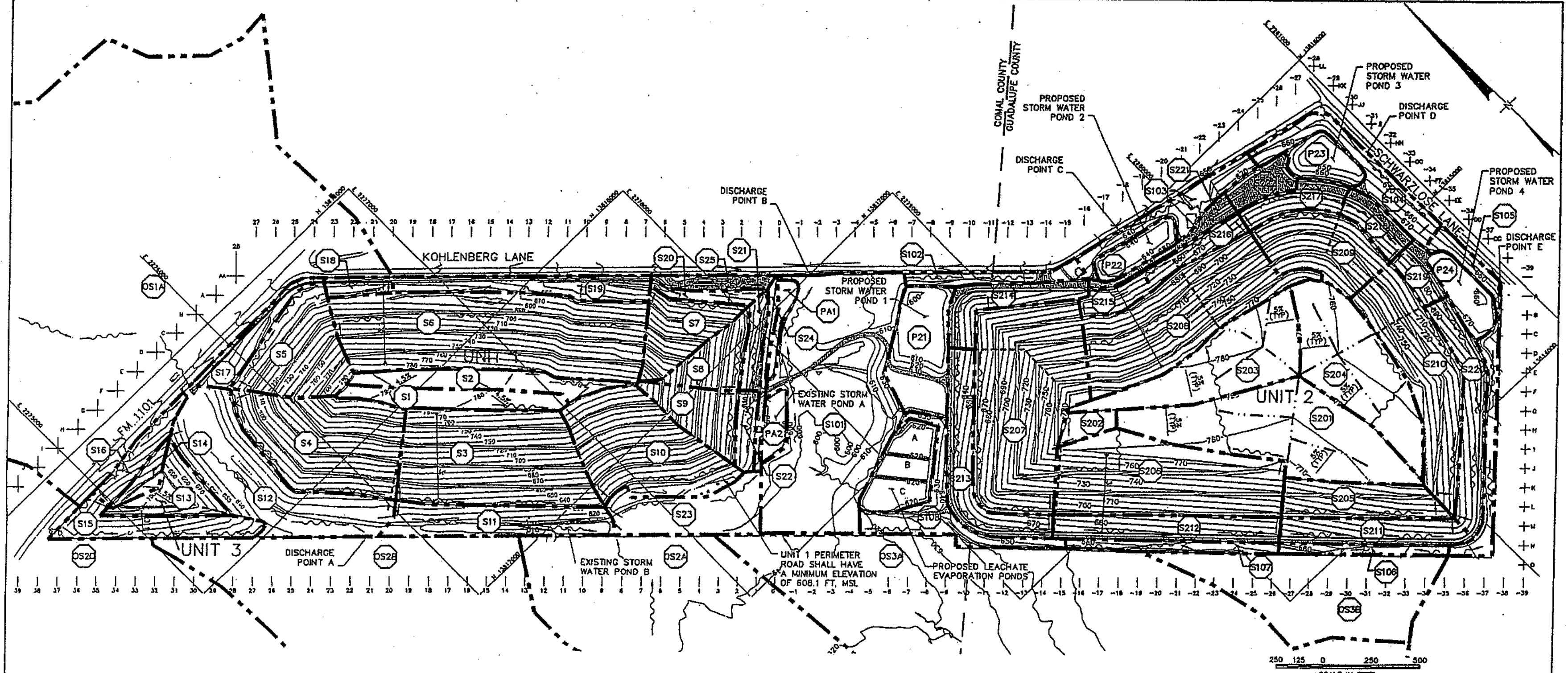
EXHIBIT H



LEGEND

- 610 — EXISTING GROUND ELEVATION (FT, MSL)
- EXISTING ROAD
- EXISTING BUILDING
- PROPERTY BOUNDARY (NOTE 4)
- SITE ACCESS ROAD
- 650 — PROPOSED TOP OF FINAL COVER SYSTEM (FT, MSL)
- DRAINAGE AREAS
- S31 — DRAINAGE SUBAREA DESIGNATION
- DRAINAGE DOWNCHUTES
- TOP DECK DRAINAGE CHANNELS
- DRAINAGE BENCHES
- TIME OF CONCENTRATION PATH
- N 13,674,000 E 2,060,000 — STATE PLANE COORDINATES
- A 20 — SITE GRID

NOTES:

1. THE EXISTING CONTOUR MAP SHOWN ON THIS DRAWING WAS COMPILED USING PHOTOGRAMMETRIC METHODS BASED ON AERIAL PHOTOGRAPHY PERFORMED ON 08 MARCH 2005 BY SURVEYING AND MAPPING, INC. OF AUSTIN, TEXAS.
2. ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (FT, MSL) AS DEFINED BY THE USGS NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929. STATE PLANE COORDINATE GRID CORRESPONDS TO TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM (NAD) 1983.
3. PROPERTY BOUNDARY AND EASEMENT INFORMATION PROVIDED BY SURVEYING AND MAPPING INC., AUSTIN, TEXAS, DATED 23 MAY 2005.
4. PERMIT BOUNDARY AND PROPERTY BOUNDARY COINCIDE.
5. THE PURPOSE OF THIS DRAWING IS TO PRESENT THE DRAINAGE AREAS MODELED IN THE RUNOFF CALCULATION PACKAGE, ATTACHMENT 6, FOR THE POST-DEVELOPMENT CONDITION.
6. SEE DRAWING 6-4 FOR CHANNEL DESIGNATIONS USED IN RUNOFF CALCULATION PACKAGE, ATTACHMENT 6.
7. FOR CLARITY, FULL EXTENT OF THE UPSTREAM OFFSITE DRAINAGE SUBAREAS ARE NOT SHOWN ON THIS DRAWING. THE OFFSITE DRAINAGE AREAS ARE SHOWN IN THEIR ENTIRETY ON DRAWING 3-1 NATURAL CONDITIONS.

POST-DEVELOPMENT DRAINAGE CONDITIONS

DISCHARGE POINT	CONTRIBUTING DRAINAGE AREAS	WATERSHED AREA (AC)	25-YR, 24-HR STORM FLOW RATE (CFS)	FLOW VOLUME (AC-FT)	FLOW VELOCITIES (FT/S)
A	S4,S5, S12-S18, OS-1	780	1880	400	5.46
B	S1-S25,S101, S102, S106-S108, S201,S202, S205-S207, S211-S214, PA1,PA2,P21, OS-1, OS-2,OS-3	2309	6397	1182	5.74
C	S103,S203, S208,S215, S216,S221,P22	25	20	12.8	1.44
D	S104,S209, S217,S218, S222,P23	14	37	7.4	4.10
E	S105,S204, S210,S219, S220,P24	24	21	12.1	3.55

STATE OF TEXAS
SCOTT M. GRAVES
86557
LICENSED PROFESSIONAL ENGINEER
7/14/2006

FOR PERMIT PURPOSES ONLY

MARK	DATE	REVISION	BY	APPROVED
-	07/14/2006	TECHNICALLY COMPLETE	SMG	SMG
-	03/28/2006	RESPONSE TO NOD 1	SMG	SMG
-	11/18/2005	INITIAL SUBMITTAL TO TCEQ	SMG	SMG

OWNER / SITE ADDRESS:
WASTE MANAGEMENT OF TEXAS, INC.
7000 KOHLENBERG LANE P.O. BOX 311637
NEW BRAUNFELS, TEXAS 78130
(830) 625-7844

ENGINEER:
GEOSYNTEC CONSULTANTS, INC.
3600 BEE CAVES ROAD, SUITE 101
AUSTIN, TEXAS 78746
(512) 451-4003

PROJECT:
MESQUITE CREEK LANDFILL
PERMIT APPLICATION – PERMIT NO. MSW – 66 B

TITLE:
POST-DEVELOPMENT PLAN WITH DRAINAGE PATTERNS

PROJECT NO.: GT3435-03 | DRAWN BY: JJV | REVIEWED BY: BAG | PART NO. III | DRAWING NO. 6-3
FILE NO.: 3435-064 | CHECKED BY: MCC | APPROVED BY: SMG

EXHIBIT I

SETTLEMENT AGREEMENT

This Settlement Agreement (this "Agreement") is made this 23 day of October, 2007, by and between Guadalupe County, Texas (the "County") and Waste Management of Texas, Inc., a Texas corporation ("WMT").

WITNESSETH:

WHEREAS, WMT owns and operates a municipal solid waste management facility known as the Comal County Landfill in Comal County, Texas operated under the Texas Commission on Environmental Quality ("**TCEQ**") Permit No. 66A (hereinafter the "**Disposal Site**" or "**Landfill**"), and WMT filed a permit application for Permit No. MSW 66B ("**Application**") seeking authorization from the TCEQ to expand the Landfill into Guadalupe County and rename it Mesquite Creek Landfill;

WHEREAS, the TCEQ determined the Application to be technically complete on July 14, 2006, and on or about that date issued Proposed Permit No. MSW 66B ("**Proposed Permit**");

WHEREAS, the County requested party status and was designated as a party to a contested case hearing before the State Office of Administrative Hearings ("**SOAH**") concerning the Application and issuance of the Proposed Permit, such contested case hearing being docketed as SOAH Docket No. 582-07-0863;

WHEREAS, the Application is currently pending in SOAH Docket No. 582-07-0863; and

WHEREAS, WMT and the County have agreed to compromise and settle the County's protest of the Application and certain concerns regarding the Landfill expansion and Application on the terms set forth below.

AGREEMENT

NOW, THEREFORE, for and in consideration of the respective covenants herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and confessed, the Parties agree as follows:

ARTICLE 1

Definitions

1.1 "**Expansion Date**" means the date that Waste Materials transported to the Disposal Site in commercial vehicles first begin disposing waste within Unit 2 which is the area subject of the Proposed Permit. Attached as Exhibit A is a drawing depicting the Unit 2 area.

1.2 "**Cessation Date**" means the date the Disposal Site is no longer permitted for acceptance of, or is no longer accepting, Waste Material pursuant to Permit 66B.

EXHIBIT
tabbies
J

1.3 **"Current Permit"** means TCEQ Permit No. 66A under which WMT currently operates the Disposal Site.

1.2 **"Gross Revenues"** means all combined revenues actually received by WMT from Waste Material disposal operations at the Landfill. Gross Revenues shall exclude state, local or federal fees and taxes, fuel surcharges, WMT environmental fees, or other fees charged for the Waste Material received for disposal.

1.3 **"Waste Material"** means acceptable solid waste including municipal solid waste, and construction and demolition debris, which, in compliance with governmental licenses and permits in effect, may be received for disposal at the Disposal Site. It does not include unacceptable waste, or unpermitted waste.

1.4 **"Recyclable Material"** means a material that has been recovered or diverted from the non-hazardous waste stream for purposes of reuse, recycling, or reclamation, a substantial portion of which is consistently used in the manufacture of products that may otherwise be produced using raw or virgin materials. Recyclable Material is not solid waste. However, Recyclable Material may become Solid Waste at such time, if any, as it is abandoned or disposed of rather than recycled, whereupon it will be solid waste, with respect to the party actually abandoning or disposing of such material.

ARTICLE 2

Obligations of WMT

2.1 Compensation. WMT agrees to pay the County four percent (4%) of Gross Revenues from the Landfill beginning on the Expansion Date and ending on the Cessation Date, unless earlier terminated as allowed under this Agreement. WMT shall pay all payments to County due under this paragraph 2.1 on a quarterly basis, within 60 days after the end of the immediately prior calendar quarter. However, this provision takes effect only when WMT receives written notice of TCEQ's final and non-appealable approval of the Proposed Permit.

2.2 Landfill Operation Hours: Currently, the Landfill is open and accepts Waste Material for disposal from 7:00 a.m. to 7:00 p.m., Monday through Friday, and 7:00 a.m. to noon on Saturday. Under the Proposed Permit, WMT has requested and intends to extend its Landfill operation hours from 4:00 a.m. to 8:00 p.m., Monday through Friday and 4:00 a.m. through 3:00 p.m. on Saturday. In the event of emergency conditions or a disaster declared by the President, the Governor, or the County Judge of Guadalupe or Comal County, WMT may extend its hours of operation on a temporary basis to meet the needs of the local, state, federal governments and/or citizens. If WMT intends to change its hours of operation on a permanent basis, WMT will notify the County at least twenty (20) days in advance of the change, provide the reason(s) for the change, and obtain the County's approval, which shall not be unreasonably withheld.

2.3 Drainage. WMT agrees that if the drainage design and appurtenances at the Disposal Site adversely affect adjoining landowners or neighbors (i.e., property located within a one mile radius of the Disposal Site boundary) of the Disposal Site, WMT will take

responsibility for those adverse affects and will take reasonable measures to alleviate such adverse affects.

2.4 Freedom Lake Property. WMT intends to use a portion of that certain property adjacent to the Disposal Site and owned by WMT, commonly known as Freedom Lake (the "Freedom Lake Property"), and comprising approximately 314 acres, for the future construction and operation of the Mesquite Creek Gas-To-Energy Plant (the "Gas Plant") and as a wildlife habitat area or park. WMT does not intend to use any of the remainder of the Freedom Lake Property to dispose of any Waste Material, but retains the right to use, develop, sale, or donate portions of the Freedom Lake Property for other purposes. The Gas Plant, wildlife habitat or other area of the Freedom Lake Property will be developed independently of one another by WMT as WMT deems appropriate, in its sole discretion. WMT shall continue to have the right at any time to use any portion of its Freedom Lake Property for borrowing of soil for landfill use and for access to the lake located on the property for water.

The Parties acknowledge that Freedom Lake is believed to have been built by the government in the 1950s, and that documentation surrounding Freedom Lake's original design and intent are not readily available. Nevertheless, WMT, as the present day owner of Freedom Lake, agrees that if silt in Freedom Lake causes or contribute to flooding to downstream adjoining landowners or neighbors (i.e., property located within a one mile radius of the Landfill boundary) during normal rainfall events, then WMT will take responsibility for those adverse affects and will take reasonable measures to alleviate such adverse affects.

2.5 Water Well Sampling. The County acknowledges that WMT has offered to pay for sampling and testing on a semi-annual basis of the three registered water wells presently located within a one mile radius of the Disposal Site on private landowners' property. The County and WMT acknowledge that such water well sampling, if any, shall be by agreement between WMT and the private landowner(s).

2.6 Recycling. WMT agrees that it will continue to refer potential customers of the Landfill to take appliances such as washers, refrigerators, etc. to Comal Iron or another nearby recycling center to promote the recycling of these appliances rather than to dispose of them at the Landfill. WMT further agrees that it will place a rolloff container with compartments near the entrance of the Disposal Site to allow customers to deposit their Recyclable Materials (e.g., plastics, paper products, aluminum cans) in the rolloff container for recycling versus disposal in the Landfill.

2.7 Daily Cover/Odor Control. WMT agrees to apply cover soil over the working face of the Landfill at the end of each operating day as a method to help control odors during non-operating hours, except in unusual circumstances such as an equipment breakdown or heavy rains. In those unusual circumstances, WMT will use tarps or other TCEQ approved alternate daily cover to cover the working face as currently allowed by WMT's Permit.

2.8 County Solid Waste Disposal. WMT agrees to offer the County preferred rates at the Disposal Site for County solid waste disposal. The terms and conditions of such a preferred rate agreement are set forth on Exhibit B attached hereto entitled Solid Waste Disposal Agreement. WMT agrees to execute Exhibit B contemporaneous with executing this Agreement.

2.9 Schwarzlose and Kohlenberg Roads. WMT agrees to donate a one-time sum of $50,000 to the County for repairs to these two roads within twenty-one (21) days of the date this Agreement is signed by both Parties.

ARTICLE 3

Obligations of County

3.1 Withdrawal of Protest and Party Status on the Pending Application. The County agrees to (i) file a motion to withdraw its protest and request for party status on the Application no later than October 23, 2007, and (ii) adopt a written resolution on October 23, 2007 stating that the County no longer opposes the Application, and withdraws its protest and request for party status on the Application. As evidence of such withdrawal, the County will file a motion to withdraw its protest and request for party status in the form attached hereto as Exhibit C. The motion to withdraw will be filed with the Administrative Law Judge presiding over the Pending Application and the chief Clerk of the TCEQ, with a copy provided to WMT and all other parties to the SOAH hearing.

3.2 Additional Protests. The County agrees not to file any additional public comments, protests, requests for party status, motions to overturn, motions for reconsideration, objections, or any other administrative or judicial appeals regarding the issuance of the Proposed Permit or any amendments or modifications made to the Application, the Proposed Permit, or Permit No. 66B, if issued, to effectuate the terms of this Agreement. If the County breaches this provision of the Agreement, WMT has the right to terminate this Agreement ten (10) days after providing the County with notice of such breach and WMT's intent to terminate.

The County agrees to stand behind its resolution not to oppose the Application, and agrees not to assist, help, or cooperate with any third parties, whether such party or person is a protestant to the Pending Application or not, to oppose, defeat, overturn, appeal, or object to the Proposed Permit or any amendments or modifications made to the Application, Proposed Permit, or Permit No. 66B, if issued. If the County breaches this provision of the Agreement, WMT has the right to terminate this Agreement ten (10) days after providing the County with notice of such breach and WMT's intent to terminate.

3.3 Future Issues. County shall cooperate with WMT from time to time with respect to, and to the extent necessary to, allow WMT to redesign the Disposal Site to enhance its capacity, enhance the environmental soundness and operations, or enhance the design of the Disposal Site from time to time. WMT and the County acknowledge the rapid growth in the surrounding area and further, the Parties desire to work toward efforts permit modification of the Disposal Site to fulfill the disposal needs represented by the surrounding area.

ARTICLE 4

Miscellaneous

7.2 Disputes. In the event that there is a dispute between the parties, and either party brings an action to interpret this Agreement, or to enforce any right which such party may have hereunder, the Parties shall make a good faith effort to settle such dispute by negotiation. In the event the Parties are unable to settle such dispute by negotiation, the Parties shall make a good faith effort to settle the dispute by mediation prior to resorting to litigation.

7.3 Right to Require Performance. The failure of either party at any time to require performance by the other party of any provisions of this Agreement will in no way affect the right of that party thereafter to enforce the same. No waiver by either party of any breach of any of the provisions hereof will be taken or held to be a waiver of any succeeding breach of such provision or as a waiver of any other provision.

7.4 Governing Law. This Agreement will be governed by construed in accordance with the laws of the State of Texas.

7.5 Severability. If any provision of this Agreement is declared illegal, void, or unenforceable, the remaining provisions will not be affected but will remain in full force and effect.

7.6 Headings. The headings used herein are for convenience only and are not to be construed as part of this Agreement.

7.7 Assignment. No transfer or assignment of this Agreement, or of any right accruing under this Agreement, shall be made by either party hereunder without the written consent of the other party, which consent shall not be unreasonably withheld; provided, however, WMT may assign this Agreement to an affiliate of WMT without the prior written consent of the County.

7.8 Successor and Assigns. Subject to the restrictions on transfer and assignment contained in Article 7.7, this Agreement will inure to the benefit of and will be binding on the parties hereto and their respective successors and assigns.

7.9 No Admission of Liability. The County and WMT each acknowledge that this Agreement does not constitute an admission of liability by either of the Parties or any recognition of the correctness of their respective positions.

7.10 Notices. All notices or other communications to be given to a party hereunder shall be in writing and shall be deemed given upon the earlier to occur of (a) actual receipt by such party or (b) three (3) business days after being deposited in the United States mail, certified or registered mail, return receipt requested, postage prepaid, addressed to such party as follows:

If to County:

County Judge
Guadalupe County, Texas
307 W. Court Stree
Seguin, Texas 78155

With copy to:

Guadalupe County Attorney's Office
Attn: Robert Etlinger
101 E. Court Street, Suite 104
Seguin, Texas 78155

If to WMT:

Waste Management of Texas, Inc.
8611 Covel Road
San Antonio, Texas 78252
Attn: Market Area Manager

With copy to:

Waste Management of Texas, Inc.
9708 Giles Road
Austin, Texas 78754
Attn: Legal Department

Any changes of address by either party shall be by notice given to the other in the same manner as specified above.

7.11 Entire Agreement. This Agreement constitutes the entire agreement and understanding between the parties hereto, and it will not be considered modified, altered, changed, or amended in any respect unless in writing and signed by the parties hereto. This Agreement fully supersedes, replaces, and declares null and void all prior agreements between the parties that relate to the subject matter of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement the date first set forth above.

COUNTY

Guadalupe County, Texas

By: Mike Wiggins

Its: Mike Wiggins Co. Judge

Date: 10-23-07

WMT

Waste Management of Texas, Inc.

By: Donald J. Smith

Its: Vice President

Date: 10-22-07

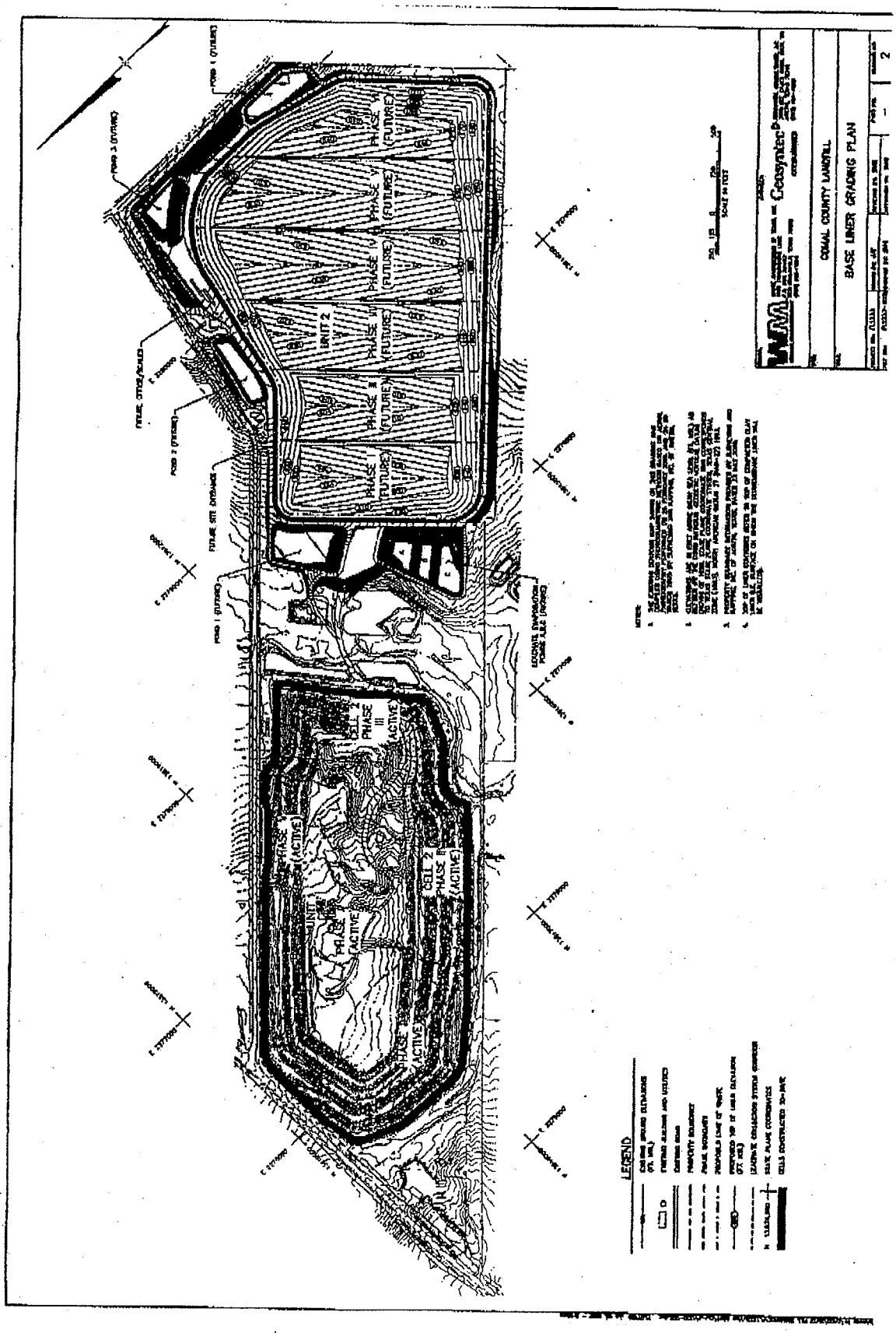

COMAL COUNTY LANDFILL
BASE LINER GRADING PLAN
LEGEND
UNIT 2
PHASE III
(ACTIVE)
PHASE IV
(FUTURE)
PHASE V
(FUTURE)
CELL 2
PHASE II
(ACTIVE)
CELL 1
PHASE I
(ACTIVE)
POND 1 (FUTURE)
POND 2 (FUTURE)
POND 3 (FUTURE)
FUTURE SITE ENTRANCE
FUTURE ENTRANCE ROAD
SCALE IN FEET

EXHIBIT B

SOLID WASTE DISPOSAL AGREEMENT

This Solid Waste Disposal Agreement (this "Agreement") is made this _____ day of _____, 2007, by and between Guadalupe County, Texas (the "County") and Waste Management of Texas, Inc., a Texas corporation ("WMT").

WHEREAS, WMT owns and operates the Disposal Site (as defined herein) and desires to provide the County with solid waste disposal services at the Disposal Site; and

WHEREAS, the County desires to ensure the continued availability of the Disposal Site for the economically and environmentally sound disposition of waste material generated and/or collected by the County;

WHEREAS, the governing authorities of the County have the power to enter into this Agreement for the disposal of such waste; and

WHEREAS, WMT will operate the Disposal Site to service, among other interests, the foregoing objectives of the County during the term of this Agreement, subject to the terms of this Agreement.

NOW, THEREFORE, for and in consideration of the respective covenants herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and confessed, the parties agree as follows:

ARTICLE 1
Definitions

1.1 "Acceptable Waste" under this Agreement means any and all solid waste, including municipal solid waste, and construction and demolition debris, except Unacceptable Waste.

1.2 "Agreement" means this Solid Waste Disposal Agreement.

1.3 "Base Rate" or "Base Rates" shall have the meaning set forth in Article 4.1.

1.4 "County Waste Material" means Acceptable Waste generated by or collected by the County or its contractor(s)under the authority or jurisdiction of the Commissioners' Court of Guadalupe County, Texas, including Acceptable Waste, generated at County owned facilities, and including residential, commercial and industrial Acceptable Waste.

1.5 "Disposal Site" or "Landfill" means the Mesquite Creek Landfill (TCEQ currently pending Permit # MSW 66B), currently known as Comal County Landfill – TCEQ Permit # MSW 66A located at 1000 Kohlenberg Road, New Braunfels, Texas.

1.6 "Effective Date" shall mean the date written above which shall not begin until both parties have executed this Agreement.

1.7 "Expansion Date" means the date that Waste Materials transported to the Disposal Site in commercial vehicles first begin disposing waste within Unit 2 which is the area subject of the pending permit MSW #66B, and ends when the Disposal Site is no longer permitted for acceptance of, or is no longer accepting, Waste Material pursuant to the Permit.

1.8 "Gross Revenues" means all combined revenues actually received by WMT from Waste Material disposal operations at the Landfill. Gross Revenues shall exclude state, local or federal fees and taxes, fuel surcharges, WMT environmental fees, or other fees charged for the Waste Material received for disposal.

1.9 "Hazardous Waste" means hazardous waste and toxic or radioactive substances (even though they may be part of a delivered load of waste), as such terms are defined by applicable federal or state laws or regulations.

1.10 "Permit" means current Permit No. MSW 66A issued by TCEQ, and pending Permit No. MSW 66B once it is issued by TCEQ and becomes final and nonappealable, for the operation of the Disposal Site, including any future expansion permits.

1.11 "Unit 2" means the future disposal area of the Disposal Site covered under pending MSW Permit 66B and depicted on Exhibit A attached hereto.

1.12 "RCRA" means the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq., as amended.

1.13 "Special Waste" means all treated/de-characterized (formerly hazardous) wastes; polychlorinated byphenyl (PCB) wastes; industrial process wastes; asbestos containing material; chemical containing equipment; incinerator ash; medical wastes; off-spec chemicals; sludges; spill-cleanup wastes; underground storage tank (UST) soils; waste from service industries; and all such other wastes of similar kind.

1.14 "State" means the State of Texas.

1.15 "Suspicious Waste" means waste which WMT reasonably suspects may be Unacceptable Waste.

1.16 "TCEQ" means the Texas Commission on Environmental Quality, or any predecessor, successor or other substituted agency, department or commission of the State which has regulatory authority over solid waste disposal permitting and enforcement.

1.17 "Unacceptable Waste" means any and all waste that is either:

(a) waste which is or may be prohibited from disposal at the Disposal Site by federal or state law, regulation, rule, code, ordinance, order, permit or permit condition;

(b) Hazardous Waste;

(c) Special Waste without an approved Special Waste agreement between the appropriate parties; or

(d) Special Waste which does not conform to the analysis or characteristics described in a Special Waste agreement.

1.18 "Waste Material" means Acceptable Waste which, in compliance with governmental licenses and permits in effect, that may be received for disposal at the Disposal Site.

ARTICLE 2

Term

2.1 Effective Date. This Agreement will take effect on the Effective Date. Some terms of this Agreement will not take effect until after the Agreement Effective Date. If the date in which certain provisions in the Agreement take effect is different from the Effective Date, the provision shall specifically state the date in which it takes effect.

2.2 Term. The Term of this Agreement begins on the Effective Date and ends when the Disposal Site is no longer permitted for acceptance of, or is no longer accepting, Waste Material pursuant to the Permit.

2.3 Termination. Notwithstanding the foregoing, WMT shall have the right to terminate this Agreement at any time upon sixty (60) days' prior written notice to the County. In addition, if the County elects to privatize the collection of County Waste Material by means of franchise, bid, or other agreement, the County may terminate this Agreement, provided the written notice of such termination is provided to WMT not less than sixty (60) days prior to the date of termination.

ARTICLE 3
Scope of Service

3.1 Operation. During the Term of this Agreement, WMT shall accept at the Disposal Site all County Waste Material delivered to the Disposal Site by County in accordance with the terms and conditions of this Agreement.

3.2 Condition Precedent. The obligations of WMT under this Agreement are expressly subject to the prior issuance to WMT, and the continuing effectiveness, of all final, non-appealable licenses, permits and approvals that are necessary to operate the Disposal Site. WMT represents that it has obtained all licenses, permits and approvals which in its good faith judgment are necessary for the operation of the Disposal Site to be in compliance with applicable laws and regulations. In the event that any licenses, permit or approval necessary to operate the Disposal Site is terminated or suspended, County's obligations and WMT's obligations with respect to such Disposal Site shall be terminated, or suspended.

3.3 Hours of Operation. The Disposal Site shall be open and accept County Waste Material for disposal during its respective posted hours of operation, which are presently 7:00 a.m. to 7:00 p.m., Monday through Friday, and 7:00 a.m. to noon on Saturday. WMT may, in its discretion, change the hours of operation at the Disposal Site at any time; provided, however, that County's hauling trucks shall have the same access hours for disposal at the Disposal Site as WMT's hauling trucks. Under the Proposed Permit, WMT has requested and intends to extend its Landfill operation hours from 4:00 a.m. to 8:00 p.m., Monday through Friday and 4:00 a.m. through 3:00 p.m. on Saturday. In the event of emergency conditions declared by the Commissioner's Court of Guadalupe County, WMT shall keep the Disposal Site open for disposal of unusual amounts of County Waste Material generated or created by such emergency conditions.

3.4 Holidays. The Disposal Site may, in the discretion of WMT, be closed on the following holidays: New Years Day, Thanksgiving Day, Christmas Day. WMT shall keep the Disposal Site open for disposal of County Waste Materials on all other holidays that the County has Waste Material collection service.

3.5 Compliance with Applicable Laws. WMT shall comply with all present and future federal, state, and local laws, regulations and ordinances regulating the operation of landfills for the disposal of County Waste Material, and with all other rules, regulations, orders and amendments thereto imposed by all federal and state regulatory agencies having jurisdiction over the operation of the Disposal Site.

3.6 Right to Refuse Unacceptable Waste. WMT shall not be required to accept or allow Unacceptable Waste to enter or be disposed of at the Disposal Site. WMT reserves the right to reject or revoke acceptance of any waste brought to the Disposal Site that WMT, in its sole discretion, considers an Unacceptable Waste or Suspicious Waste. WMT may require County to remove waste it has delivered which is subsequently determined or suspected by WMT to be Unacceptable Waste. If such Unacceptable Waste is not removed from WMT's possession by the County within a reasonable time, not to exceed three (3) days from the receipt of notice of the Unacceptable Waste, WMT will arrange for lawful disposal of such waste, and County shall (i) to the extent permitted by law, indemnify WMT for any costs or damages, including fines and penalties, resulting from delivery of Unacceptable Waste to the Disposal Site, and (ii) pay WMT its reasonable expenses and charges for handling, loading, preparing, transporting, storing and caring for any such Unacceptable Waste disposed of by WMT. This indemnity shall survive the termination of this Agreement.

3.7 Revocation of Acceptance. WMT may, at any time before the condition of the waste has been materially changed, revoke its acceptance of any waste discovered to be Unacceptable Waste. In revoking its acceptance of any waste, WMT shall notify County why the waste is Unacceptable Waste.

3.9 Delivery of Waste. The County shall deliver to the Disposal Site all Acceptable Waste generated by or collected by the County or its contractor(s) under the authority or jurisdiction of the Commissioners' Court of Guadalupe County, Texas. In the event the County elects to privatize the collection of County Waste Material by means of franchise, bid or other

agreement, the County shall require that any collection WMT providing such services under agreement with the County shall, as a condition thereto, dispose of all County Waste Material collected pursuant to such agreement to be disposed of at the Disposal Site; provided, further, that the County shall notify WMT in writing of the identity of such private collection WMT and cooperate with WMT to positively identify County Waste Material collected by such collection WMT. The County shall not authorize, approve, encourage, or support any other landfill, other than any landfill owned or operated by WMT or related entity, to the extent the County can legally fulfill this obligation without violation of state or federal laws or regulations.

3.10 Special Waste Requirements. County will require all waste generators for which it has collection and disposal responsibility to execute a Special Waste agreement prior to delivery of any Special Waste to the Disposal Site. County will not deliver, arrange for the delivery of, or contract for the delivery of any Special Waste to the Disposal Site without a fully executed Special Waste agreement. The specific requirements of a Special Waste agreement shall be as specified from time to time by WMT and may be altered by WMT at any time as necessary to ensure the proper management of Special Waste.

ARTICLE 4
Compensation to WMT For Disposal of County Waste

4.1 Base Rates for Disposal Site. Beginning on the Effective Date and continuing until the Expansion Date occurs, the Base Rates to be charged by WMT for receiving and disposing of County Waste Material delivered by County to the Disposal Site (the "Base Rate" or "Base Rates") shall be charged on a cubic yard basis, as follows: (i) $5.15 per cubic yard for compacted County Waste Material, and (ii) $4.97 per cubic yard for loose County Waste Material. An additional State mandated fee of (iii) $0.40 per cubic yard shall be added to the compacted County Waste Material Base Rate, and (iv) an additional fee of $0.25 per cubic yard shall be added to the loose County Waste Material Base Rate, in accordance with State of Texas landfill fees structure ("State Landfill Fees"). The State of Texas has the authority to adjust the State Landfill Fees, and such adjustments will be added and passed-through to the County as set forth above.

4.2 Base Rates for Disposal Site – Expansion Date. Beginning on the Expansion Date and through the termination of this Agreement, the Base Rate shall be charged by WMT to the County on a per-ton basis. The Base Rate to be charged by WMT for receiving County Waste Material delivered by the County to the Disposal Site shall be $17.00 per ton. In addition, State Landfill Fees which are currently $1.25 per ton shall be added to the Base Rate. Increases to the State Landfill Fees authorized by the State of Texas will be added and passed-through to the County as forth herein.

The Base Rates and Gross Revenue exclude applicable state, federal, or local fees, and WMT reserves the right from time to time to charge, in addition to the Base Rate, fuel surcharge fees (as set forth in Section 5.3 below) and WMT's environmental fees. These additional fees shall be added to the Base Rate for every transaction received by WMT for County Waste Material delivered for disposal including recycling fees and post-closure fees, and local fees, including taxes (exclusive of sales tax), and fees incurred under federal, state or local laws, rules

or ordinances in effect and/or implemented as of, but not subsequent to, the Effective Date. WMT, in its sole and absolute discretion, shall have the right to set disposal rates for all Waste Material, other than County Waste Material.

4.3 Base Rates Escalation and Adjustment. The Base Rate(s) charged by WMT to County for waste disposal will be adjusted for changes in the CPI, commencing on the first anniversary of the Effective Date of this Agreement, and continuing annually on each anniversary date of the Effective Date at the same percentage as the Consumer Price Index, US City Average for All Urban Consumers, Garbage and Trash Collection, Not Seasonally Adjusted, Base Period December 1983 = 100 (published by the United States Bureau of Labor Statistics, Consumer Price Index) (the "C.P.I.") shall have changed during the preceding twelve months. In the event the U.S. Department of Labor, Bureau of Labor Statistics ceases to publish the C.P.I., the parties hereto agree to substitute another equally authoritative measure of change in the purchasing power of the U.S. dollar as may be then available so as to carry out the intent of this provision.

Every calendar quarter, the fuel surcharge fee (added to the Base Rate) shall be adjusted as follows: an additional one percent (1%) for every twenty cent ($0.20) increase in the price of diesel fuel above and including $2.70 per gallon (with a 1% surcharge beginning at $2.70 per gallon and a 2% surcharge at $2.90 per gallon, etc.). The diesel fuel price shall be as determined by reference to the Energy Information Administration of the US Department of Energy ("EIA/DOE")'s Weekly Retail On Highway Diesel Prices for the Gulf Coast. The EIA/DOE currently publishes these prices on their website at the following location: http://tonto.eia.doe.gov/oog/info/wohdp/diesel.asp. The determination of the average price of diesel fuel from the aforesaid website shall be made on the first Monday prior to the end of the quarter (or the first business day thereafter if such Monday is a Federal Holiday).

WMT shall also be entitled to an increase in Base Rate from time to time during the term of this Agreement, and upon thirty (30) days' written notice to the County, to offset any change in conditions which increase WMT's costs, changes in federal, state or local laws, rules or regulations, or increases in taxes, tariffs or fees. Documentation of such increases shall be submitted to the County at its request.

4.4 Pricing for Special Waste. County shall pay WMT for disposal of Special Waste at the unit price established solely by WMT. Unit prices for Special Waste will vary depending on quantity and character of the Special Waste, and will be priced by WMT on a case-by-case basis depending upon the nature and character of the Special Waste. Under no circumstances shall the Base Rates be applicable to Special Waste.

4.5 Billings.

(a) WMT shall bill County monthly for the actual tonnage of County Waste Material delivered by County to the Disposal Site during the previous month pursuant to this Agreement, multiplied by the Base Rate.

(b) Each invoice will detail the number of tons for the time period covered by the invoice. County will pay each invoice within thirty (30) days of the date of the

invoice, without further notice by WMT. A late charge of one percent (1%) per month will be imposed if the payment from County is past due.

4.6 Books and Records. WMT will keep daily records of the weight or volume of waste received and charges therefore, and County has the right to inspect the same insofar as they pertain to the amount weight or volume of waste received at each Disposal Site under this Agreement.

ARTICLE 5
Indemnification

WMT agrees to indemnify, hold harmless, and defend the County, from and against any and all liabilities, claims, penalties, forfeitures, suits and the costs and expenses incident thereto (including costs of defense, settlement, and reasonable attorneys' fees), which it may hereafter incur, become responsible for, or pay out (i) to the extent caused by the negligent acts or omissions of WMT and as a result of death or bodily injuries to any person, destruction or damage to any property, contamination of or adverse effects on the environment, or any violation of governmental laws, regulations, or orders, or (ii) caused by the WMT's breach of any warranty, term or provision of the Agreement.

County agrees, to the extent permitted by law, to indemnify, hold harmless, and defend the WMT, from and against any and all liabilities, claims, penalties, forfeitures, suits, and the costs and expenses incident thereto (including costs of defense, settlement, and reasonable attorneys' fees), which it may hereafter incur, become responsible for, or payout (i) to the extent caused by the negligent acts or omissions of County and as a result of death or bodily injuries to any person, destruction or damage to any property, contamination of or adverse effects on the environment, or any violation of governmental laws, regulations, or orders or (ii) caused by the County's breach of any warranty, term or provision of the Agreement.

ARTICLE 6
Miscellaneous

6.1 Force Majeure. The performance of this Agreement by either party may suspended and the obligations hereunder excused or extended in the event, and during the period, that such performance is prevented, hindered, or delayed by a cause or causes beyond the reasonable control of such party include, without limitation, default of another party; labor disputes, strike or lockout; actual or threatened acts of God; war; fire; explosion; national defense requirements; accidents; riot; flood; severe weather; sabotage; lack of adequate fuel due to circumstances beyond WMT's control, lack of power materials, labor, or transportation facilities; power failures; damage or destruction of the Disposal Site and its facilities; injunctions or restraining orders; and judicial or governmental laws, regulations, requirements, orders, actions, or inaction, including the revocation or suspension of or failure to obtain, for reasons beyond WMT's reasonable control, any licenses or permits required for operation of the Disposal Site. In the event of disruption of services under any such circumstances, WMT will make every reasonable effort to reopen the Disposal Site to accept Waste Material as soon as practicable after the cessation of the cause of suspension of services, and it will take all reasonable steps to overcome the cause of cessation of service. Neither party shall be liable to the other for the

failure to perform its duties and obligations under the Agreement or for any resultant damages, loss, or expenses, if such failure was the result of any such Force Majeure. Further the affected party shall use reasonable efforts to remove any Force Majeure condition.

6.2 Enforcement. In the event that there is a dispute between the parties, and either party brings an action to interpret this Agreement, or to enforce any right which such party may have hereunder, or in the event an appeal is taken from any judgment or decree of a trial court, the party ultimately prevailing in such action will be entitled to receive from the other party its costs and reasonable attorneys' fees to be determined by the court in which such action is brought.

6.3 Right to Require Performance. The failure of either party at any time to require performance by the other party of any provisions of this Agreement will in no way affect the right of that party thereafter to enforce the same. No waiver by either party of any breach of any of the provisions hereof will be taken or held to be a waiver of any succeeding breach of such provision or as a waiver of any other provision.

6.4 Governing Law. This Agreement will be governed by construed in accordance with the laws of the State of Texas.

6.5 Severability. If any provision of this Agreement is declared illegal, void, or unenforceable, the remaining provisions will not be affected but will remain in full force and effect.

6.6 Headings. The headings used herein are for convenience only and are not to be construed as part of this Agreement.

6.7 Assignment. No transfer or assignment of this Agreement, or of any right accruing under this Agreement, shall be made by either party hereunder without the written consent of the other party, which consent shall not be unreasonably withheld; provided, however, WMT may assign this Agreement to an affiliate of WMT without the prior written consent of the County.

6.8 Successor and Assigns. Subject to the restrictions on transfer and assignment contained in Article 7.7, this Agreement will inure to the benefit of and will be binding on the parties hereto and their respective successors and assigns.

6.9 Specific Services. This is an Agreement for the performance of specific services described herein. Under no circumstances or conditions shall the operation of the Disposal Site by WMT in accordance with this Agreement be deemed a public function, nor has County acquired an interest, ownership or otherwise in the real or personal property or improvements or fixtures at the Disposal Site by virtue of this Agreement.

6.10 Notices. All notices or other communications to be given to a party hereunder shall be in writing and shall be deemed given upon the earlier to occur of (a) actual receipt by such party or (b) three (3) business days after being deposited in the United States mail, certified or registered mail, return receipt requested, postage prepaid, addressed to such party as follows:

If to County:

County Judge
Guadalupe County, Texas
307 W. Court Stree
Seguin, Texas 78155

With copy to:

Guadalupe County Attorney's Office
Attn: Robert Etlinger
101 E. Court Street, Suite 104
Seguin, Texas 78155

If to WMT:

Waste Management of Texas, Inc.
8611 Covel Road
San Antonio, Texas 78252

With copy to:

Waste Management of Texas, Inc.
9708 Giles Road
Austin, Texas 78754
Attn: Legal Department

Any changes of address by either party shall be by notice given to the other in the same manner as specified above.

6.11 Entire Agreement. This Agreement constitutes the entire agreement and understanding between the parties hereto, and it will not be considered modified, altered, changed, or amended in any respect unless in writing and signed by the parties hereto. This Agreement fully supersedes, replaces, and declares null and void all prior agreements between the parties that relate to the subject matter of this Agreement.

6.12 Appropriation; Sovereign Immunity. The County hereby agrees and acknowledges that the non-appropriation provisions set forth in the Texas Constitution and Local Government Code are not applicable to this Agreement due to the nature of the services rendered by WMT hereunder, and the County will not use such statute as a defense to payment hereunder. In addition, the County and WMT acknowledge that this Agreement is subject to the provisions of Chapter 271 of the Texas Local Government Code, specifically including §§ 271.151 through 271.160 of that Code, and including the attorney's fees provisions of §271.159. Subject to the agreements and modifications of the parties herein with respect to the County's waiver of immunity to suit, both parties agree that governmental or sovereign immunity is not a defense to suit or liability to enforce the terms of this Agreement, including actual, consequential and lost

profit damages resulting from the County's breach of this Agreement, and WMT shall be entitled to sue the County for the County's breach of this Agreement and collect all actual, consequential and/or lost profit damages arising from such breach. The parties further agree that the County waives the right to assert sovereign immunity in a breach of contract action involving the parties, and that all contractual damages, including recovery of consequential damages and/or loss profit, shall be available in litigation between the parties with the recovery of attorneys' fees provided by TCPRC §38.01 *et. seq.*

IN WITNESS WHEREOF, the parties have executed this Agreement the date first set forth above.

COUNTY

Guadalupe County, Texas

By: _____

Its: Mike Wiggins Co. Judge

Date: 10-23-07

WMT

Waste Management of Texas, Inc.

By: _____

Its: Vice President

Date: 10-22-07

EXHIBIT C

SOAH DOCKET NO. 582-07-0863
TCEQ DOCKET NO. 2006-1931-MSW

APPLICATION OF	§	**BEFORE THE STATE**
OFFICE		
WASTE MANAGEMENT OF TEXAS, INC.	§	
FOR A MUNICIPAL SOLID WASTE	§	**OF**
PERMIT AMENDMENT;	§	
PERMIT NO. MSW-66B	§	**ADMINISTRATIVE**
HEARINGS		

GUADALUPE COUNTY'S MOTION TO WITHDRAW

To: Administrative Law Judge Sarah Ramos and
Chief Clerk, TCEQ

COMES NOW, Protestant, Guadalupe County, in the above-titled contested case and advises the Court and the parties as follows:

1. Guadalupe County does hereby withdraw its public comments, its request for a contested case hearing, its pre-filed testimony, its discovery requested or filed, and its petition for party status relative to the above referenced application and consents to the remand of the application to the Executive Director of the Texas Commission on Environmental Quality for issuance of Permit No. MSW 66B.

Respectfully submitted,

GUADALUPE COUNTY
307 West Court Street
Seguin, Texas 78155
Telephone: 830-303-6130
Facsimile: 830-379-9491

Elizabeth Murray-Kolb – State Bar No. 00791327
Robert Etlinger – State Bar No. 06692880

COUNSEL FOR PROTESTANT
GUADALUPE COUNTY

Texas Administrative Code

Title 30 | Environmental Quality

2006–Part Two

[Replaces 2005 Pamphlet]

THOMSON
WEST

county commissioner's court on the petition to create the district and shall file a written report with the county commissioner's court concerning the necessity, feasibility, probable costs of reclaiming the land of the district from overflow and of draining it properly, and costs of organizing the district and maintaining it for two years. The executive director shall furnish the county commissioner's court with any additional information that is required.

Source: The provisions of this §301.21 adopted to be effective May 26, 1986, 11 TexReg 2246; amended to be effective May 5, 2005, 30 TexReg 2553.

SUBCHAPTER C. APPROVAL OF LEVEES AND OTHER IMPROVEMENTS

§ 301.31. Application for Approval of Preliminary Plans for Levees and Other Improvements

Any person who seeks approval of the commission under Texas Water Code, §16.236, for construction of any levee or other improvement shall file an application with the executive director, together with a set of preliminary plans for the levee or other improvement, in duplicate. The preliminary data so submitted must be in sufficient detail to permit the executive director to evaluate the project. Ordinarily, existing maps and information are adequate for the development of acceptable preliminary plans without the necessity of extensive site clearing or detailed surveys. The application and preliminary plans must comply with Subchapter D of this chapter (relating to Notice and Hearing).

Source: The provisions of this §301.31 adopted to be effective May 26, 1986, 11 TexReg 2246; amended to be effective May 5, 2005, 30 TexReg 2553.

§ 301.32. Purpose of Preliminary Plans

The purpose of the preliminary plans is primarily to allow the executive director to determine whether the project appears safe and is compatible with existing hydraulic conditions in the area. Preliminary plans should clearly reflect the design concept and indicate how the design was developed. Details of project construction are not required to be shown in the preliminary plans. It is the policy of the commission to evaluate the project from preliminary plans in order that the applicant may determine whether the project concept is to be approved prior to the incurring of large expenditures for a complete development of the final plans and specifications.

Source: The provisions of this §301.32 adopted to be effective May 26, 1986, 11 TexReg 2246.

§ 301.33. Preliminary Plans: Data To Be Submitted

(a) The applicant shall submit maps, plats, drawings, computations and narratives which shall illustrate and describe the following:

(1) the location and extent of the proposed works, including the county or counties affected by the project. When possible, the applicant should satisfy this requirement by submitting a detailed map which can be superimposed by the executive director upon a United States Geological Survey 7-1/2-minute quadrangle map, or if such is unavailable, on a suitable contour map;

(2) the name and course of the river, stream, or other watercourse, with the direction of flow indicated, which is associated with or would be affected by the proposed project;

(3) the location and ownership of all existing levees, channels, canals, reservoirs, dams, or other works of similar character, which may be affected by the proposed project, indicated by appropriate symbol to differentiate such works from the proposed works;

(4) the location and ownership, including current mailing address of owners, and location, shown by map, of all properties:

(A) lying within any proposed protected area; or

(B) adjacent to the proposed works or which may be affected by the project's alteration of the flood flows of the stream. The purpose of this second requirement is so that all interested property owners may be notified of the application. The applicant, the executive director, and the commission shall liberally construe what areas are potentially affected by the proposed project to ensure that all landowners within the vicinity whose land could be potentially impacted by the proposed project receive notice. Failure of the applicant to adequately provide the information will delay the processing of the application. The executive director may submit an application to the commission for summary dismissal if the applicant refuses to supply this information.

(b) The following flood data is required.

(1) The project design shall be based on a statistical 100-year flood as a minimum where substantial property loss and/or risk of life may be possible. The executive director will review the plans in accordance with the degree of hazard inherent in the proposed project and he may recommend that the project design be based on other than the 100-year flood should only agricultural land (no structures)

be involved and no interests other than those of the applicant be affected by the project. Flood level data available from state or federal agencies or other sources supportive of the project design on a statistical basis shall be provided by the applicant for consideration in the selection of design flood frequency and elevation.

(2) The preliminary plans shall demonstrate the effects the proposed project will impose on existing flood conditions. This shall be clearly illustrated by providing separate design floodwater surface-elevation profiles and design-flood delineations of the floodplain with and without the project in place.

(3) Additional flood water surface-elevation profiles and design-flood delineations of the floodplain should be provided for levee or landfill projects with the project in place and with a comparable levee or landfill on the opposite site of the stream if such do not exist but are plausible.

Source: The provisions of this §301.33 adopted to be effective May 26, 1986, 11 TexReg 2246.

§ 301.34. Criteria For Approval of Preliminary Plans

The commission shall use the following criteria and those listed in §301.33(b) of this title (relating to Preliminary Plans: Data To Be Submitted) in the review and consideration of applications for approval of plans for levees and other improvements.

(1) Structural integrity. Construction must be based upon sound engineering principles. Structural integrity must withstand any waters which the levee or other improvement is intended to restrain or carry, considering all topographic features, including existing levees.

(2) Compatibility with existing hydraulic conditions. Plans must be compatible with the existing hydraulic conditions. Consideration must be given to any possible deleterious effects, such as overtopping or undermining, on any existing system of levees, channel improvements, landfills, structures, or similar improvements, or on adjacent properties. With regard to applications for approval of levees or landfills, plans will be evaluated with a consideration of comparable levee or landfill development on the opposite side of a stream if such do not exist but are plausible.

(3) Safety. Any proposed levee or other improvement must be designed so that it will not increase flooding or divert waters in such a way that any person's life or property will be endangered or subjected to significantly increased flooding. The commission shall not approve plans for levees or other improvements which will significantly increase flood rises on any person's land without that person's consent or which will endanger life or property or create a public hazard.

(4) Rights of third parties to be protected. The rights of third parties affected by a proposed levee or other improvement must be considered. Before approval, the commission shall accordingly give full consideration to the rights of all such parties not otherwise considered under paragraphs (1)-(3) of this subsection.

(5) The commission and the executive director shall assure that, as far as possible, levees or other improvements shall be designed with primary consideration to the topographic and hydrographic conditions, and in such a manner that each division of a project shall be a complete, united project forming a coordinate part of an ultimately finished series of projects, so constituted that the successful operation of each united project shall coordinate with the successful operation of other projects within the same hydraulic influence.

(6) In addition, a minimum freeboard of three feet above the 100-year design flood hydraulic gradient should be provided where levees furnish protection for urbanized or developing areas. A minimum freeboard of two feet above the 100-year design flood hydraulic gradient, or more frequent flood as may be determined under §301.33 of this title (relating to Preliminary Plans: Data To Be Submitted), should be provided where levees furnish protection for agricultural areas. Reaches of the levee which may be affected by wave buildup from structural features of the project shall require supplemental study to determine if greater freeboard should be provided.

Source: The provisions of this §301.34 adopted to be effective May 26, 1986, 11 TexReg 2246.

§ 301.35. Additional Information

The executive director may request any additional pertinent information from the applicant which he deems necessary to evaluate the effects of a proposed project before submitting the application to the commission for setting of a hearing.

Source: The provisions of this §301.35 adopted to be effective May 26, 1986, 11 TexReg 2246.

§ 301.36. Plans To Bear Seal of Engineer

All preliminary plans and other plans which are submitted with an application for approval of a levee or other improvement shall be prepared by or under the direction of a registered professional engineer

entity such as a special district or river authority designated by the COG. An attempt shall be made to make regional appointments from as many of the following interest groups as possible:

(i) organized environmental groups;

(ii) citizen organizations active in environmental issues;

(iii) industry, preferably, but not necessarily, individuals with expertise in waste management;

(iv) academic community, preferably, but not necessarily, individuals trained in a technical discipline related to waste management and/or public involvement;

(v) community or land-use planning;

(vi) organized public-interest advocates; and

(vii) public health professionals.

(E) If any local official or regional entity has failed to make the necessary appointments within 15 days after the notice of intent to file has been submitted, the applicant may abandon the local review process at this point if so desired.

(F) Every effort should be made to appoint individuals who are willing to participate in good faith, able to devote adequate time to participation, and respected in the community or region. An elected official shall not be appointed to the committee if the official is elected by a constituency wholly or partly within the localities surrounding the site, and appointees shall not be employees or agents of the applicant.

(G) An individual shall not serve on more than one local review committee at any one time.

(4) The local review committee shall meet within 21 days after the notice of intent is filed. The executive director will provide manuals to committee members that will orient them as to what the committee's activities should be, i.e., the production of a report detailing issues resolved, issues unresolved, and questions not able to be answered.

(5) The preapplication review process shall continue for a maximum of 90 days unless it is shortened or lengthened by mutual agreement between the applicant and the local review committee.

(6) Individuals who serve on local review committees shall serve without compensation. The potential applicant shall provide resource support that may include clerical and technical assistance, a facilitator, meeting space, and/or other items that may be necessary to aid the committee in its work.

(d) Committee report.

(1) Any report produced by a local review committee set up under this section shall be submitted to the executive director with the applicant's permit application. The executive director may consider the report as an additional source of information concerning the application and at the public hearing, if one is held, the hearing examiner shall give the report all the legal consideration merited.

(2) The report shall not recommend approval or disapproval of the proposed facility. Rather, it shall describe the committee's work and summarize the committee's findings. The findings shall include issues resolved, issues unresolved, and questions not able to be answered.

Source: The provisions of this §330.50 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.51. Permit Application for Municipal Solid Waste Facilities

(a) Permit application. The application for a municipal solid waste facility is divided into Parts I—V. Parts I—IV of the application shall be required before the application is declared "administratively complete" in accordance with Chapter 281 of this title (relating to Applications Processing). A complete application, containing Parts I—IV, shall be submitted before a hearing can be conducted on the technical design merits of the application. If the executive director determines that a "land-use only public hearing" as described in §330.61 of this title (relating to Land-Use Public Hearing) is appropriate, the owner or operator shall submit a partial application consisting of Parts I and II of the application. A complete application, consisting of Parts I—IV of the application, shall be submitted based upon the results of the land-use only public hearing. The owner or operator shall be required to comply with the design, construction, and operating procedures proposed in his application. Part V shall be submitted upon completion of construction of the facility. It is intended that this subchapter completely define the information needed for permit review, but the executive director may request additional data if such is reasonably required to allow a decision to be made. Applicants for Type I-AE municipal solid waste landfills (MSWLFs) are required to submit all parts of the application except for those items pertaining to but not limited to §§330.200—330.206 of this title (relating to Groundwater Protection Design and Operation) and §§330.230—330.242 of this title (relating to Groundwater Monitoring and Corrective Action). Applicants for a Type I-AE facility are exempt from §330.56(d) of this title (relating to Attachments to the Site Development Plan).

(1) Part I of the application shall consist of the information required in §305.45 of this title (relating to Contents of Application for Permit) and §330.52 of this title (relating to Technical Requirements of Part I of the Application).

(2) Part II of the application shall describe the existing conditions and character of the site and surrounding area. Part II of the application shall consist of the information contained in §330.53 of this title (relating to Technical Requirements of Part II of the Application). An applicant must submit Parts I and II of his application before a land-use public hearing is conducted in accordance with §330.61 of this title.

(3) Part III of the application shall contain most of the necessary engineering information, detailed investigative reports, the schematic designs of the facility, and the required plans. Part III shall consist of the documents required in §§330.54—330.56 of this title (relating to Permit Procedures).

(4) Part IV of the application shall contain the site operating plan that shall discuss how the applicant plans to conduct his daily operations at the site. Part IV shall consist of the documents required in §330.57 of this title (relating to Technical Requirements of Part IV of the Application).

(5) Part V of the application is reserved for construction documents. Construction plans and specifications shall be handled as required by §330.58 of this title (relating to Technical Requirements of Part V of the Application).

(b) Required information. The information required by this subchapter defines the basic elements for an application.

(1) All aspects of the application and design requirements must be addressed by the applicant, even if only to show why they are not applicable for that particular site.

(2) It is the responsibility of the applicant to provide the executive director data of sufficient completeness, accuracy, and clarity to provide assurance that operation of the site will pose no reasonable probability of adverse effects on the health, welfare, environment, or physical property of nearby residents or property owners. Failure to provide complete information as required by this chapter may be cause for the executive director to return the application without further action. Submission of false information shall constitute grounds for denial of the permit.

(3) The applicant is responsible for determining and reporting to the executive director any site-specific conditions that require special design considerations.

(4) For construction in a floodplain, the following must be submitted, where applicable:

(A) approval from the governmental entity with jurisdiction under Texas Water Code, §16.236, as implemented by Chapter 301 of this title (relating to Levee Improvement Districts, District Plans of Reclamation, and Levees and Other Improvements);

(B) a floodplain development permit from the city, county, or other agency with jurisdiction over the proposed improvements;

(C) a Conditional Letter of Map Amendment (CLOMA) from The Federal Emergency Management Agency (FEMA); and

(D) a Corps of Engineers Section 404 Specification of Disposal Sites for Dredged or Fill Material for construction of all necessary improvements.

(5) The applicant shall submit demonstration of compliance with National Pollution Discharge Elimination System (NPDES) under CWA, §402, as amended.

(6) The applicant shall submit documentation of coordination with the following agencies, where applicable:

(A) Texas Commission on Environmental Quality for compliance with CWA, §208;

(B) Federal Aviation Administration, for compliance with airport location restrictions; and

(C) Texas Department of Transportation for traffic and location restrictions.

(7) The applicant shall submit wetlands determination under applicable federal, state, and local laws.

(8) The applicant shall submit Endangered Species Act compliance demonstrations under state and federal laws.

(9) The applicant shall submit a review letter from Texas Antiquities Committee.

(10) The applicant shall submit demonstration of compliance with regional solid waste plan.

(c) Number of copies. Applications shall be initially submitted in four copies. The applicant shall furnish up to 18 additional copies of the application for use by required reviewing agencies, upon request of the executive director.

(d) Preparation. Preparation of the application must conform with Texas Civil Statutes, Texas Engineering Practice Act, Article 3271a and Texas Geoscience Practice Act, Article 3271b.

(1) The responsible engineer shall seal, sign, and date each sheet of engineering plans, drawings, and the title or contents page of the application as required by Texas Engineering Practice Act, §15c, and in accordance with 22 TAC §131.166 (relating to Engineers' Seals).

(2) The responsible geoscientist shall seal, sign, and date applicable items as required by Texas Geoscience Practice Act, §6.13(b).

(3) Applications that have not been sealed shall be considered incomplete for the intended purpose and shall be returned to the applicant.

(e) Application format.

(1) Applications shall be submitted in three-ring loose-leaf binders.

(2) The narrative of the report shall be printed on 8 1/2 by 11 inches white paper. Drawings or other sheets shall be no larger than 11 by 17 inches so that they can be reproduced by standard office copy machines.

(3) All pages shall contain a page number and date.

(4) Revisions shall have the revision date and note that the sheet is revised in the header or footer of each revised sheet. The revised text shall be marked to highlight the revision.

(5) Dividers and tabs are encouraged.

(f) Application drawings.

(1) All information contained on a drawing shall be legible, even if it has been reduced. The drawings shall be 8 1/2 by 11 inches or 11 by 17 inches. Standard sized drawings (24 by 36 inches) folded to 8 1/2 by 11 inches may be submitted or required if reduction would render them illegible or difficult to interpret.

(2) If color coding is used, it should be legible and the code distinct when reproduced on black and white photocopy machines.

(3) Drawings shall be submitted at a standard engineering scale.

(4) Each drawing shall have a:

(A) dated title block;

(B) bar scale at least one-inch long;

(C) revision block;

(D) responsible engineer's seal, if required; and

(E) drawing number and a page number.

(5) Each map or plan drawing shall also have:

(A) a north arrow. Preferred orientation is to have the north arrow pointing toward the top of the page;

(B) a reference to the base map source and date if the map is based upon another map. The latest published edition of the base map should be used;

(C) a legend; and

(D) two longitudes and latitudes shall be shown on all general location maps.

(6) Match lines and section lines shall reference the drawing where the match or section is shown. Section drawings should note from where the section was taken.

Source: The provisions of this §330.51 adopted to be effective October 9, 1993, 18 TexReg 4023; amended to be effective September 1, 2003, 28 TexReg 6890.

§ 330.52. Technical Requirements of Part I of the Application

(a) General.

(1) The first part of the application, Part I, is designed to provide information that is required regardless of the type of site involved. All items required by this section and §305.45 of this title (relating to Contents of Application for Permit) must be submitted.

(2) Persons who wish to have a "pre-application meeting" under the provisions of Health and Safety Code, §361.0635, and §330.50 of this title (relating to Preapplication Review) should include a draft Part I with their request.

(3) Submittal of a Part I by itself will not necessarily require publication of a notice of intent to obtain a municipal solid waste permit under the provisions of Health and Safety Code, §361.0665, or a notice concerning receipt of a permit application under the provisions of Health and Safety Code, §361.079.

(4) Submittal of a Part I only will not allow an application to be declared "administratively complete" under the provisions of Health and Safety Code, §361.068; §281.3 of this title (relating to Initial Review); and §281.18 of this title (relating to Applications Returned).

(b) Additional requirements of Part I.

(1) Title page. The title page shall show the name of the project, the municipal solid waste (MSW) permit application number if known, the name of the applicant, the location by city and county, the date the part was prepared and, if appropriate, the number and date of the revision. It shall be sealed as required by the Texas Engineering Practice Act.

(2) Table of contents. The table of contents shall list and give the page numbers for the main sections of the application. It shall be sealed as required by

of this title (relating to Application for Wastewater Discharge, Underground Injection, Municipal Solid Waste, Hazardous Waste, and Industrial Solid Waste Management Permits). Normally, this shall be a one-page certificate of incorporation issued by the secretary of state. The applicant shall list all persons having over a 20% ownership in the proposed facility.

(9) Evidence of competency.

(A) The applicant shall submit a list of all Texas solid waste sites that the applicant has owned or operated within the last 10 years. The site name, site type, permit or registration number, county, and dates of operation shall also be submitted.

(B) The applicant shall submit a list of all solid waste sites in all states, territories, or countries in which the applicant has a direct financial interest. The type of site shall be identified by location, operating dates, name, and address of the regulatory agency, and the name under which the site was operated.

(C) The executive director shall require that a licensed solid waste facility supervisor, as defined in Chapter 30 of this title (relating to Occupational Licenses and Registrations), be employed before commencing site operation.

(D) The names of the principals and supervisors of the applicant's organization shall be provided, together with previous affiliations with other organization engaged in solid waste activities.

(E) Evidence of competency to operate the site shall also include landfilling and earthmoving experience, other pertinent experience, or licenses as described in Chapter 30 of this title (relating to Occupational Licenses and Registrations) possessed by key personnel and the number and size of each type of equipment to be dedicated to site operation.

(10) Appointments.

(A) Provide documentation that the person signing the application meets the requirements of §305.44 of this title (relating to Signatories to Applications). If the authority has been delegated, provide a copy of the document issued by the governing body of the applicant authorizing the person who signed the application to act as agent for the applicant.

(B) A "notice of appointment" identifying the applicant's engineer shall be provided.

(11) Evidence of financial assurance. The applicant shall submit a copy of the documentation required to demonstrate financial assurance as specified in Subchapter K of this chapter (relating to Closure, Post-Closure, and Corrective Action) and Chapter 37, Subchapter R of this title (relating to Financial Assurance for Municipal Solid Waste Facilities), as applicable. For a new facility, a copy of the required documentation shall be submitted 60 days prior to the initial receipt of waste.

Source: The provisions of this §330.52 adopted to be effective October 9, 1993, 18 TexReg 4023; amended to be effective March 21, 2000, 25 TexReg 2380; amended to be effective December 17, 2001, 26 TexReg 10376.

§ 330.53. Technical Requirements of Part II of the Application

(a) General.

(1) Part II of the application must describe the existing conditions and character of the site and surrounding area. Parts I and II of the application must provide information relating to land-use compatibility under the provisions of Texas Health and Safety Code, §361.069.

(2) Part II may be combined with Part I of the application or may be issued as a separate document. If it is combined, it is not necessary to provide a separate Part II title page, table of contents, supplementary technical report, or location maps. All other items required by subsection (b) of this section shall be submitted.

(b) Requirements of Part II.

(1) Title page. The title page shall show the name of the project, the municipal solid waste (MSW) permit application number if known, the name of the applicant, the location by city and county, the date the part was prepared, and, if appropriate, the number and date of the revision. It shall be sealed as required by the Texas Engineering Practice Act.

(2) Table of contents. The Table of Contents shall list and give the page numbers for the main sections of the application. It shall be sealed as required by the Texas Engineering Practice Act.

(3) Supplementary technical report. The applicant shall describe the purpose of the facility or the application in a supplementary technical report and provide any information necessary to understand the application.

(4) Existing conditions summary. The applicant may discuss any land use, environmental, or special issues he desires in an existing conditions summary.

(5) General location maps. The applicant shall provide maps in addition to those required by §330.52(b)(4) of this title (relating to Technical Requirements of Part I of the Application) as necessary to accurately show proximity to surrounding features.

(6) Aerial photograph.

(A) This should be an aerial photograph approximately nine inches by nine inches with a scale

within a range of one inch equals 1,667 feet to one inch equals 3,334 feet and showing the area within at least a one-mile radius of the site boundaries. The site boundaries and actual fill areas shall be marked.

(B) A series of aerial photographs can be used to show growth trends.

(C) Photocopies of photographs are not acceptable substitutes for photographs.

(7) Land-use map. This is a constructed map of the site showing the boundary of the property and any existing zoning on or surrounding the property and actual uses (e.g., agricultural, industrial, residential, etc.) both within the site and within one mile of the site. The applicant shall make every effort to show the location of residences, commercial establishments, schools, licensed child care facilities, churches, cemeteries, ponds or lakes, and recreational areas within one mile of the site boundary. Drainage, pipeline, and utility easements within the site shall be shown. Access roads serving the site shall also be shown.

(8) Land use. A primary concern is that the use of any land for an MSW site not adversely impact human health or the environment. The impact of the site upon a city, community, group of property owners, or individuals must be considered in terms of compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest. To assist the executive director in evaluating the impact of the site on the surrounding area, the applicant shall provide the following:

(A) zoning at the site and in the vicinity. If the site requires approval as a nonconforming use or a special permit from the local government having jurisdiction, a copy of such approval shall be submitted;

(B) character of surrounding land uses within one mile of the proposed facility;

(C) growth trends of the nearest community with directions of major development;

(D) proximity to residences and other uses (e.g., schools, churches, cemeteries, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, etc.). Give the approximate number of residences and business establishments within one mile of the proposed facility including the distances and directions to the nearest residences and businesses; and

(E) description and discussion of all known wells within 500 feet of the proposed site.

(9) Transportation.

(A) Provide data on the availability and adequacy of roads that the applicant will use to access the site.

(B) Provide data on the volume of vehicular traffic on access roads within one mile of the proposed facility, both existing and expected, during the expected life of the proposed facility.

(C) Project the volume of traffic expected to be generated by the facility on the access roads within one mile of the proposed facility.

(D) Analyze the impact of the facility upon airports in accordance with §330.300 of this title (relating to Airport Safety).

(10) General geology and soils statement. The reports prepared under this paragraph must meet the following requirements:

(A) discuss in general terms the geology and soils of the proposed site;

(B) identify and provide data on fault areas located within the proposed site in accordance with §330.303 of this title (relating to Fault Areas);

(C) identify and provide data on seismic impact zones in accordance with §330.304 of this title (relating to Seismic Impact Zones); and

(D) identify and provide data on unstable areas in accordance with §330.305 of this title (relating to Unstable Areas).

(11) Ground and surface water statement. The report prepared under this paragraph must provide:

(A) data about the site-specific groundwater conditions at and near the site; and

(B) data on surface water at and near the site.

(12) Floodplains and wetlands statement. The floodplains and wetlands statement must:

(A) provide data on floodplains in accordance with Chapter 301, Subchapter C of this title (relating to Approval of Levees and Other Improvements); and

(B) discuss wetlands in accordance with §330.302 of this title (relating to Wetlands). For the purpose of this rule, demonstration can be made by providing evidence that the facility has a Corps of Engineers permit for the use of any wetlands area.

(13) Protection of endangered species.

(A) The following words and terms shall have the following meanings, unless the context clearly indicates otherwise.

(i) Endangered or threatened species as defined in §330.2 of this title (relating to Definitions).

(ii) Taking—Harassing, harming, pursuing, hunting, wounding, trapping, capturing, or collecting an

endangered or threatened species or attempting to engage in such conduct.

(iii) Harassing—An intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, or sheltering.

(iv) Harming—An act of omission that actually injures or kills wildlife, including acts that annoy it to such an extent as to significantly disrupt essential behavioral patterns, that include, but are not limited to, breeding, feeding, or sheltering; significant environmental modification or degradation that has such effects is included within the meaning of harming.

(B) The impact of a solid waste disposal facility upon endangered or threatened species shall be considered. The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

(C) The permit applicant should consult with the executive director to determine the need for specific information relating to protection of endangered species. If the facility is located in the range of an endangered or threatened species, a biological assessment may be required to be prepared by a qualified biologists in accordance with standard procedures of the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department to determine the effect of the facility on the endangered or threatened species. Where a previous biological assessment has been made for another project in the general vicinity, a copy of that assessment may be submitted for evaluation. The United States Fish and Wildlife Service and the Texas Parks and Wildlife Department should be contacted for locations and specific data relating to endangered and threatened species in Texas.

Source: The provisions of this §330.53 adopted to be effective October 9, 1993, 18 TexReg 4023; amended to be effective September 1, 2003, 28 TexReg 6890.

§ 330.54. Technical Requirements of Part III of the Application

For all facilities, the technical information submitted in support of Parts I and II shall be prepared in the form of an engineering site development plan as described in §330.55 of this title (relating to Site Development Plan). Four draft copies of the site development plan and other related plans shall be submitted to the executive director for review. The site development plan shall be prepared in the format and content described as follows.

(1) The title page shall show the name of the project, the municipal solid waste (MSW) permit application number if known, the name of the applicant, the location by city and county, the date the part was prepared, and, if appropriate, the number and date of the revision. It shall be sealed as required by the Texas Engineering Practice Act.

(2) The table of contents shall list and give the page numbers for the main sections of the application.

(3) Solid waste data shall include identification of the nature, type, and quality of waste proposed for processing and/or disposal in the site to include a brief description of the general sources and generation areas contributing wastes to the site. This shall include an estimate of the population or population equivalent served by the site.

(4) Design data shall be reflected to the maximum extent possible in the narrative of the site development plan as required by §330.55 of this title (relating to Site Development Plan) and other plans and on the drawings described in §330.56 of this title (relating to Attachments to the Site Development Plan). Applicants shall consider criteria that in the selection of a site and design of a facility will provide for the safeguarding of the health, welfare, and physical property of the people and the environment through consideration of geology, soil conditions, drainage, land use, zoning, adequacy of access roads and highways, and other considerations as the specific site dictates. Applicants shall include in the support data for their permit applications information as specified in the design criteria indicated in this paragraph. It is recommended that the applicant review the operational standards for the specific type of site before completing the application.

Source: The provisions of this §330.54 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.55. Site Development Plan

(a) The site development plan of the application shall contain the following elements:

(1) the landfill method proposed, e.g., trench, area fill, or combination;

(2) provisions for all-weather operation, e.g., all-weather road, wet-weather pit, alternate disposal site, etc.; provisions for all-weather access from publicly owned routes to the disposal site and from the entrance of the site to unloading areas used during wet weather. Interior access road locations and the type of surfacing shall be indicated on a site

plan. The roads within the site shall be designed so as to minimize the tracking of mud onto the public access road;

(3) type and location of fences or other suitable means of access control to prevent the entry of livestock, to protect the public from exposure to potential health and safety hazards, and to discourage unauthorized entry or uncontrolled disposal of solid waste or hazardous materials;

(4) calculation of estimated rate of solid waste deposition and operating life of the site. (As a general rule, 10,000 people with a per capita collection rate of five pounds per day dispose of 10 to 15 acre-feet of solid waste in one year); and

(5) provide required information on drinking water protection in accordance with §§330.200-330.206 of this title (relating to Groundwater Protection Design and Operation).

(b) The site development plan of the application shall contain sufficient information to document compliance with the following.

(1) A facility shall not cause:

(A) a discharge of solid wastes or pollutants adjacent to or into the water in the state, including wetlands, that is in violation of the requirements of the Texas Water Code, §26.121;

(B) a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to §402 as amended;

(C) a discharge of dredged or fill material to waters of the United States, including wetlands, that is in violation of the requirements under the federal Clean Water Act, §404, as amended; and

(D) a discharge of a nonpoint source pollution of waters of the United States, including wetlands, that violates any requirement of an areawide or statewide water quality management plan that has been approved under the federal Clean Water Act, §208 or §319, as amended.

(2) The owner or operator shall design, construct, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during the peak discharge from at least a 25-year storm.

(3) The owner or operator shall design, construct, and maintain a run-off management system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm. The run-off from the active portion shall be discharged in compliance with paragraph (1) of this subsection or disposed of in an authorized manner.

(4) Dikes, embankments, drainage structures, or diversion channels sized and graded to handle the design run-off shall be provided. The slopes of the sides and toe shall be graded in such a manner so as to minimize the potential for erosion.

(5) Drainage calculations are as follows.

(A) Calculations for areas of 200 acres or less shall follow the rational method and shall utilize appropriate surface run-off coefficients, as specified in the Texas Department of Transportation Bridge Division Hydraulic Manual. Time of run-off concentration as defined within the said manual generally shall not be less than 10 minutes for rainfall intensity determination purposes.

(B) Calculations for discharges from areas greater than 200 acres shall be computed by using USGS/DHT hydraulic equations compiled by the United States Geological Survey and the Texas Department of Transportation and Public Transportation (TxDOT Administrative Circular 80-76), the HEC-1 and HEC-2 computer programs developed through the Hydrologic Engineering Center of the United States Army Corps of Engineers, or an equivalent or better method approved by the executive director.

(C) Designs of all drainage facilities within the site area shall include such features as typical cross-sectional areas, ditch grades, flow rates, water surface elevation, velocities, and flowline elevations along the entire length of the ditch.

(D) Sample calculations shall be provided to verify that natural drainage patterns will not be significantly altered.

(E) The proposed surface water protection and erosion control practices must maintain low non-erodible velocities, minimize soil erosion losses below permissible levels, and provide long-term, low maintenance geotechnical stability to the final cover.

(6) The owner or operator shall handle, store, treat, and dispose of surface or groundwater that has become contaminated by contact with the working face of the landfill or with leachate in accordance with §330.139 of this title (relating to Contaminated Water Discharge). Storage areas for this contaminated water shall be designed with regard to size (verifying calculations included), treatment (supporting documentation and calculations included), locations, and methods and shall have an approved liner covering the bottom and side slopes. Other

surface run-off water shall be handled in accordance with paragraph (3) of this subsection.

(7) The site shall be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood and in accordance with the rules and regulations of the TWC and successors relating to levee improvement districts and approval of plans for reclamation projects or the rules of the county or city having jurisdiction under the Texas Water Code, §16.236, as implemented by §§301.31-301.46 of this title (relating to Levee Improvement Districts, District Plans of Reclamation, and Levees and Other Improvements).

(A) Flood protection levees shall be designed and constructed to prevent the washout of solid waste from the site.

(B) A freeboard of at least three feet shall be provided except in those cases where a greater freeboard is required by the agency having jurisdiction under the Texas Water Code, §16.236.

(C) Such levees shall not significantly restrict the flow of a 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain.

(8) The final cover design shall provide effective long-term erosional stability to the top dome surfaces and embankment side slopes in accordance with the following.

(A) Estimated peak velocities for top surfaces and embankment slopes should be less than the permissible non-erodible velocities under similar conditions.

(B) The top surfaces and embankment slopes of municipal solid waste landfill units shall be designed to minimize erosion and soil loss through the use of appropriate side slopes, vegetation, and other structural and non-structural controls, as necessary. Soil erosion loss (tons/acre) for the top surfaces and embankment slopes may be calculated using the Soil Conservation Service of United States Department of Agriculture's Universal Soil Loss Equation, in which case the potential soil loss should not exceed the permissible soil loss for comparable soil-slope lengths and soil cover conditions.

(C) Details for final cover shall be depicted on fill cross-sections and provided along with other information in accordance with §330.56(b) of this title (relating to Attachments to the Site Development Plan).

(D) The final cover design shall be in accordance with the final closure plan.

(9) The site shall be designed to protect endangered species.

(10) Landfill markers shall be installed to clearly mark significant features. The executive director may modify specific marker requirements to accommodate unique site specific conditions.

(A) All markers shall be posts, steel, or wooden and shall extend at least six feet above ground level. Markers shall not be obscured by vegetation. Sufficient intermediate markers shall be installed to show the required boundary. Markers shall be installed at:

(i) site boundary;

(ii) 50-foot buffer zone;

(iii) easements and rights-of-way;

(iv) landfill grid system;

(v) SLER or FMLER area; and

(vi) 100-year flood limits.

(B) All markers shall be color coded as follows:

(i) black—boundary markers;

(ii) yellow—buffer zone markers;

(iii) green—easement and rights-of-way markers;

(vi) white—grid markers;

(v) red—SLER or FMLER markers; and

(vi) blue—flood protection markers.

(C) Site boundary markers shall be placed at each corner of the site and along each boundary line at intervals no greater than 300 feet. Fencing may be placed within these markers as required.

(D) Markers identifying the 50-foot buffer zone shall be placed along each buffer zone boundary at all corners and between corners at intervals of 300 feet. Placement of the landfill grid markers may be made along a buffer zone boundary.

(E) Easement and right-of-way markers shall be placed along the centerline of an easement and along the boundary of a right-of-way at each corner within the site and at the intersection of the site boundary.

(F) A landfill grid system shall be installed at all solid waste facilities unless written approval from the executive director has been received. The grid system shall encompass at least the area expected to be filled within the next three-year period. Although grid markers shall be maintained during the active life of the site, post-closure maintenance of the grid system is recommended but not required. The grid system, similar to a typical city map grid, shall consist of lettered markers along two opposite sides, and numbered markers along the other two sides. Markers shall be spaced no greater than 100 feet apart measured along perpendicular lines. Where

markers cannot be seen from opposite boundaries, intermediate markers shall be installed, where feasible.

(G) SLER or FMLER area markers shall be placed so that all areas for which an SLER or FMLER has been submitted and approved by the department are readily determinable. Such markers are to provide site workers immediate knowledge of the extent of approved disposal areas. These markers shall be located so that they are not destroyed during operations until operations extend into the next SLER or FMLER. The location of these markers shall be tied into the landfill grid system and shall be reported on each SLER or FMLER submitted. SLER and FMLER markers shall not be placed inside the evaluated areas.

(H) Flood protection markers shall be installed for any area within a solid waste disposal facility that is subject to flooding prior to the construction of flood protection levee. The area subject to flooding shall be clearly marked by means of permanent posts not more than 300 feet apart or closer if necessary to retain visual continuity.

(I) Specific trenches dedicated to the burial of Class I nonhazardous industrial solid waste shall be designated and operated in accordance with §330.137 of this title (relating to Disposal of Industrial Wastes). The approved composite liner area shall be marked at all corners. Such markers are to provide site workers immediate knowledge of the extent of approved disposal areas. These markers shall be located so that they are not destroyed during operations.

(J) A permanent benchmark shall be established at the site in an area of the site that is readily accessible and will not be used for disposal. This benchmark shall be a bronze survey marker set in concrete and shall have the benchmark elevation and survey date stamped on it. The benchmark elevation shall be surveyed from a known United States Coast and Geodetic Survey benchmark or other reliable benchmark. The location and elevation of the reference benchmark and the permanent benchmark shall be identified on a map and shall be included in the site development plan.

Source: The provisions of this §330.55 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.56. Attachments to the Site Development Plan

(a) Attachment 1—site layout plan.

(1) This is the basic element of the site development plan consisting of a site layout plan on a constructed map showing the outline of the units and fill sectors with appropriate notations thereon to communicate the types of wastes to be disposed of in individual sectors, the general sequence of filling operations, locations of all interior site roadways to provide access to all fill areas, locations of monitor wells, dimensions of trenches, locations of buildings, and any other graphic representations or marginal explanatory notes necessary to communicate the proposed step-by-step construction of the site. The layout should include: fencing; sequence of excavations, filling, maximum waste elevations and final cover; provisions for the maintenance of natural windbreaks, such as greenbelts, where they will improve the appearance and operation of the site; and, where appropriate, plans for screening the site from public view.

(2) A generalized design of all site entrance roads from public access roads shall be included. All designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances should be coordinated with the agency exercising maintenance responsibility of the public roadway involved.

(3) This plan is the basis for operational planning and budgeting, and therefore shall contain sufficient detail to provide an effective site management tool.

(b) Attachment 2—fill cross-section.

(1) The fill cross-sections must consist of plan profiles across the site clearly showing the top of the levee, top of the proposed fill (top of the final cover), maximum elevation of proposed fill, top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas, gas vents or wells, and groundwater monitoring wells, plus the initial and static levels of any water encountered.

(2) The fill cross-sections shall go through or very near the soil borings in order that the boring logs obtained from the soils report can also be shown on the profile.

(3) Large sites shall provide sufficient fill cross-sections, both latitudinally and longitudinally, so as to accurately depict the existing and proposed depths of all fill areas within the site. The plan portion shall be shown on an inset key map.

(4) Construction and design details of compacted perimeter or toe berms which are proposed in conjunction with aboveground (aerial-fill) waste disposal areas shall be included in the fill cross-sections.

(c) Attachment 3—existing contour map. This is a constructed map showing the contours prior to any

grading, excavation, and/or filling operations on the site. Appropriate vertical contour intervals shall be selected so that contours are not further apart than 100 feet as measured horizontally on the ground. Wider spacing may be used when approved by the executive director. The map should show the location and quantities of surface drainage entering, exiting, or internal to the site and the area subject to flooding by a 100-year frequency flood.

(d) Attachment 4—geology report. This portion of the application applies to owners or operators of municipal solid waste (MSW) facilities that store, process, or dispose of MSW in landfills. If the municipal solid waste landfill (MSWLF) facility contains two or more MSWLF units, the information requested pertaining to regional geology and regional aquifers need only be provided once. The geology report shall be prepared and signed by a qualified groundwater scientist except that the reports required under paragraph (5) of this subsection shall be signed and sealed, where appropriate, as required by the Texas Engineering Practice Act. Previously prepared documents may be submitted but must be supplemented as necessary to provide the requested information. Sources and references for information must be provided. The geology report must contain the information in paragraphs (1)—(6) of this subsection.

(1) The owner or operator shall provide a discussion of the regional physiography and topography in the vicinity of the facility. The discussion shall include, at a minimum, the distance to local surface water bodies and drainage features, the slope of the land surface (direction and rate), and the maximum and minimum elevations of the facility. Any limitation of the facility due to unfavorable topography (e.g., cliffs, floodplains) shall be discussed.

(2) The owner or operator shall provide a description of the regional geology of the area. This section shall include:

(A) a geologic map of the region with text describing the stratigraphy and lithology of the map units. An appropriate section of a published map series such as the Geologic Atlas of Texas prepared by the Bureau of Economic Geology is acceptable;

(B) a description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable groundwater, or from a depth of 1,000 feet, whichever is less, to the land surface. The geologic age, lithology, variations in lithology, thickness, depth, geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based upon available geologic information. Regional stratigraphic cross-sections should be provided.

(3) The owner or operator shall provide a description of the geologic processes active in the vicinity of the facility. This description shall include:

(A) an identification of any faults and subsidence in the area of the facility. The information about faulting and subsidence shall include at least that required in §330.303(b) and §330.305 of this title (relating to Fault Areas and Unstable Areas, respectively);

(B) a discussion of the degree to which the facility is subject to erosion. The potential for erosion due to surface water processes such as overland flow, channeling, gullying, and fluvial processes such as meandering streams and undercut banks shall be evaluated. If the facility is located in a low-lying coastal area, historical rates of shoreline erosion shall also be provided; and

(C) an identification of wetlands located within the facility boundary.

(4) The owner or operator shall provide a description of the regional aquifers in the vicinity of the facility based upon published and open-file sources. The section shall provide:

(A) aquifer names and their association with geologic units described in paragraph (2) of this subsection;

(B) a description of the composition of the aquifer(s);

(C) a description of the hydraulic properties of the aquifer(s);

(D) information on whether the aquifers are under water table or artesian conditions;

(E) information on whether the aquifers are hydraulically connected;

(F) a regional water-table contour map or potentiometric surface map for each aquifer, if available;

(G) an estimate of the rate of groundwater flow;

(H) typical values or a range of values for total dissolved solids content of groundwater from the aquifers;

(I) identification of areas of recharge to the aquifers within five miles of the site; and

(J) the present use of groundwater withdrawn from aquifers in the vicinity of the facility. The identification, location, and aquifer of all water wells within one mile of the property boundaries of the facility shall be provided.

(5) The owner or operator shall provide the results of investigations of subsurface conditions at a particular waste management unit in the following reports.

(A) Subsurface investigation report. This report must describe all borings drilled on-site to test soils and characterize groundwater and must include a site map drawn to scale showing the surveyed locations and elevations of the borings. Boring logs must include a detailed description of materials encountered including any discontinuities such as fractures, fissures, slickensides, lenses, or seams. Geophysical logs of the boreholes may be useful in evaluating the stratigraphy. Each boring must be presented in the form of a log that contains, at a minimum, the boring number; surface elevation and location coordinates; and a columnar section with text showing the elevation of all contacts between soil and rock layers, description of each layer using the unified soil classification, color, degree of compaction, and moisture content. A key explaining the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure must be provided.

(i) A sufficient number of borings shall be performed to establish subsurface stratigraphy and to determine geotechnical properties of the soils and rocks beneath the facility. Other types of samples may also be taken to provide geologic and geotechnical data. The number of borings necessary can only be determined after the general characteristics of a site are analyzed and will vary depending on the heterogeneity of subsurface materials. Locations with stratigraphic complexities such as non-uniform beds that pinch out, vary significantly in thickness, coalesce, or grade into other units, will require a significantly greater degree of subsurface investigation than areas with simple geologic frameworks.

(ii) Borings shall be sufficiently deep to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers. Borings shall penetrate the uppermost aquifer and all deeper hydraulically interconnected aquifers and be deep enough to identify the aquiclude at the lower boundary. All the borings shall be at least five feet deeper than the elevation of the deepest excavation. In addition, at least the number of borings shown on the Table of Borings shall be drilled to a depth at least 30 feet below the deepest excavation planned at the waste management unit, unless the executive director approves a different depth. If no aquifers exist within 50 feet of the elevation of the deepest excavation, at least one test hole shall be drilled to the top of the first perennial aquifer beneath the site, if sufficient data does not exist to accurately locate it. The executive director may accept data equivalent to a deep boring on the site to determine information for aquifers more than 50 feet below the site. Aquifers more than 300 feet below the lowest excavation and where the estimated travel times for constituents to the aquifer are in excess of 30 years plus the estimated life of the site need not be identified through borings.

TABLE OF BORINGS

Size of Area in Acres	Number of Borings	Min. No. of Borings 30 Feet below the Elev. of Deepest Excavation
5 or less	2-4	2
5-10	4-6	3
10-20	6-10	5
20-50	10-15	7
50-100	15-20	7-12
More than 100	Determined in consultation with the executive director	

* The executive director may approve different boring depths if site specific conditions justify variances.

(iii) All borings shall be conducted in accordance with established field exploration methods. The hollow-stem auger boring method is recommended for softer materials; coring may be required for harder rocks. Other methods shall be used as necessary to obtain adequate samples for soil testing required in this paragraph. Investigation procedures shall be discussed in the report.

(iv) The boring plan, including locations and depths of all proposed borings, shall be approved by the executive director prior to initiation of the work.

(v) Installation, abandonment, and plugging of the borings shall be in accordance with the rules of the commission.

(vi) Both the number and depth of borings may be modified because of site conditions with prior approval of the executive director.

(vii) Geophysical methods, such as electrical resistivity, may be used with authorization of the executive director to reduce the number of borings that may be necessary or to provide additional information between borings.

(viii) Cross-sections must be prepared from the borings depicting the generalized strata at the facility. For small waste management units two perpendicular cross-sections will normally suffice.

(ix) A narrative that describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation shall be provided.

(B) Geotechnical report. This report shall include engineering data that describes the geotechnical properties of the subsurface soil materials and a discussion with conclusions about the suitability of

the soils and strata for the uses for which they are intended. All engineering tests shall be performed in accordance with industry practice and recognized procedures such as described below. A brief discussion of engineering test procedures shall be included in the report.

(i) A laboratory report of soil characteristics shall be determined from at least one sample from each soil layer or stratum that will form the bottom and side of the proposed excavation and from those that are less than 30 feet below the lowest elevation of the proposed excavation. As many additional tests shall be performed as necessary to provide a typical profile of soil stratification within the site. No laboratory work need be performed on highly permeable soil layers such as sand or gravel. The samples shall be tested by a competent independent third-party soils laboratory.

(ii) Permeability tests shall be performed according to one of the following standards on undisturbed soil samples. Permeability tests shall be performed using tap water or .05 Normal solution of $CaSO_4$, and not distilled water, as the permeant. Those undisturbed samples that represent the sidewall of any proposed trench, pit, or excavation shall be tested for the coefficient of permeability on the sample's in-situ horizontal axis; all others shall be tested on the in-situ vertical axis. All test results shall indicate the type of tests used and the orientation of each tested sample. All calculations for the final coefficient of permeability tests result for each sample tested shall be included in the report:

(I) constant head with back pressure per Appendix VII of Corps of Engineers Manual EM1110-2-1906, "Laboratory Soils Testing;" ASTM D5084 "Saturated Porous Materials Using a Flexible Wall Permeameter";

(II) falling head per Appendix VII of Corps of Engineers Manual EM1110-2-1906, "Laboratory Soils Testing";

(III) sieve analysis for the 200, and less than 200 fraction per ASTM D1140;

(IV) Atterberg limits per ASTM D4318;

(V) moisture content per ASTM D2216.

(C) A groundwater investigation report. This report must include the following:

(i) the depth at which groundwater was encountered and records of after-equilibrium measurements in all borings. The cross-sections prepared in response to subparagraph (A)(viii) of this paragraph must be annotated to note the level at which groundwater was first encountered and the level of groundwater after equilibrium is reached or just prior to plugging, whichever is later. This water-level information must also be presented on all borings required by this paragraph and presented in a table format in the report;

(ii) records of water-level measurements in monitor wells. Historic water-level measurements made during any previous groundwater monitoring shall be presented in a table for each well;

(iii) all the information and data required in §330.231(e)(1) of this title (relating to Groundwater Monitoring Systems); and

(iv) an analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated. This must include any groundwater modeling data and results as described in §330.231(e)(2) of this title and must consider changes in groundwater flow that are expected to result from construction of the facility.

(6) The owner or operator shall provide a description of the existing or proposed monitoring system that meets the requirements of §330.231 of this title. The owner or operator shall also provide engineering drawings of a typical monitoring well and a table of data for all proposed wells that includes the following information for each well: total depth of the well; depth to groundwater; surveyed elevation of the ground surface at the well; surveyed elevation of the top of each well casing (or that point consistently used to determine depth to groundwater); depth to the top and base of the screen; and depth to the top and base of the filter pack.

(e) Attachment 5—groundwater characterization report. A groundwater characterization study and report is required from owners and operators of proposed MSWLF units or proposed lateral expansions except for Soils and Liner Evaluation Reports and Flexible Membrane Liner Evaluation Reports covering previously permitted and approved designs. The report must contain the following information:

(1) a tabulation of all relevant groundwater monitoring data from wells on site or on adjacent MSWLF unit(s);

(2) identification of the uppermost aquifer and any lower aquifers that are hydraulically connected to it beneath the facility, including groundwater flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area);

(3) on a topographic map as required under §330.52(b)(4)(C) of this title (relating to Technical Requirements of Part I of the Application), a delineation of

the waste management area, the property boundary, the proposed "point of compliance" as defined under §330.200(d) of this title (relating to Design Criteria), the proposed location of groundwater monitoring wells as required under §330.231 of this title, and, to the extent possible, the information required in paragraph (2) of this subsection;

(4) a description of any plume of contamination that has entered the groundwater from the MSWLF facility at the time that the application was submitted that:

(A) delineates the extent of the plume on the topographic map required under §330.52(b)(4)(C) of this title; and

(B) identifies the concentration of each assessment constituent as defined in §330.235 of this title (relating to Assessment Monitoring Program) throughout the plume or identifies the maximum concentration of each assessment constituent in the plume;

(5) detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of §330.231 of this title;

(6) if the hazardous constituents listed in Table I of §330.241 of this title (relating to Constituents for Detection Monitoring) have not been detected in the groundwater at the time of permit application, the owner or operator shall submit sufficient information, supporting data, and analyses to establish a detection monitoring program that meets the requirements of §330.234 of this title (relating to Detection Monitoring Program). This submission must address the following items specified under §330.234 of this title:

(A) a proposed groundwater monitoring system;

(B) background values for each monitoring parameter or constituent listed in §330.241 of this title, or procedures to calculate such values; and

(C) a description of proposed sampling, analysis, and statistical comparison procedures to be utilized in evaluating groundwater monitoring data;

(7) if the presence of hazardous constituents listed in Table I of §330.241 of this title has been detected in the groundwater at the time of the permit application, the owner or operator shall submit sufficient information, supporting data, and analyses to establish an assessment monitoring program that meets the requirements of §330.235 of this title. To demonstrate compliance with §330.235 of this title, the owner or operator shall address the following items:

(A) a description of any special wastes previously handled at the MSWLF facility;

(B) a characterization of the contaminated groundwater, including concentration of assessment constituents as defined in §330.235 of this title;

(C) a list of assessment constituents as defined in §330.235 of this title for which assessment monitoring will be undertaken in accordance with §330.233 of this title (relating to Groundwater Sampling and Analysis Requirements) and §330.235 of this title;

(D) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of §330.233 of this title; and

(E) a description of proposed sampling, analysis, and statistical comparison procedures to be utilized in evaluating groundwater monitoring data; and

(8) if hazardous constituents have been measured in the groundwater that exceed the concentration limits established in Table 1 of §330.241 of this title, the owner or operator shall submit sufficient information, supporting data, and analyses to establish a corrective action program that meets the requirements of §330.236 of this title (relating to Assessment of Corrective Measures) and §330.237 of this title (relating to Selection of Remedy). To demonstrate compliance with §330.236 of this title, the owner or operator shall address, at a minimum, the following items:

(A) a characterization of the contaminated groundwater, including concentrations of assessment constituents as defined in §330.235 of this title;

(B) the concentration limit for each constituent found in the groundwater;

(C) detailed plans and an engineering report describing the corrective action to be taken;

(D) a description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action; and

(E) the permit may contain a schedule for submittal of the information required in subparagraphs (C) and (D) of this paragraph provided the owner or operator obtains written authorization from the executive director prior to submittal of the complete permit application.

(f) Attachment 6—groundwater and surface water protection plan and drainage plan. These plans must reflect locations, details, and typical sections of levees, dikes, drainage channels, culverts, holding ponds, trench liners, storm sewers, leachate collection systems, or any other facilities relating to the protection of groundwater and surface water. Adequacy of provisions for safe passage of any internal or externally adjacent floodwaters should be reflected here.

(1) A drawing(s) showing the drainage areas and drainage calculations shall be provided.

(2) Cross-sections or elevations of levees should be shown tied into contours. Natural drainage patterns shall not be significantly altered.

(3) The 100-year floodplain shall be shown on this attachment.

(4) As part of the attachment, the following information and analyses must be submitted for review, as applicable.

(A) Drainage and run-off control analyses:

(i) a description of the hydrologic method and calculations used to estimate peak flow rates and run-off volumes including justification of necessary assumptions;

(ii) the 25-year rainfall intensity used for facility design including the source of the data; all other data and necessary input parameters used in conjunction with the selected hydrologic method and their sources should be documented and described;

(iii) hydraulic calculations and designs for sizing the necessary collection, drainage, and/or detention facilities shall be provided.

(iv) discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development;

(v) structural designs of the collection, drainage, and/or storage facilities, and results of all field tests to ensure compatibility with soils;

(vi) a maintenance plan for ensuring the continued operation of the collection, drainage, and/or storage facilities, as designed along with the plan for restoration and repair in the event of a washout or failure; and

(vii) erosion and sedimentation control plan, including interim controls for phased development.

(B) Flood control and analyses.

(i) Identify whether the site is located within a 100-year floodplain. Indicate the source of all data for such determination and include a copy of the relevant Federal Emergency Management Agency (FEMA) flood map, if used, or the calculations and maps used where a FEMA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e. g., wave action) that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood. The boundaries of the proposed landfill facility should be shown on the floodplain map.

(ii) If the site is located within the 100-year floodplain, the applicant shall provide information detailing the specific flooding levels and other events (e.g., design hurricane projected by Corps of Engineers) that impact the flood protection of the facility. Data should be that required by §§301.33—301.36 of this title (relating to Approval of Levees and Other Improvements).

(iii) No solid waste disposal and treatment operations shall be permitted in areas that are located in a floodway as defined by FEMA.

(g) Attachment 7—final contour map. This is a constructed map showing the final contour of the entire landfill to include internal drainage and side slopes plus accommodation of surface drainage entering and departing the completed fill area plus areas subject to flooding due to a 100-year frequency flood. Cross-sections shall be provided.

(h) Attachment 8—cost estimate for closure and post-closure care. The applicant shall submit a cost estimate for closure and post-closure care costs in accordance with Subchapter K of this chapter (relating to Closure, Post-Closure, and Corrective Action).

(i) Attachment 9—Applicant's statement. The applicant, or the authorized representative empowered to make commitments for the applicant, shall provide a statement that he is familiar with the site development plan and is aware of all commitments represented in the plan, that he is also familiar with all pertinent requirements in this chapter, and that he agrees to develop and operate the site in accordance with the plan, the regulations, and any permit special provisions that may be imposed.

(j) Attachment 10—soil and liner quality control plan. The soil and liner quality control plan must be prepared in accordance with §§330.200—330.206 of this title (relating to Groundwater Protection Design and Operation).

(k) Attachment 11—groundwater sampling and analysis plan. The groundwater sampling and analysis plan must be prepared in accordance with §§330.230, 330.231, and 330.233—330.242 of this title (relating to Groundwater Monitoring and Corrective Action) or §330.239 of this title (relating to Groundwater Monitoring at Type IV Landfills).

(l) Attachment 12—final closure plan. The final closure plan shall be prepared in accordance with §§330.250—330.256 of this title (relating to Closure and Post-Closure).

(m) Attachment 13—post-closure care plan. The post-closure care plan shall be prepared in accor-

dance with §§330.250—330.256 of this title (relating to Closure and Post-Closure).

(n) Attachment 14—landfill gas management plan.

(1) Owners or operators of all MSWLF units shall ensure that:

(A) the concentration of methane gas generated by the facility does not exceed 25% of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(B) the concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary. For purposes of this section, "lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 degrees Celsius and atmospheric pressure.

(2) Owners or operators of all MSWLF units shall implement a routine methane monitoring program to ensure that the standards of paragraph (1) of this subsection are met.

(A) The type and frequency of monitoring shall be determined based on the following factors.

(i) soil conditions;

(ii) the hydrogeologic conditions surrounding the facility;

(iii) the hydraulic conditions surrounding the facility;

(iv) the location of facility structures and property boundaries; and

(v) the location of any utility lines or pipelines that cross the MSWLF facility.

(B) The minimum frequency of monitoring shall be quarterly.

(3) If methane gas levels exceeding the limits specified in paragraph (1) of this subsection are detected, the owner or operator shall:

(A) immediately take all necessary steps to ensure protection of human health and notify the executive director, local and county officials, emergency officials, and the public;

(B) within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

(C) within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, provide a copy to the executive director and notify the executive director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy. After review, the executive director may require additional remedial measures.

(4) The executive director may establish alternative schedules for demonstrating compliance with paragraphs (2) and (3) of this subsection.

(5) The gas monitoring and control program shall continue for a period of thirty years after the final closure of the facility or until the owner or operator receives written authorization to reduce the program. Authorization to reduce gas monitoring and control shall be based on a demonstration by the owner or operator that there is no potential for gas migration beyond the property boundary or into on-site structures. Demonstration of this proposal shall be supported by data collected and additional studies as required.

(6) Gas monitoring and control systems shall be modified as needed to reflect changing on-site and adjacent land uses. Post-closure land use at the site shall not interfere with the function of gas monitoring and control systems. Any underground utility trenches that cross the MSWLF facility boundary shall be vented and monitored regularly.

(7) A landfill gas management plan shall be prepared that includes the following:

(A) a description of how landfill gases will be managed and controlled;

(B) a description of the proposed system(s), including installation procedures and time lines for installation, monitoring procedures, and procedures to be used during maintenance; and

(C) a backup plan to be used if the main system breaks down or becomes ineffective.

(8) Perimeter monitoring network shall be installed in accordance with the following provisions:

(A) initial monitoring at small MSWLFs and larger MSWLFs that have no habitable structures within 3,000 feet of the waste placement boundary may consist of perimeter subsurface monitoring around the perimeter of the site using portable equipment and probes. If test results show the presence of methane gas above 10% of the lower explosive limit, a permanent monitoring system shall be installed; and

(B) permanent monitoring systems shall be installed on all other MSWLFs. Technical guidance on monitoring systems may be issued by the executive director.

(9) The monitoring network design shall include provisions for monitoring on-site structures, includ-

ing, but not limited to, buildings, subsurface vaults, utilities, or any other areas where potential gas buildup would be of concern.

(10) All monitoring probes and on-site structures shall be sampled for methane during the monitoring period. Sampling for specified trace gases may be required by the executive director when there is a possibility of acute or chronic exposure due to carcinogenic or toxic compounds.

(11) Monitoring frequency shall be determined as follows.

(A) As a minimum, quarterly monitoring is required. The executive director may require more frequent monitoring based upon the factors listed in this section. When more frequent monitoring is necessary, the executive director shall notify the owner or operator.

(B) More frequent monitoring shall also be required at those locations where results of monitoring indicate that landfill gas migration is occurring or is accumulating in structures.

(o) Attachment 15—leachate and contaminated water plan.

(1) The plan shall provide the details of the storage, collection, treatment and disposal of the contaminated water, leachate and/or gas condensate from the leachate collection system and/or the gas monitoring and collection system, where used. Contaminated water is water which has come into contact with waste, leachate or gas condensate. This plan shall include the following information:

(A) estimated rate of leachate removal;

(B) capacity of sumps;

(C) pipe material and strength;

(D) pipe network spacing and grading;

(E) collection sump materials and strength;

(F) drainage media specifications and performance; and

(G) demonstration that pipes and perforations will be resistant to clogging and can be cleaned or rehabilitated.

(2) Leachate and gas condensate may be disposed of in a MSWLF unit that is designed and constructed with a composite liner system and a leachate collection system that meets the requirements of §330.200(a)(2) of this title (relating to Design Criteria). Contaminated surface water and groundwater may not be placed in or on the MSWLF unit.

(3) Leachate, gas condensate, contaminated surface water, and contaminated groundwater shall be disposed of at an authorized facility or as authorized by a National Pollutant Discharge Elimination System permit.

(4) On-site collection ponds and impoundments for contaminated water shall be lined with an approved liner.

Source: The provisions of this §330.56 adopted to be effective October 9, 1993, 18 TexReg 4023; amended to be effective March 21, 2000, 25 TexReg 2380; amended to be effective September 1, 2003, 28 TexReg 6890.

§ 330.57. Technical Requirements of Part IV of the Application

The site operating plan shall contain the information required by §330.114 of this title (relating to Site Operating Plan).

Source: The provisions of this §330.57 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.58. Technical Requirements of Part V of the Application

Construction plans and specifications of the proposed or modified facility shall be prepared and one copy maintained at the facility at all times during construction. After completion of construction, an as-built set of construction plans and specifications shall be submitted to the executive director and maintained at the facility and/or at the owner or operator's main office. These plans shall be made available for inspection by TWC and successors' representatives or other interested parties. Part V is not required for permit approval.

Source: The provisions of this §330.58 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.59. Additional Technical Requirements of the Application for Solid Waste Processing and Experimental Sites (Types V and VI)

(a) This section applies to all Type V sites that require a permit and all Type VI sites not involving land disposal, in addition to §§330.51-330.58 of this title (relating to Permit Procedures).

(b) The site development plan shall include the following additional information.

(1) Process description.

(A) A description shall be provided of the process to be used, including details of all planned on-site facilities. Sufficient narrative and graphic details shall be provided to enable an evaluation of the operational capabilities, the design safety features, pollution control devices, and other health and environmental protective measures.

(B) A plan shall be provided for alternate processing or disposal of solid waste in the event that the

§ 330.231. Groundwater Monitoring Systems

(a) A groundwater monitoring system must be installed that consists of a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer as defined in §330.2 of this title (relating to Definitions).

(1) Background wells shall be installed to allow determination of the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area if hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient or if sampling at other wells will provide a better indication of background groundwater quality than is possible from upgradient wells.

(2) The downgradient monitoring system must include monitoring wells installed to allow determination of the quality of groundwater passing the relevant point of compliance as defined in §330.2 of this title. The downgradient monitoring system must be installed to ensure the detection of groundwater contamination in the uppermost aquifer. When physical obstacles preclude installation of the groundwater monitoring wells at existing units, the wells may be installed at the closest practicable distance hydraulically downgradient from the relevant point of compliance as defined in §330.2 of this title that will ensure detection of groundwater contamination of the uppermost aquifer.

(b) The executive director may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each municipal solid waste landfill (MSWLF) unit when the facility has several units, provided the multi-unit system meets the requirement of subsection (a) of this section and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit, based on the following factors:

(1) number, spacing, and orientation of the MSWLF units;

(2) hydrogeologic setting;

(3) site history;

(4) engineering design of the MSWLF units; and

(5) type of waste accepted at the MSWLF units.

(c) The executive director may approve an alternative design for a groundwater monitoring system that uses other means in conjunction with monitoring wells to ensure detection of groundwater contamination in the uppermost aquifer from an MSWLF unit. The alternative design shall be at least as protective of human health and the environment as a monitoring-well system as specified in §330.231(a) of this title (relating to Groundwater Monitoring Systems).

(d) Monitoring wells shall be constructed in accordance with the rules of the commission and §330.242 of this title (relating to Monitor-Well Construction Specifications). Monitoring-well construction shall provide for maintenance of the integrity of the bore hole, collection of representative groundwater samples from the water-bearing zone(s) of concern, and prevention of migration of groundwater and surface water within the bore hole.

(1) Within 30 days of the completion of a monitoring well or any other part of a monitoring system, details of its construction shall be submitted to the executive director and shall include, as appropriate, a detailed geologic log of the boring, a description of development procedures, a detailed location map drawn to scale showing the relationship of the well to the MSWLF unit and relevant point(s) of compliance, and any other data obtained during installation or construction of the well or system.

(2) All parts of a groundwater monitoring system shall be operated and maintained so that they perform at least to design specifications through the life of the groundwater monitoring program.

(e) A groundwater monitoring system, including the number, spacing, and depths of monitoring wells or other sampling points, shall be designed and certified by a qualified groundwater scientist. Within 14 days of the certification, the owner or operator shall submit the certification to the executive director and place a copy of the certification in the operating record. The plan for the monitoring system and all supporting data must be submitted to the executive director for review and approval prior to construction.

(1) The design of a monitoring system shall be based on site-specific technical information that must include a thorough characterization of: aquifer thickness; ground-water flow rate; groundwater flow direction including seasonal and temporal fluctuations in flow; effect of site construction and operations on groundwater flow direction and rates; and thickness, stratigraphy, lithology, and hydraulic characteristics of saturated and unsaturated 'geologic units and fill materials overlying the uppermost aquifer, materials of the uppermost aquifer, and materials of the lower confining unit of the upper-

most aquifer. A geologic unit is any distinct or definable native rock or soil stratum.

(2) Groundwater modeling may be used to supplement the determination of the spacing of monitoring wells or other sampling points and shall consider site-specific characteristics of groundwater flow as well as dispersion and diffusion of possible contaminants in the materials of the uppermost aquifer. Any model used shall:

(A) have supporting documentation that establishes its ability to represent groundwater flow and contaminant transport, as needed;

(B) have a sound set of equations based on accepted theory representing groundwater movement and contaminant transport;

(C) have numerical solution methods that are based on sound mathematical principles and supported by verification and checking techniques;

(D) be calibrated against site-specific field data;

(E) have a sensitivity analysis to measure its response to changes in the values of major parameters, error tolerances, and other parameters;

(F) show mass-balance calculations, where necessary; and

(G) be based on actual field or laboratory measurements, or equivalent methods, that document the validity of chosen parameter values.

(3) The owner or operator of an MSWLF unit or facility shall promptly notify the executive director in writing of changes in site construction or operation or changes in adjacent property that affect or are likely to affect the direction and rate of groundwater flow and the potential for detecting groundwater contamination from an MSWLF unit and that may require the installation of additional monitoring wells or sampling points. Such additional wells or sampling points require a modification of the site development plan.

Source: The provisions of this §330.231 adopted to be effective October 9, 1993, 18 TexReg 4023; amended to be effective September 1, 2003, 28 TexReg 6890.

§ 330.233. Groundwater Sampling and Analysis Requirements

(a) The groundwater monitoring program shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells, or other monitoring system, installed in compliance with §330.231(a)-(c) of this title (relating to Groundwater Monitoring Systems).

(b) The owner or operator shall submit a groundwater sampling and analysis plan (GWSAP) to the executive director for review and approval prior to commencement of sampling and shall maintain a current copy in the operating record. The GWSAP shall be a part of the site development plan (SDP); if necessary, the owner or operator shall obtain a modification of the SDP to incorporate the GWSAP. The GWSAP shall:

(1) include procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, chain-of-custody controls, quality assurance, and quality control;

(2) provide for measurement of groundwater elevations at each sampling point prior to bailing or purging; measurement at an event shall be accomplished over a period of time short enough to avoid temporal variations in water levels; sampling at each event shall proceed from the point with the highest water-level elevation to those with successively lower elevations unless contamination is known to be present, in which case wells not likely to be contaminated shall be sampled prior to those that are known to be contaminated unless an alternative procedure is approved by the executive director; and

(3) include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. The number of samples to be collected to establish groundwater quality data shall be consistent with the appropriate statistical procedures determined pursuant to subsection (g) of this section. The sampling procedures shall be those specified under §330.234(b) of this title (relating to Detection Monitoring Program) for detection monitoring, §330.235(b)-(d) of this title (relating to Assessment Monitoring Program) for assessment monitoring, and §330.236(b) of this title (relating to Assessment of Corrective Measures) for corrective action.

(c) Groundwater samples shall not be field-filtered prior to laboratory analysis for the constituents listed in §330.241 of this title (relating to Constituents for Detection Monitoring). Field-filtering may be used on other samples if authorized in writing by the executive director.

(d) The sampling procedures and frequency shall be protective of human health and the environment.

(e) The owner or operator shall establish background groundwater quality in hydraulically upgradient wells or in background wells for each of the monitoring parameters or constituents required in the groundwater monitoring program for a munici-

remaining corrective action period and the owner or operator has provided written notice to the executive director that includes a detailed justification for the reduction of the corrective action cost estimate and the amount of financial assurance. A reduction in the cost estimate and the financial assurance shall be considered a modification to the corrective action plan. After this agency's approval of the modification, a request to reduce the cost estimate and the financial assurance amount will be submitted 60 days prior to the anniversary date of the first establishment of the financial assurance mechanism and shall include the documentation necessary for the annual review.

(b) The owner or operator of any municipal solid waste landfill unit required to undertake a corrective action program established under §330.238 of this title (relating to Implementation of the Corrective Action Program) shall establish financial assurance for the costs of the most recent corrective action program in accordance with Chapter 37, Subchapter R of this title (relating to Financial Assurance for Municipal Solid Waste Facilities). Continuous financial assurance coverage for each corrective action program shall be provided until the site is officially released in writing by the executive director from all requirements of the corrective action program after completion of all work specified in the corrective action plan.

Source: The provisions of this §330.284 adopted to be effective April 9, 1994, 18 TexReg 4023; amended to be effective March 21, 2000, 25 TexReg 2380

SUBCHAPTER L. LOCATION RESTRICTIONS

§ 330.300. Airport Safety

(a) Owners or operators of new municipal solid waste landfill (MSWLF) units, existing MSWLF units, and lateral expansions that are located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used only by piston-type aircraft shall demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

(b) Owners or operators proposing to site new MSWLF units and lateral expansions located within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft shall notify the affected airport and the Federal Aviation Administration (FAA).

(c) The owner or operator shall submit the demonstration in subsection (a) of this section with a permit application, a permit amendment application, or a permit transfer request. The demonstration will be considered a part of the operating record once approved.

(d) Sites disposing of putrescible waste shall not be located in areas where the attraction of birds can cause a significant bird hazard to low-flying aircraft. Guidelines regarding location of landfills near airports can be found in Federal Aviation Administration Order 5200.5(A), 1/31/90. All landfill sites within five miles of an airport shall be critically evaluated to determine if an incompatibility exists.

Source: The provisions of this §330.300 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.301. Floodplains

Owners or operators of new municipal solid waste landfill (MSWLF) units, existing MSWLF units, and lateral expansions located in 100-year floodplains shall demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator shall submit the demonstration with a permit application, a permit amendment application, or a permit transfer request. The demonstration shall become part of the operating record once approved.

Source: The provisions of this §330.301 adopted to be effective October 9, 1993, 18 TexReg 4023.

§ 330.302. Wetlands

New municipal solid waste landfill (MSWLF) units and lateral expansions shall not be located in wetlands, unless the owner or operator makes each of the demonstrations identified in paragraphs (1)-(5) of this section to the executive director. The owner or operator shall submit the demonstrations with a permit application. The demonstration shall become part of the operating record once approved.

(1) Where applicable under the Clean Water Act, §404, or applicable state wetlands laws, the presumption that a practicable alternative to the proposed landfill is available that does not involve wetlands shall be clearly rebutted.

(2) The construction and operation of the MSWLF unit shall not:

(A) cause or contribute to violations of any applicable state water quality standard;

(B) violate any applicable toxic effluent standard or prohibition under of the Clean Water Act, §307;

(C) jeopardize the continued existence of endangered or threatened species or result in the destruc-

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN ORDER Denying the Application by Juliff Gardens, L.L.C., for a Permit to Operate a Type IV Municipal Solid Waste Facility (Permit No. MSW-2282); TCEQ Docket No. 2002-0117-MSW; SOAH Docket No. 582-02-1595

On September 29, 2004, the Texas Commission on Environmental Quality (Commission or TCEQ) considered the application of Juliff Gardens, L.L.C. (Juliff Gardens or Applicant) for Permit No. MSW-2282 to authorize Juliff Gardens to operate a Type IV Municipal Solid Waste Facility in Brazoria County, Texas. Craig R. Bennett and Tommy L. Broyles, Administrative Law Judges (ALJs) with the State Office of Administrative Hearings (SOAH), presented a Proposal for Decision (PFD), which recommended that the Commission deny the requested permit. After considering the PFD, the Commission adopts the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

A. General Findings / Procedural Issues

1. Juliff Gardens is a Texas limited liability company that filed its Articles of Organization with the Office of the Secretary of State on August 23, 1999.

2. Juliff Gardens is a family-run business owned by Juan Pupo (50%) and his son, Eduardo (50%).

3. Sentinel Resources Corporation, which was incorporated by Juan Pupo in 1992, operates a major waste hauling business in the greater Houston area and a Type V-TS Transfer Station for Type IV construction and demolition waste and Class 3 industrial non-hazardous waste in Fort Bend County under Registration No. MSW-40161.

4. Eduardo Pupo is Vice President of Sentinel Resources Corporation.

5. On December 13, 1999, Applicant submitted its application for a Type IV Municipal Solid Waste (MSW) Permit to the Texas Natural Resource Conservation Commission, now the Texas Commission on Environmental Quality (TCEQ).

6. Applicant proposes to locate the Juliff Gardens Landfill on a 253.3 acre site in Brazoria County, Texas, located approximately 2,500 feet south of the intersection of Farm to Market Road 521 ("FM 521") and County Road 56, on the eastern side of FM 521.

7. Notice that the application was administratively complete was issued by the Permits Administrative Review Section at TCEQ on February 2, 2000.

8. On February 11, 2000, the Notice of Receipt of Application and Intent to Obtain a Municipal Solid Waste Permit was published in the newspaper *The Facts*.

9. *The Facts* has the largest general circulation of any newspaper published in Brazoria County.

10. The Chief Clerk also mailed copies of the notice to interested persons and elected officials.

11. Notice of a Public Meeting was published in *The Facts* on April 12, 2000, April 19, 2000, and April 26, 2000.

12. A public meeting regarding the application was held on May 2, 2000, at the Sacred Heart Church Parish Hall in Manvel, Texas.

13. A second public meeting was held on February 15, 2001, and notice was published for that meeting on January 25, 2001, January 29, 2001, and February 6, 2001, in *The Facts*.

14. Applicant submitted an amended application (the "Application") to the TCEQ proposing, among other things, to move the eastern boundary of the landfill approximately 100 feet to the west.

15. On January 17, 2002, Applicant submitted a request to the TCEQ that this matter be directly referred to SOAH for a contested-case hearing.

16. The Application was declared technically complete by the TCEQ on February 1, 2002.

17. On February 20, 2002, Applicant mailed the Amended Notice of Amended Application, Preliminary Decision, Public Meeting, and Contested Case Hearing for Municipal Solid Waste Permit (the "Amended Notice"), as provided by the Chief Clerk, to each residential or business address located within ½ mile of the proposed landfill, as well as each owner of

real property located within ½ mile of the proposed landfill as listed in the real property appraisal records of the Brazoria County Courthouse.

18. The Amended Notice was published in *The Facts* on February 20, 2002 and *The Houston Chronicle* on February 21, 2002.

19. On February 15, 2002, the Chief Clerk mailed the Amended Notice to State Representatives and persons who submitted comments on the Application and hearing requests.

20. On February 20, 2002, Applicant placed in the Angleton Public Library:
- the Final Draft Permit dated February 1, 2002;
- the TCEQ Technical Summary for the amended Application dated February 4, 2002;
- TCEQ Compliance Summaries dated November 14, 2000 and February 4, 2002;
- the Executive Director's Preliminary Decision dated February 1, 2002; and
- the Amended Notice.

21. On February 20, 2002, the technically complete Application was already on file at the Angleton Public Library.

22. The third public meeting regarding the Application was held on April 2, 2002.

23. Public comments regarding the landfill and the Application were received by TCEQ from December 13, 1999 to April 2, 2002.

24. The Executive Director's Response to Public Comments was filed with the Chief Clerk on June 3, 2002.

25. The preliminary hearing convened on April 3, 2002 in Manvel, Texas, and the following persons/entities sought and were granted party status:
a. Chocolate Bayou Water Company (Chocolate Bayou);
b. Citizens Against the Dump;
c. Brazoria County;
d. Brazoria County Drainage District # 5 ("BCDD#5");
e. Sienna Point Homeowners Association; and
f. individual protestants Joe Stuckey, Maurice Angley, David Grissom, Ramone Bingham, Don Irvin, and John Craig.

26. On October 28, 2003, the ALJs granted Chocolate Bayou's request to withdraw as a party from this case.

27. The evidentiary hearing regarding the Juliff Gardens Landfill was held at the Iowa Colony City Hall from January 26 to January 30, 2004.

28. The Commission did not narrow the issues to be considered during the evidentiary hearing in this case.

29. By agreement, the parties identified six issues in dispute:
    a. drainage and flooding;
    b. groundwater protection and stability of the detention pond;
    c. land use;
    d. consistency with regional planning;
    e. applicability of TEXAS HEALTH & SAFETY CODE ANN. § 361.122; and
    f. interest in the property.

B. Texas Health and Safety Code § 361.122

30. Brazoria County Commissioners adopted a resolution recommending denial of the Juliff Gardens application on April 17, 2000.

31. The population for Brazoria County in 2001 was approximately 249,832 persons.

32. Brazoria County is located adjacent to the Gulf of Mexico.

33. A canal referred to as the "Prison Canal" is directly south of the proposed landfill site and located on Texas Department of Criminal Justice-Darrington Unit property less than 100 feet from the landfill site.

34. The Prison Canal is part of the Chocolate Bayou Water Company System organized for the delivery of water for irrigation, industrial and municipal purposes in Fort Bend, Brazoria, Harris and Galveston Counties.

35. The integrated Chocolate Bayou Water canal system consists of approximately 45 miles of main-line canals, 50 miles of secondary canals, 105 miles of lateral canals and three reservoirs.

36. Chocolate Bayou Water Company's main-line canal, originating in Juliff, Texas, on the Brazos River, runs parallel to the eastern boundary of the proposed Juliff Gardens Landfill site in Brazoria County.

37. The Prison Canal is a lateral of the main-line canal running parallel to the entire length of the southern boundary of the proposed landfill site, approximately 18-25 feet from the southern property line of the landfill site.

38. The Prison Canal has existed since at least the early 1950s and has been regularly used for the purpose of furnishing row crop irrigation water.

39. The Prison Canal has been maintained and repaired over its more than 50-year life, including replacing the 24-inch pipe and control gate from the Chocolate Bayou main canal to the Prison Canal in 1998.

40. The Texas Department of Criminal Justice-Darrington Unit has used the Prison Canal to irrigate its crops since at least the 1960s.

41. Most recently, the Prison Canal was used in May and June of 2003 to irrigate corn.

42. The corn irrigated was used as feed for livestock, poultry, and hogs within the prison system.

C. Interest In the Property

43. Sentinel Resources, Inc. (a business owned by the same principal that owns Applicant) owns the surface estate at the landfill site.

44. Applicant owns some, but not all, of the mineral interests underlying the landfill site.

D. Drainage and Flooding

45. The Application indicates that the proposed landfill site is not within a 100-year floodplain.

46. The Application indicates that none of the proposed landfill site would be inundated during the 100-year frequency flood.

47. Applicant relied on the FEMA flood insurance map to reach its conclusion that the proposed landfill site is not within the 100-year floodplain of Hayes Creek.

48. FEMA did not study the upstream area of Hayes Creek closest to where the Landfill is located.

49. FEMA marked on its Flood Insurance Rate Map (FIRM), at Section 0 along Hayes Creek (with a flood elevation of 54.6 feet), that the limit of its detailed study of the floodplain stopped at that location along Hayes Creek, east and downstream of the landfill site.

50. Applicant determined during the hearing that the 100-year flood level at the proposed Landfill site is 54.6 feet msl.

51. Significant parts of the southeast portion of the landfill site are as low as 54 feet msl, below the 54.6 feet msl 100-year flood level calculated by Applicant's expert during the hearing.

52. There are two box culverts under the Chocolate Bayou Water Company Canal at Hayes Creek that allow floodwaters to pass under the canal from the west side to the east side along Hayes Creek.

53. Significant head loss occurs at these culverts located in Hayes Creek under the Chocolate Bayou Water Company Canal that could cause the elevation of the 100-year flood along Hayes Creek immediately upstream and west of the canal to be substantially higher than 54.6 feet.

54. Applicant failed to determine the extent of the 100-year floodplain at the site and failed to determine the 100-year flood level at the site, given the restriction in Hayes Creek that has existed for decades.

55. The Hayes Creek restriction will back-up water and affect the drainage patterns and flooding conditions at the proposed landfill site, for both the 25-year and 100-year frequency event.

56. Applicant failed to calculate the impacts from restrictions along Hayes Creek such as the box culverts on drainage and flooding patterns at the proposed landfill site, for either the 25-year or 100-year event.

57. Applicant failed to calculate the capacity of these culverts, or calculate the backup that would occur on the landfill site from restrictions such as these culverts.

58. Applicant failed to determine how much of the site is inundated during a 100-year flood.

59. Applicant failed to identify and calculate surface water entering the site of the proposed landfill from both the west side of the landfill and the east side of the landfill during rainstorms.

60. Applicant failed to calculate the carrying capacity of the ditch running along the east side of the site immediately to the west of the Chocolate Water Bayou Company canal, from which surface water enters the site.

61. Applicant failed to calculate the carrying capacity of the ditch running along the west side of the landfill site, from which surface water enters the landfill site.

62. Applicant failed to evaluate how the proposed landfill will affect surface water entering the site from the east and the west.

63. Applicant failed to demonstrate that the landfill will not significantly alter natural drainage patterns at the permit boundaries of the site.

64. The Application does not include sufficient calculations or any comparative analysis of existing and post-development runoff volumes at the permit boundaries.

65. The Application and the evidence in the record provide insufficient information to make a reasonable determination of what the existing natural drainage patterns are at the site and whether development of the proposed landfill will significantly alter natural drainage patterns.

E. Discharge into Waters of the State and Groundwater Monitoring

66. The uppermost aquifer at the site is Stratum II. The geology at the site includes shallow sands and shallow groundwater in Stratum II.

67. Measured groundwater levels in the uppermost aquifer, Stratum II, are considerably above the floor elevation of the detention pond.

68. A pilot channel will traverse down the center of the detention pond at a slightly lower elevation than the remainder of the pond; the elevation of the pilot channel is 45.5 feet msl.

69. The landfill detention pond will cut into the uppermost aquifer, below recorded water levels, resulting in the possibility that groundwater could flow out of the aquifer and into the pond.

70. Applicant planned a perpetual pump system to evacuate the detention pond in order to maintain its storage capacity.

71. The pumping may create a groundwater sink, pulling water inward toward the pond rather than allowing it to move naturally towards the monitoring well system.

72. Groundwater pulled into the detention pond may be pumped out along the discharge route, bypassing the groundwater monitor wells.

73. The design and proposed operation of the detention pond results in the potential for contaminated groundwater to be released, undetected by the groundwater monitor system.

74. Applicant's proposed monitoring system may not monitor the groundwater sufficiently to assure detection of all contaminated groundwater migrating from the proposed facility.

75. If the landfill leaks and the uppermost aquifer becomes contaminated, contaminated groundwater can enter the pond and be discharged into waters of the state.

76. There is no liner design for the detention pond in the application.

77. Even if the floor of the detention pond were somehow sealed, there would be a groundwater uplift pressure during times when the water level in Stratum II is above the floor of the pond.

78. A last-minute offer by Applicant to line the pond is insufficient to address these problems; adequate groundwater and surface water protection plans were not included in the Application nor offered during the hearing.

F. Land Use Compatibility

79. Upon completion, the proposed Juliff landfill would be 140 feet above ground level, the equivalent of a 10-12 story building.

80. The topography surrounding the proposed landfill is flat and relatively treeless.

81. There are no 10-12 story buildings in the vicinity of the proposed landfill and, because of its height and the surrounding terrain, the landfill would be visible two to three miles away.

82. There is no screening or landscaping proposed for the landfill.

83. The current character of surrounding land uses within one mile of the proposed facility is primarily agricultural and vacant land.

84. The Highway 288 Corridor is rapidly developing towards the landfill site.

85. Sienna Point, a subdivision within the Sienna Plantation development, is located within two miles of the proposed landfill.

86. A major planned community known as Canyon Gate at Iowa Colony will be situated, in part, within a mile of the landfill.

87. Canyon Gate at Iowa Colony will be located within Regional Analysis Zone (RAZ) 169, the same RAZ as the proposed landfill.

88. Canyon Gate at Iowa Colony will bring approximately 3,000 residences.

89. Canyon Gate at Iowa Colony has agreed to provide facilities for emergency medical services and a fire station within its proposed development.

90. Canyon Gate does not oppose the landfill.

G. Conformance to Regional Plan

91. Applicant failed to prove that the landfill conforms to H-GAC regional solid waste management plan.

92. The H-GAC board of directors unanimously found that the Application was not consistent with its regional solid-waste management plan on October 17, 2000.

93. H-GAC's finding of non-conformance was based on four areas of concern:
    1. need;
    2. drainage and flooding;
    3. lack of screening; and
    4. poor past operational practices.

94. Need is not a relevant consideration under the H-GAC Plan, except as it relates to encouraging the development of landfills.

95. The landfill fails to meet the H-GAC Plan goal concerning adequate runoff control to eliminate uncontrolled surface water runoff.

96. The landfill fails to meet the H-GAC Plan goal concerning avoiding areas that flood.

97. The landfill fails to minimize the negative visual impacts of solid waste disposal, handling, and management facilities as Applicant proposed no landscaping or visual screening of the Site.

98. The landfill is expected to be approximately 140 feet above ground level.

99. The terrain surrounding the landfill is flat and relatively treeless.

100. The view from residences located to the south and southeast of the landfill site is unobstructed.

101. The landfill may be seen from a distance of up to three miles away.

102. The landfill fails to meet the H-GAC Plan goal encouraging landscaping and visual screening of sites.

103. The landfill fails to meet the H-GAC Plan goal allowing aerial buildup appropriate to surrounding topography and screening.

104. Sentinel Resources owns the property where the Juliff Gardens landfill is proposed.

105. Sentinel Resources is owned by the same individuals as Juliff Gardens, LLC and operates a transfer station in Fort Bend County.

106. Juan and Eduardo Pupo, owners of the Juliff Gardens, do not have a poor operational record for their operations of Sentinel Resources, a waste and recycling business.

H. Transcript Costs

107. The total reporting and transcription costs of the hearing are $6,460.20.

108. The parties agreed that, of the total transcript costs, $4,895.10 is assessed to Applicant and $1,565.10 is assessed to Protestant CAD.

109. The parties agreed that the costs for Protestant CAD's copy of the transcript is assessed separately to CAD.

II. CONCLUSIONS OF LAW

1. The TCEQ has jurisdiction over the disposal of municipal solid waste, and the authority to issue municipal solid waste permits. TEX. HEALTH & SAFETY CODE ANN. § 361.061 (Vernon 2002).

2. SOAH ALJs have jurisdiction to conduct a hearing and prepare a Proposal for Decision on contested cases referred by the TCEQ. TEX. GOV'T CODE ANN. § 2003.47 (Vernon 2002).

3. Notice of the application was provided in accordance with TEX. HEALTH & SAFETY CODE ANN. § 361.0665, 30 TEX. ADMIN. CODE § 39.5 and 39.101, and TEX. GOV'T CODE ANN. § 2003.051 and 2003.052 (Vernon 2002).

4. Based on the above Findings of Fact, the proposed Juliff Gardens landfill permit application is prohibited by TEX. HEALTH & SAFETY CODE § 361.122.

5. The definition of "canal" found in TEX. WATER CODE § 30.003(11) does not apply to the term "canal" found in TEX. HEALTH & SAFETY CODE § 361.122.

6. Applicant has not shown that it accurately identified whether the Site is located within a 100-year floodplain, as required by 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i).

7. Applicant has not shown that the Landfill will not cause a discharge of solid waste or pollutants adjacent to or into the water of the state in violation of TEX. WATER CODE § 26.121, as is required by 30 TEX. ADMIN. CODE § 330.55(b)(1).

8. Applicant has not shown that the Landfill Site will be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood that, among other things, shall not significantly restrict the flow of the 100-year frequency flood nor

significantly reduce the temporary water storage capacity of the 100-year floodplain, as required by 30 TEX. ADMIN. CODE § 330.55(b)(7).

9. Applicant has not adequately provided information identifying the 100-year flood level and any other special flooding factors that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood, as required by 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i).

10. Applicant has not properly identified drainage patterns at and adjacent to the site, as required by 30 TEX. ADMIN. CODE § 330.56(c).

11. By failing to properly identify drainage patterns or to analyze substantively the impact that the proposed landfill would have on the volume of surface water draining off the site, Applicant has failed to comply with 30 TEX. ADMIN. CODE § 330.56(f)(4)(A) and 30 TEX. ADMIN CODE § 330.55 (b)(5)(D), which require demonstration that natural drainage patterns will not be significantly altered by proposed landfill development.

12. The proposed Juliff Gardens landfill permit application violates TEX. WATER CODE § 26.121(2) and 30 TEX. ADMIN. CODE § 330.55(b)(1)(a) because, as designed, contaminated groundwater may be discharged from the landfill into waters in the state.

13. The design of the stormwater detention pond may interfere with the detection of groundwater contamination in the uppermost aquifer in violation of 30 TEX. ADMIN. CODE § 330.231.

14. Pursuant to TEX. HEALTH & SAFETY CODE § 363.066(a) and 30 TEX. ADMIN. CODE § 330.566(d), a permit application must conform to the goals and objectives of the Regional Solid Waste Management Plan unless a variance is granted by the TCEQ.

15. The Application fails to conform to the H-GAC Regional Plan and, therefore, is in violation of TEX. HEALTH & SAFETY CODE § 363.066(a) and 30 TEX. ADMIN CODE § 330.566(d).

16. Applicant failed to demonstrate compliance with the Regional Solid Waste Plan, as required by 30 TEX. ADMIN. CODE § 330.51(b)(10).

17. Based on the foregoing findings of fact and conclusions of law, Applicant failed to demonstrate that construction and operation of the proposed landfill will not result in adverse effects on the health, welfare, environment or physical property of the public and failed to demonstrate that the Application complies with all statutory and regulatory requirements.

III. EXPLANATION OF CHANGES

1. The Commission deleted from the ALJs' Proposed Order proposed Finding of Fact Nos. 45 and 46 and proposed Conclusion of Law No. 6 related to mineral interests and sufficiency of a property interest. The Commission determined that those findings were or could be inferred to be in conflict with its interpretation of its rules and policies regarding how an applicant proves that it has a sufficient interest in property. The remaining Findings of Fact and Conclusions of Law were renumbered accordingly.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:

1. The application by Juliff Gardens, L.L.C., for a permit to operate a Type IV Municipal Solid Waste Facility (Permit No. MSW-2282) in Brazoria County, Texas is denied.

2. All other motions, requests for entry of specific findings of fact or conclusions of law, and any other requests for general or specific relief not expressly granted herein, are hereby denied for want of merit.

3. The Chief Clerk of the Commission shall forward a copy of this Order to all parties.

4. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of such shall not affect the validity of the remaining portions of the Order.

5. The effective date of this Order is the date the Order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and TEX. GOV'T CODE § 2001.144.

Issue Date: OCT 04 2004

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Kathleen Hartnett White, Chairman

View Bookmarks

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN ORDER Regarding the Application by Tan Terra Environmental Services, Inc., L.L.C., for a Permit to Operate a Type I Municipal Solid Waste Facility (Permit No. MSW-2305); TCEQ Docket No. 2004-0743-MSW; SOAH Docket No. 582-05-0868

On April 12, 2006, the Texas Commission on Environmental Quality ("Commission" or "TCEQ") considered the application of Tan Terra Environmental Services, Inc., ("Tan Terra or Applicant") for Permit No. MSW-2305 to authorize Applicant to operate a Type I Municipal Solid Waste Facility in Willacy County, Texas. Sarah G. Ramos, Administrative Law Judge ("ALJ") with the State Office of Administrative Hearings ("SOAH"), presented a Proposal for Decision on specified issues the Commission had referred to SOAH for consideration. After considering the application and the Proposal for Decision, the Commission adopts the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

Procedural History

1. On January 14, 2003, Tan Terra Environmental Services, Inc. ("Tan Terra" or the "Applicant") applied to the Texas Commission on Environmental Quality ("TCEQ" or "Commission") for a Type I Municipal Solid Waste ("MSW") permit to construct and operate a new landfill facility in Willacy County, Texas, ("Facility" or "landfill") about seven miles west of Raymondville and one and a half miles northeast of Lasara, Texas.

EXHIBIT M

2. On March 5, 2003, the Executive Director of the TCEQ ("ED") found the application to be administratively complete, and on March 12, 2003, Applicant had the Notice of Receipt of Application and Intent to Obtain Permit published in the *Raymondville Chronicle and Willacy County News.*

3. On April 29, 2003, the TCEQ conducted a public meeting on the permit in Raymondville.

4. On October 16, 2003, the ED completed technical review of the application and recommended issuance of the permit.

5. On November 26, 2003, the Notice of Application and Preliminary Decision was published in the *Raymondville Chronicle and Willacy County News.*

6. The comment period closed on December 29, 2003.

7. The ED's Response To Comment was filed on April 23, 2004, and mailed by the Office of the Chief Clerk on April 30, 2004.

8. The deadline to request a contested case hearing on this application was June 1, 2004.

9. The Commission received timely hearing requests on Tan Terra's application from Arnoldo Cantu, Russell Burdette, and North Alamo Water Supply Corporation ("North Alamo"), but North Alamo subsequently withdrew its hearing request.

10. On August 11, 2004, the remaining hearing requests were considered by the Commission during its open meeting, and the Commission found that Arnoldo Cantu and Russell Ray Burdette and family were affected persons.

11. The Commission referred designated issues to SOAH for a contested case hearing.

12. The following persons were admitted as parties: Applicant, Office of Public Interest Counsel ("OPIC"), Yolanda Cantu and Nora Garcia; Russell Ray and Monica Burdette ("Burdette"); Delta Lake Irrigation District ("the District"); Arnoldo and Angelita Cantu, *et. al*; the Lasara Independent School District, including Juan M. Pena, father of a Lasara I.S.D. student; Garcia and Yturria family members and other mineral interest owners for the property on which the Applicant proposes to build the landfill ("Mineral Owners"); William J. Thomas; Mitchell H. Thomas; and Billie C. Pickard.

13. An evidentiary hearing on the application was held on July 25 through July 27, 2005, in Raymondville, Texas, and on October 13 and 14, 2005, in Austin, Texas.

14. The Facility would serve as a regional landfill for the Lower Rio Grande Valley area, including Willacy County and the surrounding counties.

15. The total acreage of the Facility would encompass 629.867 acres with a footprint of approximately 450 acres.

16. The landfill would have an above-grade aerial fill (height) of approximately 193 feet above ground level.

17. The landfill would have an estimated capacity of about 45 years and would accept waste at a rate of approximately 800 tons per day at opening with a potential increase to 2,300 tons per day.

18. The Facility would be authorized to accept municipal solid waste resulting from, or incidental to, municipal, community, residential, commercial, institutional, industrial and recreational activities (including garbage, putrescible wastes, rubbish, ashes, brush, street

cleanings, dead animals, abandoned automobiles, construction demolition debris, inert material, and special wastes that are properly identified).

19. The Facility property includes two separate disposal areas separated by the North Hargill Drain ("Drain"), an agricultural earthen drainage ditch.

20. The northern disposal area ("North Area") is a 396-acre municipal solid waste disposal area that would receive household, commercial, and non-hazardous industrial waste.

21. The North Area would be constructed sequentially in 10-acre cell blocks or sectors, each with a separate bottom liner and leachate collection system.

22. Once a Facility cell block, or sector, was filled to final grade, that sector would be covered with final cover and closed.

23. The southern disposal area ("South Area") consists of 48 acres and would receive only Type IV wastes which consists of construction and demolition wastes, yard waste, and other non-putrescible wastes.

24. The South Area would not have a leachate collection system or a liner other than that provided by the naturally-occurring clay soil.

25. The area surrounding the Facility is predominantly flat and used for agriculture, with some residential and commercial uses to the west, south, and east. There are ten residences and two businesses within a mile of the Facility.

26. A part of the Lower Rio Grande Valley National Wildlife Refuge ("the wildlife refuge"), the Teniente Tract, is located ½ mile northwest of the proposed Facility site.

Wetlands May Exist Within the Proposed Waste Footprint

27. An MSW application permit must include sufficient information for the ED to make a reasonable determination regarding whether a proposed landfill footprint is located within wetlands. 30 TEX. ADMIN. CODE ("TAC") § 330.302(5).

28. Wetlands are those properties that have a predominance of hydric soils, and that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support (and under normal circumstances do support) the growth and regeneration of hydrophytic vegetation. 30 TAC § 330.128; 16 U.S.C. § 3801(a)(18).

29. Neither the Commission's nor the federal definition of wetlands limits their classification to only those waters designated as jurisdictional waters of the United States.

30. The term "wetland" does not include irrigated acreage used as farmland; a man-made wetland of less than one acre; or a man-made wetland for which construction or creation commenced on or after August 28, 1989, and which was not constructed with wetland creation as a stated objective, including, but not limited to, an impoundment made for the purpose of soil and water conservation which has been approved or requested by soil and water conservation districts. 30 TAC § 307.3(a)(69).

31. [Deleted.]

32. [Deleted.]

33. [Deleted.]

34. [Deleted.]

Applicant's Plan for Management of Surface Water Is Adequate

35. The Applicant was required to show natural drainage patterns would not be significantly altered by the landfill. 30 TAC §§ 330.55 and 330.56.

36. The Facility's surface water management plan ("SWMP") describes a system designed to keep contaminated surface water separated from uncontaminated stormwater run-off.

37. Contaminated water would be collected in the leachate collection system.

38. Leachate pumped from each cell would be transported to the leachate evaporation basin where it would be evaporated, solidified, and disposed of in the landfill or transported to a publicly-owned treatment plant for disposal.

39. Leachate would not be discharged directly to the surface water or groundwater.

40. The North Area would be covered daily with a six-inch layer of clean soil or an alternate daily cover material.

41. Once a sector was filled with waste to final grade, portions of that sector would be covered with final cover material and closed.

42. Applicant would conduct evaluations of various soil veneer thicknesses and vegetation types to ensure that an adequate vegetation cover is established.

43. A very small percentage of rainfall will come into contact with waste because only a small area, generally an acre or less, will be open to the atmosphere at any time.

44. Presently, there are four 24-inch culverts from the North Area into the Drain.

45. The Drain is lined with earthen berms.

46. To replace the existing culverts, Applicant plans to install seven 48-inch culverts running to the Drain – five from the North Area and two from the South Area.

47. Applicant also plans to construct three 60-inch culverts in the South Area.

48. The culverts would run through the Drain's berm below the natural grade. A concrete apron would be placed on the side of the berm inside the Drain where each pipe goes through.

49. On the South Area, water would flow down chutes to one of the perimeter channels and then into the Drain.

50. Through the new culverts, uncontaminated surface water from the North Area would move through a series of swales on the sideslopes and move in a horizontal direction to one of several down-chutes, and then to the perimeter detention reservoir.

51. The reservoir will have approximately 206 acre-feet normal storage capacity and 246 acre-feet peak storage capacity.

52. The Drain has an approximately 40-foot wide bottom, 2:1 side slopes, and a top width of about 90 feet. The estimated design flow capacity is 1,200 cfs when water is flowing near the top of its bank.

53. The lag time from a storm event until the peak of the rainfall run-off is between 24 and 80 hours.

54. Applicant calculated drainage capacity using a 24-hour lag time.

55. The onsite drainage system at the landfill site will route water off of the landfill area very quickly, and because the site is adjacent to the North Hargill Drain, run-off from the landfill site will reach the Drain within a few hours after the peak of the rainfall.

56. Four hours and 40 minutes after the peak of the rainfall event, storage capacity in the North Area perimeter detention reservoir will be sufficient to store all of the remaining run-off that will enter the reservoir.

57. The South Area will be almost completely drained in only one hour.

58. Under existing conditions, the peak discharge rate from the property is 1,410 cfs.

59. After development as planned by Applicant, the discharge rate would be approximately 1,175 cfs, resulting in a 17% reduction in the peak discharge rate from pre-development conditions.

60. The reduction is due to the large detention reservoir to be constructed.

61. Even though the Drain is not functioning at its design capacity, the proposed detention reservoir would minimize the potential adverse impacts for downstream properties.

62. Applicant owns no mineral rights to the property upon which it proposes to build the Facility.

63. The Mineral Owners and BlakEnergy have entered into a lease for exploration and development of the minerals in the property.

64. BlakEnergy has already completed two producing gas wells on the property.

65. Both wells are located in the North Area of the proposed landfill.

66. One well is located in a portion of the proposed reservoir for the North Area that would drain into the Drain.

67. A landfill reconfiguration to accommodate the drilling of the additional eight gas wells would require elimination of many landfill cells, incorporation of sloping sides into the design of the remaining landfill cells, the accommodation of service roads to the wells, the accommodation of the natural gas pipelines, the creation of new drainage chutes, and the creation of new drainage channels within the site.

68. [Deleted.]

69. [Deleted.]

70. [Deleted.]

71. [Deleted.]

71A. The changes needed to the SWMP to accommodate the gas wells substantially alter the draft permit conditions.

71B. The evidence presented by the Applicant regarding a FEMA map was a FEMA floodplain index rather than a map, and does not clearly delineate whether the Facility is or is not located in a floodplain. Other testimony in the record provides evidence that the site may flood.

The Applicant Did Not Identify and Adequately Consider Impacts on All Relevant Endangered and Threatened Species

72. An MSW facility and its operation must not result in the destruction or adverse modification of critical habitat for endangered or threatened species or cause or contribute to the taking of any endangered or threatened species. 30 TAC §§ 330.53(b)(13)(B) and 330.129.

73. The Facility site is under cultivation for cotton, and surrounding properties to east, west, and south are also primarily farmland.

74. The Teniente Tract of the wildlife refuge includes highly valuable wildlife habitat for threatened and endangered species.

75. The wildlife refuge includes dense thickets of shrubs intermixed with open grassy areas; trees vary in size and structure.

76. The Texas Biological and Conservation Data System lists 38 threatened or endangered species for Willacy County.

77. The South Texas siren is listed as a Texas-threatened species and had been documented within a mile of the site.

78. A potential ocelot travel corridor is along a drain within ½ mile of the site.

79. Endangered wintering piping plovers and endangered nesting interior least terns have been documented at three nearby salt lakes.

80. There is a breeding colony of least terns at the wildlife refuge near the site.

81. In order to conclusively determine whether the least terns are indeed endangered interior least terns, it would be necessary to capture the birds and collect morphological and plumage coloration data.

82. An increased presence of laughing gulls at the proposed site would threaten endangered and threatened species, such as the piping plovers and interior least terns.

83. [Deleted.]

84. The Drain is a good riparian habitat for the Texas-threatened indigo snake, and the snakes, which are present near the property and in the Drain, would likely use the Drain as corridor from the neighboring U. S. Fish and Wildlife Service property.

85. Applicant did not make a detailed evaluation of the Drain on its property to determine whether endangered and threatened species use it for nesting, a food source, or a travel corridor.

86. Applicant's site operating plan ("SOP") does not specifically address how construction activities within the Drain will affect endangered and threatened species that may reside in the Drain.

87. [Deleted.]

Applicant Did Not Propose Adequate Control Measures

For Avian and Mammalian Scavengers

88. A diversity of scavengers will be attracted to the proposed landfill by the food and other wastes.

89. Water sources such as the Drain and nearby salt lakes also would make the Facility's site attractive to scavengers.

90. Scavengers such as the following would be attracted to the landfill: coyotes, raccoons, opossums, feral hogs, domestic and feral cats and dogs, undesirable rodents, gulls, caracaras, and probably, turkey vultures.

91. Control of scavengers will be difficult, if not impossible, because of the refuge provided in nearby landscapes.

Apportionment of Transcription Costs

92. With the exception of a few land and mineral owners, Protestants are low-income residents of Willacy County or local governments with limited budgets.

93. The hearing was initiated when comments were filed upon the application; thus, all parties had a role in initiating the hearing.

94. Mr. Burdette and the Mineral Owners were particularly active in the hearing process, but all parties were represented in the hearing, and all the named representatives questioned witnesses.

95. Those parties who filed briefs (the Applicant, Protestants, and OPIC) benefitted from having a transcript.

96. OPIC was a statutory party against whom transcript costs cannot be assessed.

97. Among the parties, Applicant would benefit most if the permit were granted.

98. Any party that requested an expedited transcript should bear the additional cost for expediting.

CONCLUSIONS OF LAW

1. TCEQ has jurisdiction over the disposal of municipal solid waste and the authority to issue municipal solid waste permits. TEX. HEALTH & SAFETY CODE ANN. Ch. 361 (Vernon 2005).

2. SOAH ALJs have jurisdiction to conduct a hearing and prepare a Proposal for Decision in contested cases referred by the TCEQ. TEX. GOV'T CODE ANN. § 2003.47 (Vernon 2005).

3. Notice of the application was provided in accordance with TEX. HEALTH & SAFETY CODE ANN. § 361.0665, 30 TEX. ADMIN. CODE ("TAC") §§ 39.5 and 39.101, and TEX. GOV'T CODE ANN. §§ 2003.051 and 2003.052 (Vernon 2005).

4. [Deleted.]

5. The record is unclear and insufficiently detailed to determine if the landfill site is located within a floodplain as required by 30 TAC § 330.301. Applicant failed to demonstrate the SWMP will not significantly alter drainage patterns as required by 30 TAC Ch. 330.

6. Applicant failed to demonstrate that the proposed MSW facility and its operation will not result in the destruction or adverse modification of critical habitat for endangered or threatened species or cause or contribute to the taking of any endangered or threatened species. 30 TAC §§ 330.53(b)(13)(B) and 330.129.

7. The term scavenging, defined in 30 TAC § 330.2(125), applies to animal scavengers as well as human scavengers.

8. Applicant has not demonstrated that the proposed Facility's SOP would prevent scavenging, as required by 30 TAC § 330.128.

9. Any party that requested an expedited transcript must pay the cost difference between an expedited transcript and one produced on a regular time schedule.

10. After the amount is deducted for the cost of expediting, the remaining cost of the transcript should be assessed 80% to Applicant, 10% to Mr. Burdette, and 10% to the Mineral Interest Owners. 30 TAC § 80.23.

EXPLANATION OF CHANGES

1. The Commission determined that the ALJ improperly expanded the issue referred to hearing by the Commissioners at its August 11, 2004 Agenda concerning wetlands to include areas outside the waste footprint such as the Drain. The Commission determined that the Applicant met its burden of proof by showing that no wetlands exist within areas where the waste footprint is proposed (i.e. areas where waste is to be placed). Consistent with the Commission's decision, the Commission changed the word "site" to "footprint" in Finding of Fact No. 27 and deleted Finding of Fact Nos. 31 through 34 and Conclusion of Law No. 4.

2. The Commission determined that the ALJ improperly found that the Applicant's SWMP was adequate. The Commission based its decision on factors including the Applicant's failure to identify the floodplain, the Applicant's failure to adequately rebut credible drainage issues raised by the District, and the material effect on the due process rights of the parties to be able to adjudicate the appropriateness of the SWMP given the changed facts at the proposed site from the addition of gas wells. The Commission determined that the Applicant failed to meet its burden of proof on the delineation of the floodplain based on the following: (1) the Commission's previous decision in the *Juliff Gardens, L.L.C.* (Docket No. 2002-0117-MSW) matter; (2) the Applicant's failure to provide information in addition to the FEMA

map index given the index's failure to indicate whether the site was or was not in a 100-year floodplain and the contrary testimony in the record that the site had flooded in the past; and (2) the presence of lakes and the Drain on the FEMA index map and the fact that some floodplain values should have existed for those areas if FEMA had mapped the area. Accordingly, the Commission deleted Finding of Fact Nos. 68 through 71, added new Finding of Fact Nos. 71A and 71B, and amended Conclusion of Law No. 5 consistent with its decision.

3. The Commission deleted Finding of Fact Nos. 83 and 87 regarding endangered and threatened species. The Commission determined that those two findings related more to the implementation of federal law than the Commission's rules necessitate and are not necessary for the Commission to reach its decision on the endangered and threatened species issue.

4. The Commission adopted the ALJ's recommended grammatical changes that were suggested in her April 10, 2006 letter. These changes are nonsubstantive and concern formatting and grammatical structure only and do not include the ALJ's changes recommended regarding notice or the additional findings of fact proposed regarding scavenging.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:

1. The application by Tan Terra Environmental Services, Inc., L.L.C., for a permit to operate a Type I Municipal Solid Waste Facility (Permit No. MSW-2305) in Willacy County, Texas, is denied.

2. Tan Terra shall pay the amount charged for expediting any transcript Tan Terra requested. After the amount is paid for expediting, Tan Terra shall pay 80% of the remaining cost of the transcripts, and Russell Ray Burdette and the Mineral Owners shall each pay 10% of the cost.

3. All other motions, requests for entry of specific findings of fact or conclusions of law, and any other requests for general or specific relief not expressly granted herein, are hereby denied.

4. The Chief Clerk of the Commission shall forward a copy of this Order to all parties.

5. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of such shall not affect the validity of the remaining portions of the Order.

6. The effective date of this Order is the date the Order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and TEX. GOV'T CODE § 2001.144.

ISSUED: APR 20 2006

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Kathleen Hartnett White, Chairman