Vinson&Elkins

Bryan J. Moore bmoore@velaw.com
Tel 512.542.8729 **Fax** 512.236.3257

December 19, 2007

Via Hand Delivery

Hon. Sarah G. Ramos
Administrative Law Judge
State Office of Administrative Hearings
300 W. 15th Street, Suite 502
Austin, Texas 78701

Re: 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

Dear Judge Ramos:

Please find enclosed Applicant Waste Management of Texas, Inc.'s Closing Argument in the above-referenced case.

Respectfully submitted,

Bryan J. Moore

cc: TCEQ Chief Clerk (Via Hand Delivery)
Service List (Via Hand Delivery and/or Federal Express)

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**

APPLICANT WASTE MANAGEMENT OF TEXAS, INC.'S CLOSING ARGUMENT

TO THE HONORABLE ADMINISTRATIVE LAW JUDGE:

COMES NOW Applicant Waste Management of Texas, Inc. ("***Applicant***" or "***WMTX***") and files this its Closing Argument in the above-captioned contested case. Based on the record in this proceeding, and as set forth below, Applicant has demonstrated, by proof exceeding a preponderance of the evidence, that its application to expand the Mesquite Creek Landfill complies with all applicable statutory and regulatory requirements. Therefore, Applicant respectfully requests that the Administrative Law Judge ("***ALJ***") recommend issuance of Permit No. MSW-66B to WMTX.

APPLICANT'S BURDEN OF PROOF

Applicant has the burden of proof with respect to whether its application "complies with all applicable statutory and regulatory requirements."[1] WMTX's evidentiary burden is not to present proof "beyond a reasonable doubt" or by "clear and convincing evidence," but rather by "a preponderance of the evidence."[2] Proof by a preponderance of the evidence "does not require the quality of absolute certainty nor does it require that [Applicant] preclude every other possibility. . . . All that is required is that the circumstances point to the ultimate fact sought to

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1 30 TEX. ADMIN. CODE § 55.210(b).

2 *Id.* § 80.17(a).

be established with that degree of certainty as to make the conclusion reasonably probable."[3] The preponderance of the evidence standard does not necessarily require that the party with the burden "explain or disprove the allegations of its opponent."[4]

CLOSING ARGUMENT

The record evidence – the prefiled testimony and exhibits, the testimony of witnesses before the ALJ at the hearing on the merits of this matter, and the additional exhibits entered at the hearing – demonstrates that WMTX's application complies with all applicable statutory and regulatory requirements. The Protestants in this case challenged only certain aspects of WMTX's demonstration of compliance with the applicable requirements. That is, whereas WMTX's witnesses testified that the application, in its entirety, satisfies all applicable statutory and regulatory requirements, the Protestants challenged that testimony – through their own witnesses and through cross-examination of WMTX's witness – only with respect to certain portions of the application.

Accordingly, to avoid repeating and arguing uncontroverted evidence, this Closing Argument addresses only portions of the application that were the subject of cross-examination during the hearing or that were otherwise discussed in the testimony of Protestants' witnesses. As requested by the ALJ, this Closing Argument follows the outline set forth in the ALJ's Order No. 8.

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[3] *State Farm Mut. Ins. Co. v. Davis*, 576 S.W.2d 920, 921 (Tex. Civ. App.—Amarillo 1979, writ ref'd n.r.e.) (internal citations omitted); *see also Bufkin v. Tex. Farm Bureau Mut. Ins. Co.*, 658 S.W.2d 317, 230 (Tex. App.—Tyler 1983, no writ); *First State Bank v. Md. Cas. Co.*, 918 F.2d 38 (5th Cir. 1990).

[4] *Gooch v. Davidson*, 245 S.W.2d 989, 991 (Tex. Civ. App.—Amarillo 1952, no writ).

I. BACKGROUND

The application for Permit No. MSW-66B at issue seeks a lateral expansion of an existing municipal solid waste ("***MSW***") landfill facility, the Mesquite Creek Landfill. The landfill was initially owned by Comal County and began operations under Permit No. MSW-66 in 1975.[5] WMTX acquired the facility from Comal County in 1988.[6] In 2003, the facility was expanded vertically under Permit No. MSW-66A.[7] The existing facility consists of two disposal units, Unit 1 and Unit 3.[8]

The existing facility is nearing full capacity – the end of its active life.[9] Therefore, to ensure that that landfill continues to meet the waste disposal needs of the growing counties and communities in its service area, with the instant application, WMTX is seeking to expand the facility to add a third disposal unit, Unit 2.[10] Other than making improvements to the facility's existing groundwater monitoring system to make it more protective,[11] this application does not propose any substantive design changes to the existing facility.

To prepare the application, WMTX retained a highly accomplished team of experts. The principal team members are with the firm of GeoSyntec Consultants, Inc. ("***GeoSyntec***"), one of the leading landfill design and consulting firms in the industry. Mr. Scott Graves was the

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5 *See* Ex. APP-202 at 134.

6 *See id.*

7 *See id.*

8 *See* Trial Tr. at 22:21 to 23:4 (Smith).

9 *See* Ex. APP-100 at 6:9-15 (Smith) (explaining that the existing Mesquite Creek Landfill has only three to four years of active life remaining).

10 *See id.* at 5:24 to 6:25, 7:9-15 (Smith); Trial Tr. at 23:5-7 (Smith).

11 *See* Trial Tr. at 677:25 to 678:24 (Meaux).

engineer-of-record on the project and the leader of the application team.[12] Mr. Graves was responsible for managing the preparation of the application and submitting it to the Texas Commission on Environmental Quality ("***TCEQ***") for the agency's review.[13] Mr. Graves has worked on over 40 landfill projects in his career as a Professional Engineer, preparing the design and construction plans and specifications, operating plans, and technical analyses and reports necessary for major landfill permitting actions.[14]

Ms. Janet Meaux, a Professional Geoscientist with GeoSyntec, was the lead geologist and qualified groundwater scientist-of-record on the application team. Ms. Meaux directed the geologic investigation and characterization of the proposed expansion site.[15] Ms. Meaux's professional experience as a geologist spans nearly 20 years, including over 11 years of experience with MSW landfill projects.[16] Ms. Meaux has conducted or otherwise managed geologic and hydrogeologic investigations and related work at approximately 24 MSW landfills.[17]

Dr. Beth Gross, also with GeoSyntec, was retained to direct and conduct the necessary geotechnical engineering investigations and evaluations for the proposed expansion.[18] Dr. Gross is a Professional Engineer in ten states, including Texas, and holds a Ph.D. in geoenvironmental engineering.[19] She has 20 years of professional experience in the fields of geotechnical,

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12 *See* Ex. APP-200 at 11:6-17 (Graves).

13 *See id.*

14 *See id.* at 5:23 to 7:7 (Graves).

15 *See* Ex. APP-400 at 6:25 to 8:20 (Meaux).

16 *See id.* at 4:20 to 5:9 (Meaux).

17 *See id.* at 5:4-6 (Meaux).

18 *See* Ex. APP-500 at 6:17-22 (Gross).

19 *See id.* at 3:20 to 4:8 (Gross).

environmental, construction materials, and civil engineering, project and program management, and regulatory compliance.[20] Dr. Gross has performed engineering studies and analyses necessary for the completion of over 30 geotechnical engineering investigations, including services for more than 15 MSW landfills and landfill projects.[21]

To round out the application team, WMTX retained Tetra Tech MM ("***Tetra Tech***") to prepare the facility's Groundwater Sampling and Analysis Plan ("***GWSAP***"), and S&B Infrastructure, Ltd. ("***S&B***") to conduct a threatened and endangered species assessment and wetlands delineation survey of the existing site and proposed expansion area.[22] Mr. John Hultman of Tetra Tech took the lead in preparing the facility's GWSAP.[23] Mr. Hultman is a Professional Geoscientist in Texas and has been certified as a Professional Geologist by the American Institute of Professional Geologists.[24] Mr. Hultman brings to the application team over 20 years of practical geologic and hydrogeologic experience.[25] Since 1990, Mr. Hultman has been working in the solid waste industry, and for the last 16 years has worked almost exclusively on MSW landfill projects.[26]

Ms. Barbara Castille of S&B led the threatened and endangered species assessment and wetlands delineation survey of the existing site and proposed expansion area.[27] Ms. Castille has

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20 *See id.* at 4:22-28 (Gross).

21 *See id.* at 5:1-10 (Gross).

22 *See* Ex. APP-100 at 7:25-30 (Smith).

23 *See* Ex. APP-600 at 6:27 to 7:17 (Hultman).

24 *See id.* at 4:5-8 (Hultman).

25 *See id.* at 5:7 (Hultman).

26 *See id.* at 5:8-28 (Hultman).

27 *See* Ex. APP-300 at 7:17-28 (Castille).

19 years of experience conducting delineations of wetlands and jurisdictional waters of the United States and performing protected species habitat determinations.[28]

The foregoing members of the application team, with assistance from those under their direct supervision, prepared the application and submitted it to TCEQ for review in November 2005.[29] On December 13, 2005, the TCEQ Executive Director determined the application to be administratively complete, and on July 14, 2006, the application was declared technically complete.[30]

II. COMPLIANCE WITH REQUIREMENTS PERTAINING TO THE GEOLOGY OR HYDROGEOLOGY IN THE AREA

A. Faulting

With respect to the presence of geologic faults occurring at or near a MSW facility, TCEQ's rules are concerned only with the presence of *active* geologic faults – faults that have had active displacement within the last 11,000 years.[31] No party in this case has alleged the

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28 *See id.* at 4:26-30 (Castille).

29 *See* Ex. APP-202 at 14:22-23 (Graves).

30 *See id.* at 14:25 to 15:2 (Graves).

In 2006, after TCEQ determined that WMTX's application was administratively complete, the agency promulgated revisions to the entirety of its MSW rules in 30 Tex. Admin. Code Chapter 330. Those revisions, which became effective March 27, 2006, *see* 31 TEX. REG. 2502 (Mar. 24, 2006), do not apply to major amendments to existing permits that were administratively complete prior to March 27, 2006, *see* 30 TEX. ADMIN. CODE § 330.1(a)(2) (2007). Accordingly, all citations herein to TCEQ's rules in 30 Tex. Admin. Code Chapter 330 are to those rules as they existed prior to March 27, 2006, unless otherwise noted.

31 *See* 30 TEX. ADMIN. CODE §§ 330.56(d)(3)(A) (requiring "a description of the geologic processes *active* in the vicinity of the facility" including faults) (emphasis added), 330.303(b) (requiring "detailed fault studies" only in applications for the operation of facilities "located within areas that may be subject to . . . *active* geological faulting") (emphasis added), 330.303(a) (prohibiting the siting of landfills "within 200 feet of a fault that has had displacement in Holocene time"), 330.302(56) (defining the Holocene epoch); *see also* Ex. APP-400 at 15:28 to 16:4 (Meaux); Trial Tr. at 654:14-22, 655:9-13 (Meaux).

existence of any active fault in the vicinity of the Mesquite Creek Landfill.[32] Nevertheless, faulting was the subject of some discussion at the hearing and in the prefiled testimony of Protestant TJFA's witness, Dr. Clark. That discussion, however, solely concerned the presence or absence of *inactive* faults.[33]

Specifically, Ms. Meaux was questioned at the hearing regarding whether an inactive fault might possibly exist beneath the area proposed for expansion of the Mesquite Creek Landfill that might possibly be affecting the flow of groundwater beneath the site. In her testimony at the hearing and in her prefiled testimony, Ms. Meaux recounted the subsurface investigation that she and her team undertook to determine whether any fault – either active or inactive – may be present beneath the expansion area, as well as the other investigations at the landfill that were undertaken to determine the presence or absence of faults.[34] Based on the results of her own subsurface investigation, as well as the previous work of those who had investigated the area before her, Ms. Meaux testified that, in her expert opinion, there is no evidence of a fault – active or inactive – beneath the proposed expansion area.[35] Ms. Meaux's testimony was not challenged by any credible evidence of a fault beneath the expansion area, nor was it discredited on cross-examination in any way.

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[32] *See, e.g.*, Trial Tr. at 883:4-20, 900:19-23 (Clark); *id.* at 655:3-6 (Meaux); Ex. APP-400 at 16:6-10 (Meaux) (testifying that GeoSyntec's fault analysis "confirmed that the site is not located within one ½-mile of an active fault").

[33] *See, e.g.*, Trial Tr. at 883:4-20, 900:19-23 (Clark).

[34] *See id.* at 543:12 to 546:23 (Meaux); Ex. APP-400 at 15:3-26, 16:12 to 17:24 (Meaux); *see also* APP-202 at 1026, 1032, 1037-39.

[35] *See* Trial Tr. at 543:12 to 546:23 (Meaux) ("[T]here is no indication that there is a fault on the proposed site."); Ex. APP-400 at 16:6-10 (Meaux) (testifying that GeoSyntec's fault analysis "confirmed that the site is not located within one ½-mile of an active fault"); *id.* at 16:12 to 17:24 (Meaux).

As the foregoing demonstrates, despite the fact that a detailed analysis of *inactive* faulting is not required by TCEQ's rules, the application and the record in this case confirm that such an analysis has nevertheless been conducted for the Mesquite Creek Landfill – indeed, that multiple such analyses have been conducted. Those analyses, and the evidence in the record, provide proof beyond a preponderance of the evidence that there is no evidence of a fault beneath the area proposed for expansion of the Mesquite Creek Landfill or that is otherwise affecting groundwater flow beneath the facility.

Although he could not offer any evidence of a fault beneath the expansion site, Dr. Clark maintained that a "simple plan" should be added to the Site Development Plan in the application to provide procedures for examining a fault, should one be discovered during the excavation of the expansion area.[36] Notably, Dr. Clark cites no statutory or regulatory requirement for such a plan, as there is no such requirement. Moreover, Dr. Clark cannot justify the need for such a plan, or otherwise claim that WMTX's application is deficient for not containing one. As discussed in the application, in Ms. Meaux's prefiled testimony, and during the hearing, an inactive fault was discovered during the excavation of Unit 1 at the existing landfill in 1990.[37] Upon discovery, the fault was investigated and documented, and there is no evidence in the record that such actions were undertaken pursuant to a plan of the type that Dr. Clark proposes.[38]

Such a plan is unnecessary because TCEQ's rules already require oversight and documentation of the excavation of each disposal cell of the landfill. As Dr. Gross explained, TCEQ's rules require a Construction Quality Assurance ("***CQA***") Engineer-of-Record to oversee

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[36] *See* Trial Tr. at 900:5-17, 901:21 to 902:23 (Clark); TJFA Ex. 1 at 13:22-31 (Clark).

[37] *See* Ex. APP-202 at 1032, 1037-38; Ex. APP-400 at 16:20-23 (Meaux); Trial Tr. at 542:9-18 (Meaux).

[38] *See* Trial Tr. at 913:5-21 (Clark).

the construction of the landfill and observe and document the conditions of the excavation.[39] That documentation is sealed by the CQA engineer and submitted to TCEQ for approval prior to waste disposal in the new excavation.[40] Among other requirements, the documentation must be sufficient to assure that the potential for groundwater contamination is minimized.[41] Additionally, if TCEQ determines that the documentation is incomplete or otherwise insufficient to support the CQA engineer's evaluation, then TCEQ may require additional data and prohibit waste disposal in the excavation until such additional data is reviewed and approved by the agency.[42]

B. Geologic Investigation And Characterization Of Stratum IV

Protestant TJFA apparently contends that WMTX should have installed piezometers screened in Stratum IV beneath the expansion site in order to further confirm the conclusion reached by Ms. Meaux and others before her that Stratum IV is not a water-bearing unit. There is nothing to gain – no scientific uncertainty to resolve – from additional investigations of

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[39] *See* Trial Tr. at 806:16 to 809:18 (Gross); *see also, e.g.*, 30 TEX. ADMIN. CODE §§ 330.205(a)(2) (requiring the engineer-of-record to perform all field sampling and testing during construction of the landfill and to be on-site during all liner construction), 330.205(c)(1) (requiring all field sampling and testing during construction of the landfill liner to be performed by "a qualified professional experienced in geotechnical engineering and/or engineering geology"), 330.205(c)(2) (requiring all liners to have "continuous on-site inspection during construction" by the CQA engineer).

[40] *See* 30 TEX. ADMIN. CODE §§ 330.205(a)(2), 330.206(a)-(c) (requiring a soils and liner evaluation report to be submitted to and approved by TCEQ prior to waste disposal in the evaluated excavation). Additionally, TCEQ's rules require the reporting of any site-specific conditions that require special design considerations. *See id.* § 330.51(b)(3).

[41] *See id.* § 330.206(c). Additionally, TCEQ's rules require the owner/operator of a MSW landfill to "promptly notify" TCEQ "in writing of changes in site construction . . . that affect or are likely to affect the direction and rate of groundwater flow and the potential for detecting groundwater contamination from [the landfill] and that may require the installation of additional monitoring wells or sampling points." *Id.* § 330.231(e)(3).

[42] *See id.* § 330.206(c).

Stratum IV. There is no need to install piezometers in Stratum IV to demonstrate what the overwhelming evidence already shows: Stratum IV does not transmit groundwater.[43]

With one limited and minor exception, all 24 soil borings that were advanced into Stratum IV in the course of GeoSyntec's subsurface investigation of the expansion area showed no indication of any water in Stratum IV, or any evidence that Stratum IV would transmit groundwater.[44] The lone exception was a single boring that indicated one six-inch wet spot in the Stratum IV bedrock, approximately 72.5 feet below the interface of Stratum III and Stratum IV.[45] A review of the log for that boring proves that the identified wet spot was isolated from above by 72.5 feet of dry bedrock that showed no evidence of groundwater.[46]

In order for groundwater to exist in Stratum IV, even in theory, all parties appear to agree that groundwater must travel vertically downward, past the interface of Stratum III and Stratum IV, where groundwater is monitored at the facility and known to exist, and into

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[43] *See* Trial Tr. at 671:16 to 672:1 (Meaux) ("We had no indications that [Stratum IV] would yield groundwater whatsoever, so I would not install piezometers" in that stratum.); *see also id.* at 509:1-16 (Meaux) ("There was no indication of water flowing in Stratum IV or any indications of water movement in Stratum IV."); *id.* at 512:10-17 (Meaux) (testifying that GeoSyntec's geologic investigation of the proposed expansion area did not show any evidence of water-bearing fractures in Stratum IV); *id.* at 513:15-16 (Meaux) ("There was no evidence of water movement in Stratum IV."); *id.* at 552:12-13 (Meaux) (testifying that there was no water noted in the boring logs for any of the fractures identified in Stratum IV); *id.* at 552:25 to 556:3 (Meaux) (explaining that it was "pretty clear" from the boring logs that Stratum IV would not convey groundwater).

[44] *See id.* at 509:1-16 (Meaux) ("There was no indication of water flowing in Stratum IV or any indications of water movement in Stratum IV."); *id.* at 513:15-16 (Meaux) ("There was no evidence of water movement in Stratum IV."); *id.* at 552:25 to 556:3 (Meaux) (explaining that it was "pretty clear" from the boring logs that Stratum IV would not convey groundwater); *id.* at 670:21 to 671:3 (Meaux) (testifying that the 24 borings yielded "no evidence" that Stratum IV may be transmitting groundwater); *id.* at 1100:15-20 (Williamson).

[45] *See id.* at 881:17-20, 915:12 to 917:13 (Clark); *id.* at 1100:15-20 (Williamson); Ex. APP-202 at 1282.

[46] *See* Ex. APP-202 at 1280-82.

Stratum IV.[47] If movement of groundwater from Stratum III into Stratum IV were occurring, one would reasonably expect to find evidence of it in the boring logs, which penetrated through Stratum III and into Stratum IV. However, none of the 24 borings showed evidence of such groundwater movement.[48] Thus, a single, isolated occurrence of a six-inch wet spot 72.5 feet below dry bedrock in Stratum IV provides no support for TJFA's apparent claim that Stratum IV may transmit groundwater.[49]

GeoSyntec's 24 borings also showed "a very, very small amount" of fractures in Stratum IV, indicating that Stratum IV has little, if any, ability to transmit groundwater.[50] Moreover, none of the fractures identified in Stratum IV showed evidence of groundwater movement, further confirming that Stratum IV would not be expected to yield any groundwater to wells or piezometers.[51] Additionally, the samples of Stratum IV obtained from GeoSyntec's

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47 *See* Trial Tr. at 505:17-19, 520:8-15, 534:15 to 535:3, 555:4-17, 557:20-23, 562:20-21, 668:11-17, 669:19-23, 674:12 to 675:23 (Meaux); *id.* at 1110:7-14 (Williamson); *id.* at 842:25 to 843:16 (Clark).

48 *See* sources cited *supra* note 43.

49 *See, e.g.*, Trial Tr. at 1098:9-10 (Williamson) ("[T]here's no communication between Stratum III and Stratum IV."); *id.* at 1110:7-14 (Williamson) (testifying that groundwater does not appear to be moving from Stratum III into Stratum IV); *id.* at 844:15-25 (Clark) (agreeing that fractures that are isolated in a geologic unit would not be expected to transmit water).

50 *Id.* at 473:23-25 (Meaux); *see also id.* at 474:3-6, 474:24-25 (Meaux); APP-202 at 1037; *cf.* Trial Tr. at 667:13-14, 668:4-6 (Meaux) (testifying that GeoSyntec's geologic investigation revealed "a lot of vertical to high-angle fractures in Stratum III").

51 *See* Trial Tr. at 512:10-17 (Meaux) (testifying that GeoSyntec's geologic investigation "found no water bearing fractures in Stratum IV"); *id.* at 552:12-13, 23-25 (Meaux) (explaining that, while there are fractures in Stratum IV, "there was no indication of water at all" in those fractures); *id.* at 1088:4-11, 1098:12-17 (Williamson) (testifying that he knows that groundwater doesn't move in the fractures in Stratum IV "[b]ecause none of the boring logs showed any water" in Stratum IV); *see also id.* at 1098:10-11 (Williamson) ("There may be fractures [in Stratum IV], but that doesn't mean that groundwater moves through them.").

geological investigation showed no signs of oxidation or coloring that would indicate that groundwater has historically moved through this stratum.[52]

The questioning at the hearing by TJFA's counsel regarding this issue indicates a fundamental misunderstanding of the stepwise process of a groundwater investigation. The first step in that process is to conduct a soil boring investigation. If, and only if, the soil borings show evidence of groundwater or the potential for groundwater movement, then the next step is to install piezometers in an effort to confirm the presence of groundwater, as indicated by the soil borings.[53] In his cross-examination of Ms. Meaux, TJFA's counsel insinuated that, because some piezometers installed in Stratum III were at first dry then ultimately yielded groundwater, one could conclude that Stratum IV likewise may yield groundwater at some point in the future, despite every indication to the contrary in the boring logs.[54] Such a conclusion fails to recognize that the soil borings conducted by GeoSyntec showed evidence of groundwater or the hallmarks of groundwater movement in Stratum III, whereas those same borings showed *no* evidence of groundwater or groundwater transmittal in Stratum IV.[55]

Because the soil borings indicated the presence of groundwater in Stratum III, GeoSyntec took the second step in the groundwater investigation process and installed piezometers in that

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52 *See id.* at 489:25 to 490:1-8, 16-23 (Meaux) (explaining that color changes are evidence of oxidation – that the stratum was exposed to water or air – and that "there was no color change observed [in Stratum IV], indicating that there was no oxygen or air that was in contact" with Stratum IV); *see also id.* at 485:6-8 (Meaux) ("There was much less evidence of weathering in the Stratum IV samples we observed than the Stratum III [samples].")

53 *See id.* at 528:24 to 529:4 (Meaux).

54 *See, e.g., id.* at 560:14-23 (Meaux).

55 *See id.* at 670:21 to 671:7 (Meaux) (testifying that GeoSyntec's geologic investigation yielded "no evidence" that Stratum IV may be transmitting groundwater, but did yield "clear evidence" that Stratum III was transmitting groundwater); *id.* at 560:24 to 561:7, 562:25 to 563:3 (Meaux) (testifying that Stratum III had indications of groundwater, whereas "Stratum IV was dry"); *id.* at 1088:4-11, 1098:21-22 (Williamson) ("It appears that groundwater prefers to move through Stratum III.").

stratum where the borings indicated that groundwater was or may be present.[56] That some of those piezometers did not immediately yield groundwater, or did not produce groundwater for some time after their installation, should not be surprising given the extremely low permeability of Stratum III.[57] The slow pace of groundwater movement in Stratum III is well documented in the evidentiary record.[58]

By contrast, the soil borings did not indicate the presence of groundwater in Stratum IV. Therefore, the investigation for groundwater in this stratum properly ended at step one. Whereas the evidence indicated that, if piezometers were installed in Stratum III, those piezometers would ultimately yield water, the evidence for Stratum IV indicated that the installation of piezometers in that stratum would be a futile exercise. Indeed, even TJFA's own witness, Dr. Clark, appears to view the installation of piezometers in Stratum IV as more of an experiment than a necessity: "I'd put them in . . . just to give it a try."[59]

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[56] *See id.* at 561:24 to 562:4, 563:2-3, 563:12-13 (Meaux) ("I screened [the Stratum III piezometers] with my best indication where I would encounter groundwater."); *see also id.* at 505:17-19, 514:14-16, 535:11-13, 565:2-15 (Meaux) (explaining that some Stratum III borings had no indications of water when they were drilled, but piezometers were installed in those locations and screened at the base of Stratum III where the boring logs indicated water would be moving).

[57] *See* Ex. APP-202 at 1052-53.

[58] *See id.*; *see also, e.g.*, Trial Tr. at 686:18-24 (Meaux) (explaining that "[i]t would take a very long time" for water to move 20 feet through Stratum III); *id.* at 851:19-21 (Clark) (opining that the permeabilities in WMTX's application indicate that groundwater travels "something in the order of a foot per year" beneath the site); *id.* at 854:22-25 (Clark) (referring to the Taylor formation as relatively impermeable).

[59] Trial Tr. at 906:9-10 (Clark); *see also id.* at 895:13-20 (Clark) (testifying that he would put one monitoring well in Stratum IV to "just give something in Stratum IV here a chance, give it a try and see if it works"); *id.* at 823:12-18, 906:2-17 (Clark) (confirming that, no mater what the project is, or what the regulations require, Dr. Clark always wants more information).

III. ADEQUACY OF GROUNDWATER MONITORING SYSTEM

A. Installation Of Groundwater Monitoring Wells Into Stratum IV

During the hearing, counsel for TJFA questioned witnesses regarding whether groundwater monitoring wells should be installed and screened to monitor Stratum IV. For the reasons set forth in the preceding discussion, groundwater monitoring wells screened in Stratum IV would serve no useful purpose. Obviously, the purpose of groundwater monitoring wells is to monitor *groundwater*. There is no legitimate reason to install groundwater monitoring wells in a geologic unit that does not transmit groundwater – there is nothing for the wells to monitor. Indeed, the one monitoring well that was previously installed into Stratum IV at the existing facility was decommissioned because it was *always dry*.[60]

WMTX recognizes that a portion of the existing landfill has been excavated into the top of Stratum IV, per the facility's then-current permit, and that a portion of the expansion area is proposed to be excavated a few feet into this stratum as well.[61] However, such excavations are not cause for installing monitoring wells in Stratum IV. TCEQ's rules require monitoring only of the uppermost aquifer beneath the site,[62] and define an aquifer as a unit "capable of yielding significant quantities of groundwater to wells or springs."[63]

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60 *See* Ex. APP-202 at 1051 (discussion at § 8.3.4.), 1084 (indicating that monitoring well MW-5 was installed in Stratum IV), 1736 (discussing monitoring well MW-5); Trial Tr. at 911:21 to 912:25 (Clark) (same); *id.* at 1129:3-9 (Williamson) (same).

61 *See* Trial Tr. at 566:19 to 569:8 (Meaux).

62 *See* 30 TEX. ADMIN. CODE § 330.231(a), (a)(2), (c); *see also id.* § 330.230(b) (providing that groundwater monitoring requirements may be suspended by TCEQ if the facility "can demonstrate that there is no potential for migration of hazardous constituents from [the facility] to the uppermost aquifer").

63 *Id.* § 330.2(6); *see also id.* at § 330.2(158) (defining "uppermost aquifer" to include "lower aquifers that are hydraulically interconnected with" the uppermost aquifer); Trial Tr. at 1098:9-10 (Williamson) ("[T]here's no communication between Stratum III and Stratum IV.")

As demonstrated above, Stratum IV is certainly not an aquifer by TCEQ's definition, or any reasonable definition of the word. Even Dr. Clark considered Stratum IV an aquitard – at least he did during his deposition[64] – and at the hearing seemed less than optimistic regarding the success of a monitoring well in that stratum: "I would put one monitor well in Stratum IV . . . just give something in Stratum IV here a chance, give it a try and see if it works."[65] Dr. Clark's experiment has previously been tried, and there is no reason to repeat that exercise again. As noted above, a monitoring well was previously installed in Stratum IV, and it failed to produce any water.

Groundwater monitoring wells serve to detect a release of constituents from a facility.[66] In order for a well to perform that function successfully, groundwater must be present to provide dispersion of the constituents throughout the saturated zone, so that the monitoring well will detect the release.[67] Without groundwater to disperse and transmit the constituents to the screened interval of the monitoring well, the chances of detecting a release would be nil.

Moreover, groundwater monitoring wells – if properly sited and installed – provide early detection of a release so that measures can be taken to prevent contamination of drinking water and other usable groundwater resources.[68] In the unlikely event that the liner of the landfill is

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64 *See* Trial Tr. at 839:8 to 840:19 (Clark); *see also id.* at 840:20 to 841:9 (Clark) (defining an aquitard as a geologic unit that "would not significantly permit water to move beneath it").

65 Trial Tr. at 895:13-20 (Clark).

66 *See, e.g.*, 30 TEX. ADMIN. CODE § 330.231(a)(2) ("The downgradient monitoring system must be installed to ensure the detection of groundwater contamination in the uppermost aquifer.").

67 *See, e.g.*, Trial Tr. at 521:2-6, 535:16-20, 555:4-17, 557:20 to 558:2 (Meaux); *id.* at 841:1-3 (Clark) ("[T]he objective of looking at the uppermost aquifer beneath the landfill is to use that aquifer for a sensor.").

68 *See, e.g.*, 30 TEX. ADMIN. CODE §§ 330.236, 330.237.

breached and constituents are released from a disposal unit excavated into Stratum IV,[69] there is no concern for contamination of drinking water or usable groundwater. If constituents should penetrate the landfill's synthetic liner, and if the constituents should further migrate through the compacted clay liner underlying the synthetic liner,[70] then the constituents will then encounter hundreds of feet of dry bedrock through which the constituents theoretically could migrate, if at all, only at the rate of 0.000000006 centimeters per second.[71]

B. Installation Of Groundwater Monitoring Wells Between Leachate Evaporation Ponds And Unit 2

Both Ms. Meaux and Mr. Williamson were questioned during the hearing regarding whether groundwater monitoring wells should be located between Unit 2, the proposed expansion unit, and the leachate evaporation ponds proposed for the expansion area. As both Ms. Meaux and Mr. Williamson testified, it is questionable whether enough space exists between the leachate ponds and Unit 2 for the proper installation of groundwater monitoring wells.[72] Additionally, the testimony at the hearing demonstrated that such wells were not necessary for

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69 *See* Trial Tr. at 712:2 to 713:18 (Hultman) (explaining that a release of leachate from a landfill is an unlikely and rare event).

70 *See* 30 TEX. ADMIN. CODE § 330.200(b) (specifying the requirements for a composite liner, and requiring the compacted clay liner to have a hydraulic conductivity of no more than 1×10^{-7} centimeters per second).

71 *See* Ex. APP-202 at 1733 (stating that the thickness of Stratum IV exceeds 260 feet and that approximately 460 feet of "very low hydraulic conductivity sediments" separates the base of the landfill from the top of the Edwards Aquifer); *id.* at 1053 (listing 6.1×10^{-9} as the vertical hydraulic conductivity of Stratum IV); Trial Tr. at 1088:12-23 (Williamson) (same).

Notably, Stratum IV is naturally more impermeable than the compacted clay liner that TCEQ's rules require to underline the facility's synthetic liner. *See* 30 TEX. ADMIN. CODE § 330.200(b) (requiring the compacted clay liner to have a hydraulic conductivity of no more than 1×10^{-7} centimeters per second).

72 *See* Trial Tr. at 640:13-16, 660:2-9 (Meaux); *id.* at 1134:14-20, 1135:5-7 (Williamson).

purposes of determining, in the unlikely event of a release, whether the release originated from Unit 2 or the leachate ponds.

In its application, WMTX proposes to install monitoring wells between the leachate evaporation ponds and Mesquite Creek to detect any release from Unit 2, as well as any release from the leachate evaporation ponds.[73] The question asked of witnesses at the hearing was whether WMTX would be able to determine whether such a release originated from Unit 2 or from the leachate evaporation ponds (i.e., would WMTX be able to fingerprint the release).[74] Both Mr. Williamson and Mr. Kerfoot explained methods that could be used to fingerprint the release.[75]

Thus, the proposed installation of monitoring wells between the leachate evaporation ponds and Mesquite Creek will not prevent WMTX from determining whether a release originated from Unit 2 or the leachate ponds. In any event, such a determination falls under the scope of "assessment monitoring," not "detection monitoring."[76] A facility remains in detection

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[73] *See* Ex. APP-202 at 1739 (§ 4.2.2. discussion regarding Unit 2), 1752 (Drawing No. 5-1); Trial Tr. at 660:2-4 (Meaux); *id.* at 1132:20 to 1133:9 (Williamson).

[74] *See* Trial Tr. at 660:11-22 (Meaux); *id.* at 1133:22 to 1134:13 (Williamson).

[75] *See id.* at 1134:11-13 (Williamson) (explaining that isotope studies or other studies could be done to try to differentiate the two sources of leachate); *id.* at 1199:8 to 1200:18 (Kerfoot) (explaining that the leachate originating from the leachate evaporation ponds would be expected to have lower concentrations of volatile organic compounds ("VOCs") than the leachate originating from beneath the landfill).

[76] *See* 30 TEX. ADMIN. CODE §§ 330.234 (TCEQ's detection monitoring program), 330.235 (TCEQ's assessment monitoring program).

monitoring until such time as a release is detected and confirmed.[77] If that occurs, the facility may enter assessment monitoring and, if necessary, a third and final corrective action phase.[78]

TCEQ's detection monitoring rules require only that groundwater monitoring wells be positioned and installed such that they will detect a release of constituents in groundwater passing the facility's point of compliance.[79] If such a detection is made, and if it is confirmed, determining the exact origin of the release would be the focus of assessment monitoring, a groundwater monitoring program separate and distinct from detection monitoring.[80] If assessment monitoring is triggered, then – and only then – would WMTX be required to determine the source of the release.[81] If such a determination could not be made through the methods discussed by Mr. Williamson and Mr. Kerfoot, or through other means, then WMTX may be required to install one or more groundwater monitoring wells specifically for the purpose of identifying the source of the release.[82]

C. Potential For Stormwater Ponds To Influence Monitoring Wells

Ms. Meaux was questioned on cross-examination regarding whether the facility's stormwater ponds might possibly influence certain groundwater monitoring. The questioning

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77 *See id.* § 330.234(d)(2); Trial Tr. at 703:3-5 (Hultman) (describing detection monitoring as the "initial phase of groundwater monitoring"); *id.* at 709:14 to 712:18 (Hultman) (describing the process from detection monitoring, to assessment monitoring, to corrective action); *see also* Trial Tr. at 578:20 to 579:12 (Meaux); *id.* at 1135:13 to 1136:6, 1139:3 to 1141:11 (Williamson).

78 *See* 30 TEX. ADMIN. CODE §§ 330.234-.238; *see also id.* Trial Tr. at 709:14 to 712:18 (Hultman) (describing the process from detection monitoring, to assessment monitoring, to correction action).

79 *See* 30 TEX. ADMIN. CODE § 330.231(a)(2); *see also id.* § 330.231(c).

80 *See id.* § 330.235; *see also* Trial Tr. at 660:11-22 (Meaux); *id.* at 702:20-21, 709:14 to 712:18 (Hultman).

81 *See* 30 TEX. ADMIN. CODE § 330.235; *see also* Trial Tr. at 710:21 to 712:1 (Hultman).

82 *See* 30 TEX. ADMIN. CODE § 330.235(g)(1)(A)-(B) (providing that the installation of additional monitoring wells may be required as part of an assessment monitoring program); *see also* Trial Tr. at 710:25 to 711:10 (Hultman).

concerned wells currently monitoring, and proposed to monitor, the existing landfill's Unit 1, as well as certain wells proposed in the application to monitor Unit 2 on the expansion area. Ms. Meaux addressed each well individually and explained that such surface water influence is not a concern.

With respect to Unit 1 – the existing landfill – the monitoring wells in question were (1) MW-2A, a new well proposed in the application to monitor Unit 1; (2) MW-3, an existing well that is, and has been, monitoring Unit 1; and (3) MW-4, also an existing well monitoring Unit 1.[83] Ms. Meaux reviewed the historic groundwater data for MW-3 and MW-4 and concluded that the data were stable over time and did not indicate any outside influence.[84] Additionally, both MW-2A and MW-3 are upgradient of the stormwater pond in question and, therefore, are not expected to be influenced by the pond (i.e., water does not flow uphill).[85] Indeed, even Dr. Clark agreed that the location of MW-2A is "a reasonable place to put a well."[86]

Additionally, it should be noted that, with respect to MW-2A and MW-3, the questions asked of Ms. Meaux by counsel for TJFA were premised on the assumption that the pond at issue, Pond A, is a "retention" pond (i.e., that it holds water indefinitely, or until such water

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[83] *See* Trial Tr. at 580:19 to 587:1, 618:4 to 619:9, 620:24 to 622:24 (Meaux); *see also id.* at 599:24 to 600:2 (Meaux) (identifying MW-3 and MW-4 as existing wells, and MW-2A as a proposed replacement well for existing well MW-2).

[84] *See id.* at (Meaux) (testifying that "the groundwater elevation in MW-3 was fairly stable" and "didn't fluctuate"); *id.* at 621:24 to 622:24 (Meaux) (testifying that the groundwater water elevation data dating back to 1992 for MW-4 "seems to be fairly stable over time").

[85] *See id.* at 607:19-20, 618:4-10, 684:10-12, 684:17-19 (Meaux); *see also id.* at 904:18-23 (Clark) (testifying that water moves from upgradient to downgradient); *id.* at 629:17-21, 631:21-24, 690:15-23 (Meaux) (testifying that groundwater at the landfill generally flows in relative conformance to topography, from a topographic high to a topographic low); *id.* at 586:8-13 (Meaux) ("[I]t doesn't look like the pond could recharge MW-3 because we are screening the zone below the base of the pond.").

[86] *See id.* at 887:14-21 (Clark).

evaporates).[87] Mr. Graves, however, testified that Pond A was a "detention" pond, designed to detain water temporarily and release it at a controlled rate.[88] Clearly, the possibility of water seeping into the ground beneath a detention pond is much more remote than if the pond were designed as a retention pond to retain water.[89]

Although Ms. Meaux was not familiar with the design of the existing stormwater pond, as that pond had been constructed prior to the instant application,[90] she was very familiar with how Mr. Graves had designed the stormwater ponds proposed for the expansion area and how those ponds would be constructed.[91] With respect to Unit 2 – the proposed expansion unit – Ms. Meaux testified that the monitoring wells in question would be screened at least 20 feet

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87 *See, e.g., id.* at 583:22-24 (Meaux) ("So assuming that Pond A holds water as a retention pond, would that have any influence on groundwater flow in the vicinity of Monitoring Well 3?"); *id.* at 584:14-15 (Meaux) ("And my question is: If there is water sitting in Pond A . . .?"); *id.* at 584:18-25 (Meaux) ("Well, a retention pond is going to have water in it until it evaporates or soaks into the ground. I believe that's what Mr. Graves said a retention pond was? Do you understand that?"); *id.* at 585:3-5 (Meaux) ("Well, assume with me the water in Pond A is at elevation 593.5 for weeks. Would that influence the groundwater level data at Monitoring Well 3?"); *id.* at 586:19-23 (Meaux) ("Well, is it possible for [a] sedimentation, retention-type pond that we are talking about to . . . influence or impact the detection of groundwater in Monitoring Well 3?").

Dr. Clark's testimony regarding whether the facility's stormwater ponds might possibly influence groundwater monitoring wells was also premised on a faulty retention pond assumption. *See id.* at 887:7 (Clark) ("If that pond keeps water in it . . . ."); *id.* at 892:2-10 (Clark) (noting his concern about the "potential influence of water retained in" Ponds A and B).

88 *See id.* at 75:5-24, 84:13-22 (Graves).

89 Nevertheless, even under the theory that Pond A was a retention pond, Ms. Meaux testified that there was only a "slim possibility" that water retained in the pond could influence MW-3. *See id.* at 586:19 to 587:1 (Meaux); *see also id.* at 619:1-2 (guessing that "it's possible" that ponded water in Pond A could influence MW-2A). Putting aside the fact that this "slim possibility" was premised on a false assumption, as noted above, proof by a preponderance of the evidence "does not require the quality of absolute certainty nor does it require that [Applicant] preclude every other possibility." *State Farm Mut. Ins. Co. v. Davis*, 576 S.W.2d 920, 921 (Tex. Civ. App.—Amarillo 1979, writ ref'd n.r.e.) (internal citations omitted); *see also Bufkin v. Tex. Farm Bureau Mut. Ins. Co.*, 658 S.W.2d 317, 230 (Tex. App.—Tyler 1983, no writ); *First State Bank v. Md. Cas. Co.*, 918 F.2d 38 (5th Cir. 1990).

90 *See* Trial Tr. at 582:6 to 583:15, 583:25 to 584:8, 678:25 to 679:19 (Meaux).

91 *See id.* at 685:3 to 689:14 (Meaux).

below the base of the stormwater ponds.[92] Ms. Meaux also explained that the ponds were not designed to retain water and would be constructed with sloping bottoms, so as to funnel water to the pond outlet.[93] Additionally, construction of the ponds will involve heavy equipment that will compact the clay bottom of the pond and impede surface water infiltration.[94] Infiltration would be further impeded by the swelling of the clays at the base of the pond from contact with the ponded water.[95] Add to that the low natural permeability of Stratum III where the wells are screened and the effects of evaporation, and there is no reason to expect that stormwater ponds proposed for the expansion area will influence the wells proposed to monitor that area.[96]

IV. ADEQUACY OF GROUNDWATER AND SURFACE WATER PROTECTION PLAN AND DRAINAGE PLAN

A. Issues Related To Drainage

With respect to surface water (i.e., stormwater) drainage, a review of the hearing transcripts suggests that Protestant TJFA may contend that WMTX's application does not contain sufficient information for the design of stormwater containment berms for all possible configurations of the facility's working face. For the reasons set forth below, any such contention should fail.

Attachment 6 of Part III of WMTX's application discusses the purpose, use, and design of the stormwater containment berms proposed for use at the Mesquite Creek Landfill.[97] The purpose of the containment berms is to contain stormwater that falls on, or otherwise drains over,

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92 *See id.* at 685:15 to 686:3 (Meaux).

93 *See id.* at 687:14-19 (Meaux).

94 *See id.* at 687:24 to 688:11 (Meaux).

95 *See id.* at 688:12-21 (Meaux).

96 *See id.* at 686:8-24, 688:22 to 689:14 (Meaux).

97 *See* Ex. APP-202 at 1816, 2093-99, 2105-06; Trial Tr. at 241:18 to 242:11 (Graves).

the working face (i.e., the active disposal area) of the landfill and areas of the landfill that have been covered with a daily covering of six inches of soil (i.e., "daily cover"), but have not yet received "intermediate cover," which is another six inches of soil on top of the daily cover.[98] Containment berms are temporary landfill features that are used only during the development phase of the landfill, as new active disposal areas of the landfill are excavated and filled, and prior to the installation of intermediate cover.[99] Stormwater runoff is retained behind the containment berms, creating stormwater holding areas and preventing the water from draining off-site.[100] Water held in these areas will largely be absorbed into the landfill and collected by the landfill's subsurface leachate collection system, or otherwise will be pumped from the holding area and managed in accordance with the facility's Contaminated Water Plan.[101]

TCEQ's MSW rules do not specifically prescribe the use of containment berms; rather, containment berms are used to ensure compliance with rules pertaining to stormwater runoff management from the active portion of the landfill, and the requirements for management of surface water that has come in contact with the working face of the landfill (i.e., "contaminated water").[102]

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98 *See* APP-202 at 1816, 2093; Trial Tr. at 242:2 to 243:16, 247:12-19 (Graves); *see also* 30 TEX. ADMIN. CODE § 330.133(a)-(b) (specifying the requirements for daily and intermediate cover); Ex. APP-202 at 2866-67 (same).

99 *See* APP-202 at 1816, 2093. Once intermediate cover has been installed, temporary diversion berms will be used in conjunction with built-in drainage benches to intercept stormwater flow on the intermediate cover areas and route it around active areas to the uncontaminated surface water management system. *See id.*; Trial Tr. at 242:6 to 243:4 (Graves).

100 *See* APP-202 at 1816, 2093; Trial Tr. at 243:6-16 (Graves).

101 *See* APP-202 at 2093; Trial Tr. at 243:17-21 (Graves).

102 *See, e.g.*, 30 TEX. ADMIN. CODE § 330.55(b)(3), (6); *see also* Trial Tr. at 242:6 to 243:21 (Graves).

Calculations for sizing containment berms and the associated contaminated water holding areas are presented in Attachment 6G of Part III of WMTX's application.[103] As discussed in Attachment 6G, the facility's containment berms "will have varying heights, depending on the volume of contaminated water that is to be stored" and the size of the storage area.[104] The total volume of contaminated water potentially requiring containment is dependent, in part, upon the size of the facility's working face, which may change daily as filling operations are completed in one area of the landfill and expanded into another, and as intermediate cover is applied over the course of the facility's operations.[105] Accordingly, a "one-size-fits-all" approach to sizing the facility's containment berms would be unworkable. In order to accommodate the day-to-day changes of the facility's working face and the dynamic nature of landfill operations, facility personnel must have the flexibility to design containment berms based upon the actual circumstances present on any given day at the landfill.

To provide such flexibility, Mr. Graves prepared and included in Attachment 6G a table (Table 6G-2) listing the requisite berm heights for containment berms designed to contain drainage from areas ranging from 0.5 to 2 acres, and to maintain water storage areas ranging from 0.1 to 0.5 acres.[106] In his cross-examinations of Mr. Graves and the Executive Director's expert witness, Mr. Prompuntagorn, TJFA's counsel attempted to advance an argument that WMTX's application is deficient for failing to provide containment berm calculations for drainage areas exceeding two acres is size. Such an argument is misplaced.

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103 *See* APP-202 at 1816, 2093-99, 2105-06; Trial Tr. at 243:22 to 244:10 (Graves).

104 APP-202 at 2094; *see also id.* at 2097 (Table 6G-2) (showing that the requisite berm height increases as the water storage area decreases).

105 *See* Trial Tr. at 247:6-11, 247:20 to 248:9 (Graves); *see also id.* at 254:14 to 255:3 (Graves).

106 *See* APP-202 at 2096-97; Trial Tr. at 244:24 to 245:12 (Graves).

WMTX does not dispute that the facility's working face and, therefore, the size of the drainage area that may require containment, may at times exceed two acres.[107] Indeed, the language of Attachment 6G recognizes that Table 6G-2 was not intended to provide an exhaustive list of the range of potential drainage and water storage areas that may require containment during the life of the facility:

> *It is noted that during the life of the Mesquite Creek Landfill, various combinations of containment berm drainage areas and contaminated water storage areas will be utilized. The results presented in [Table 6G-2 are] provided as guidance for the operators to plan development of the site.*[108]

In addition to providing the calculations in Table 6G-2 for drainage areas up to 2 acres, Mr. Graves also included in Attachment 6G the information, instructions, mathematical formula, and, most importantly, flexibility necessary to design a containment berm for *any* working face configuration – for *any* drainage area that may require stormwater containment.[109] Accordingly, should the drainage area requiring containment at any given time during the life of the facility exceed two acres, facility personnel have at least two general options for designing containment one or more berms for that drainage area: (1) subdivide the drainage area into sizes corresponding to those in Table 6G-2 and use that table to determine the requisite berm heights, or (2) apply the formula in Attachment 6G to determine the requisite berm height for a containment berm designed to accommodate the entire drainage area.[110]

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107 *See, e.g.*, Trial Tr. at 250:2-4 (Graves); *id.* at 1004:14-22 (Prompuntagorn).

108 Ex. APP-202 at 2096.

109 *See id.* at 2094-96; Trial Tr. at 1004:25 to 1005:21 (Prompuntagorn) (testifying that the design of containment berms, as set forth in Attachment 6G, "is not limited to two acres" and is not limited "to any specific area").

110 For instance, if the size of the drainage area requiring containment is four acres, then the drainage area could be subdivided into two drainage areas of two acres each and, applying Table 6G-2, each two-acre drainage area could be contained with a containment berm having a berm height ranging from 3.75 to

Calculating in advance the requisite berm heights for every potential combination of contaminated water drainage areas and associated water storage areas that may be in operation at the landfill on any given day would be an impossible task. Moreover, it would unnecessarily hinder facility personnel in their day-to-day operation of the landfill. Attachment 6G provides a sound, workable approach to designing containment berms and containing contaminated water runoff.[111] Furthermore, the flexibility provided by Attachment 6G does not render the containment berm criteria in WMTX's application any less enforceable. The calculations in Attachment 6G will yield a minimum required height for any containment berm, regardless of the size of the drainage or water storage areas.[112] Thus, should TCEQ conduct an inspection of the facility, determining compliance with the containment berm criteria in the application requires nothing more than running the calculations in Attachment 6G.[113]

B. Issues Related To Flooding

With respect to the topic of flooding, the only issue in dispute appears to be whether floodplain maps produced by Federal Emergency Management Agency ("***FEMA***") can be relied

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14.5 feet and creating a water storage area from 0.1 to 0.5 acres. *See* Ex. APP-202 at 2097. Alternatively, facility personnel could perform the containment berm calculation in Attachment 6G using the total four-acre drainage area to design a single containment berm to contain the entire drainage area. *See id.* at 2094-96; *see also* Trial Tr. at 246:18-22, 249:19 to 250:11 (Graves); *id.* at 1004:25 to 1007:9, 1008:11 to 1009:7 (Prompuntagorn) (testifying that Attachment 6G provides options for the design of containment berms and that "simple math" can be used for drainage areas exceeding two acres).

[111] *See* Trial Tr. at 1004:25 to 1005:6 (Prompuntagorn) (testifying that Attachment 6G provides "a better way to design a containment berm so as not to limit it to any specific area").

[112] *See* Ex. APP-202 at 2095.

[113] *See* Trial Tr. at 1008:11 to 1009:7 (Prompuntagorn) (testifying that designing containment berms for drainage areas exceeding two acres requires only "simple math"); *id.* at 1058:13 to 1059:1 (Prompuntagorn) (testifying that, if TCEQ were to inspect the landfill for compliance with the containment berm criteria, the agency would look for a berm that meets the calculation method in the application and that it would be a violation if the berm was undersized based on the method of calculation in Attachment 6G).

upon for purposes of demonstrating compliance with TCEQ rules that require a determination of areas within the floodplain associated with a 100-year frequency flood.[114] For purposes of preparing portions of WMTX's application and demonstrating compliance with such regulations, Mr. Graves relied upon a FEMA floodplain map that demonstrates that the Mesquite Creek Landfill, including the proposed expansion area, is not located within a 100-year floodplain.[115] Per TCEQ's regulations, such reliance was permissible and in compliance with all applicable statutory and regulatory requirements.

TCEQ's rules specifically provide that, to identify whether a site is located within a 100-year floodplain, an applicant can either include a copy of the relevant FEMA map in the application, if a FEMA map is used to demonstrate compliance, "*or* the calculations and maps used where a FEMA map is not available."[116] In this case, the relevant FEMA map was available and, per the rules, was used to demonstrate that the Mesquite Creek Landfill is not located within a 100-year floodplain.

Furthermore, although the FEMA floodplain map alone is sufficient to demonstrate compliance with the applicable regulatory requirements, Mr. Graves's flooding analysis did not end there. Although the site is not located within the 100-year floodplain, Mr. Graves also conducted an analysis demonstrating that the Mesquite Creek Landfill, when constructed as proposed in WMTX's application, will not restrict the flow of the 100-year storm as it passes

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[114] *See, e.g.*, 30 TEX. ADMIN. CODE §§ 330.55(b)(7), (b)(7)(C), 330.56(c), (f)(3), (f)(4)(B), (g), 330.301.

[115] *See* Trial Tr. at 149:10 to 150:20, 151:13-16, 154:13-25, 177:16-17, 177:24 to 178:6, 331:11 to 334:2 (Graves); Ex. APP-200 at 48:25 to 49:8 (Graves); Ex. APP-202 at 159, 182, 998 n.7, 1011 n.9 & 10, 1813-14; Ex. APP-211; *see also* Trial Tr. at 993:3-9, 995:21 to 996:4, 998:17 to 999:1 (Prompuntagorn).

[116] 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i) (emphasis added).

through the landfill via Mesquite Creek, reduce Mesquite Creek's flood storage capacity, or result in a washout of solid waste from the landfill.[117] Additionally, because the central portion of the site, where Mesquite Creek flows, is within the flood pool of the downstream Freedom Lake, Mr. Graves also ensured that the landfill would not reduce the storage capacity of the Freedom Lake flood pool; that the perimeter of the disposal areas – both existing and proposed – had sufficient freeboard extending above the flood pool; and that no waste disposal operations were proposed within the flood pool.[118]

Accordingly, WMTX not only met the regulatory requirements for a determination of areas within the floodplain associated with a 100-year frequency flood, but also went beyond the applicable requirements by conducting additional flooding analyses.

V. COMPLIANCE WITH GEOTECHNICAL REQUIREMENTS, INCLUDING SLOPE STABILITY

Of the many, detailed statutory and regulatory requirements applicable to MSW permit applications in Texas, requirements for the geotechnical engineering portions of the application are arguably the least numerous and most general. The requirements applicable to this portion of the application can be fairly summarized as follows: Perform the engineering tests necessary to demonstrate that the soils and subsurface strata at the site are suitable for the construction of a landfill.[119] There are no prescribed regulatory standards for this demonstration; the rules – and the agency – rely heavily on the engineering expertise and judgment of the geotechnical

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[117] *See* Trial Tr. at 158:8 to 159:14, 161:10 to 165:9, 169:18-22, 172:13-16 (Graves); Ex. APP-200 at 49:10 to 50:4, 51:11-26 (Graves); Ex. APP-202 at 159, 1813-14, 2108-10; *see also* 30 TEX. ADMIN. CODE §§ 330.55(b)(7)(C), 330.301 (by its terms, this regulation is applicable only if the site is located within the 100-year floodplain).

[118] *See* Trial Tr. at 185:1-5, 195:11-14, 200:19 to 207:22 (Graves); Ex. APP-200 at 49:10-23, 50:5 to 51:6, 51:11 to 52:7 (Graves); Ex. APP-202 at 159, 998 n.7, 1011 n.10, 1813-14.

[119] *See* 30 TEX. ADMIN. CODE § 330.56(d)(5)(B).

engineer.[120] Accordingly, WMTX retained one of the foremost experts in the field, Dr. Gross, to conduct the requisite engineering tests and prepare the geotechnical portions of WMTX's application.[121]

As discussed above, Dr. Gross' credentials are impeccable. As her résumé reflects, Dr. Gross is a nationally respected authority on the performance and stability of landfills and other solid waste disposal facilities.[122] Among other notable engagements in her 20 years as a geotechnical engineer, Dr. Gross has been retained by the United States Environmental Protection Agency ("***EPA***") to assist that agency with geotechnical investigations of solid waste facilities and with the development of various EPA technical support and guidance documents.[123] Her expertise has also been recognized and sought out by the United States Department of Justice, who retained Dr. Gross as a geotechnical expert on behalf of the United States Army Corps of Engineers.[124]

The work that Dr. Gross conducted and the conclusions that she reached are presented in WMTX's application and discussed in her prefiled testimony.[125] Based on her analyses of the geotechnical properties of the soils and subsurface strata at the Mesquite Creek Landfill, Dr. Gross determined that the soils and subsurface strata at the site are suitable for the siting,

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120 *See* Trial Tr. at 1011:3-18, 1019:1-12, 1052:23 to 1053:19 (Prompuntagorn); *id.* at 756:16-18, 758:25 to 759:11 (Gross).

121 *See* Ex. APP-500 at 6:17 to 7:3 (Gross) (discussing scope of work with respect to WMTX's application).

122 *See* Ex. APP-501 (résumé); *see also* Ex. APP-500 at 3:20 to 6:5 (Gross) (discussing qualifications and experience).

123 *See* Ex. APP-501 at 1-2; Trial Tr. at 741:6-8, 742:17-19, 743:4-6 (Gross).

124 *See* Trial Tr. at 721:24 to 722:6 (Gross).

125 *See* Ex. APP-202 at 1040-47 (Geotechnical Report), 1620-725 (Slope Stability Analysis and Foundation Settlement Analysis).

construction, and operation of the landfill, as proposed in the application.[126] Dr. Gross' findings have not been challenged by any credible expert testimony or evidence in this case. Furthermore, Protestants' cross-examination of Dr. Gross at the hearing failed to adduce any testimony discrediting Dr. Gross or her work in this matter, or otherwise raise any reasonable question regarding the application's compliance with all applicable geotechnical requirements.

VI. ADEQUACY OF SITE OPERATING PLAN AND FACILITY ENTRANCE DESIGN

A. Operating Hours

In its application, WMTX requested the flexibility to operate the Mesquite Creek Landfill, as necessary, without limitations on the facility's operating hours.[127] No statutory or regulatory requirement prohibits WMTX from seeking and receiving such operational flexibility. While TCEQ's rules provide default operating hours – hours that a facility may operate without specific approval in the facility's permit – the rules do not limit the hours of operation that may be specifically authorized in the permit.[128]

In his testimony during the evidentiary hearing, WMTX's Central Texas Market Area General Manager, Mr. Don Smith, provided a number of reasons why WMTX was seeking the flexibility to operate the Mesquite Creek Landfill outside of the default operating hours offered by TCEQ's rules.[129] As Mr. Smith explained, WMTX has no intention of accepting waste

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126 *See* Ex. APP-500 at 12:28 to 14:2 (Gross); Ex. APP-202 at 1044-47; *see also* Ex. APP-500 at 8:10-14 (Gross) (testifying that "the Geotechnical Report provides geotechnical analyses for the suitability of the area subsoils to support the foundation of the landfill expansion and to be utilized in the construction of the compacted soil liner that will underlie the expanded facility and the infiltration layer component of the final cover system").

127 *See* Ex. APP-202 at 2847.

128 *See* 30 TEX. ADMIN. CODE § 330.118(a).

129 *See* Trial Tr. at 34:21 to 36:20, 37:11-12, 39:3 to 40:2 (Smith).

around the clock.[130] Rather, WMTX's request for operational flexibility was made to allow the facility to respond to unexpected events – such as equipment breakdowns and localized emergencies – and to continue to maintain compliance with TCEQ's rules and meet the disposal needs of the counties and communities that the facility serves, despite or in light of such events.[131] Additionally, both Mr. Smith and Mr. Prompuntagorn testified that the operational flexibility that WMTX has requested in the instant application is commonplace among MSW facilities operating in Texas.[132]

The need for such operational flexibility was further confirmed by the testimony of Comal County Commissioner Jan Kennady. Commissioner Kennady provided specific examples of prior instances where such operational flexibility was integral to serving the public interest.[133] Furthermore, Commissioner Kennady testified that WMTX's request to increase its operating hours was not inconsistent with her view of the public's interest,[134] and that she had not heard any complaints from residents in her precinct – the precinct of Comal County in which the existing landfill is located[135] – or anyone in Comal County express concerns regarding WMTX's requested operational flexibility.[136]

The only stated concerns in this case regarding WMTX's request to increase its operating hours were one-sentence, general form statements in the prefiled testimony of each of

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130 *See id.* at 35:20-22, 36:16-18, 39:4-5 (Smith).

131 *See id.* at 34:21 to 36:20, 37:11-12, 39:3 to 40:2 (Smith).

132 *See id.* at 35:6-9, 37:7-10, 40:1-2 (Smith); *id.* at 1065:15-23 (Prompuntagorn) (testifying that most sites that he is aware of are permitted to operate 24 hours a day, seven days a week, but don't actually accept waste during those hours).

133 *See id.* at 1151:20-24, 1155:22 to 1156:21 (Kennady).

134 *See id.* at 1156:9-13 (Kennady).

135 *See id.* at 1150:23 to 1151:1 (Kennady).

136 *See id.* at 1156:13-17 (Kennady).

Protestant Concerned Citizens and Landowner's ("***CCL's***") four fact witnesses regarding "lights, noise, traffic, etc."[137] However, there was no evidence offered or adduced through cross-examination that supports a finding that these conclusory concerns are warranted. Furthermore, in its application, WMTX commits to providing a minimum 125-foot buffer between the perimeter boundary of the proposed expansion area and any waste unloading, processing, storage, or disposal activities.[138] No unloading, processing, storage, or disposal activities will occur within the buffer zone.[139] Such a buffer zone exceeds the applicable regulatory requirement for buffer zones by 75 feet or more (i.e., TCEQ's rules require only a 50-foot buffer).[140] Additionally, the Site Operating Plan ("***SOP***") in WMTX's application provides screening provisions that will provide an additional buffer against potential light or noise impacts if facility operations are conducted after dark. No party challenged the adequacy of these buffer zone and screening provisions to "buffer" or "screen" facility operations that may be conducted during extended hours.

For the foregoing reasons, WMTX's request to operate the Mesquite Creek Landfill, as necessary, without limitations on the facility's operating hours (1) is permissible under TCEQ's rules, (2) provides the operational flexibility necessary to respond to unexpected events, (3) is in the public interest, and (4) is not incompatible with surrounding land uses.

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137 *See* Ex. CCL 1 at 3:6 (Schwarzlose); Ex. CCL 2 at 3:9-10 (Langford); Ex. CCL 3 at 3:9 (Taylor); Ex. CCL 4 at 3:5 (Holtman).

138 *See* Ex. APP-200 at 38:1-10 (Graves); Ex. APP-202 at 2850, 998 & n.5.

139 *See* Ex. APP-200 at 38:1-6 (Graves); Ex. APP-202 at 2850.

140 *See* 30 TEX. ADMIN. CODE § 330.121(b).

B. Fire Protection

WMTX's application contains a fire protection plan that spans six pages of the facility's proposed SOP.[141] The requirements for fire protection are specified in TCEQ's rules at 30 Tex. Admin. Code § 330.115. Among other requirements, the applicable regulation requires the facility to maintain, on-site, "a source of earthen material" for fire suppression, and specifies that such source "must be sized to cover any waste received for disposal not covered with six inches of earthen material."[142] With respect to what the SOP itself – and, therefore, the application – must contain, the rule is straightforward: "The site operating plan must contain calculations demonstrating the adequacy of the earthen material."[143]

There does not appear to be any dispute, nor can it be reasonably disputed, that the SOP in WMTX's application contains the requisite calculations to demonstrate the adequacy of the soil stockpile or soil borrow area that the facility will use for fire suppression purposes in the unlikely event of a fire. The SOP provides such calculations for various different potential configurations of the facility's working face(s), ranging from the limited and special case scenario of applying the first layer of waste in a new disposal cell, to more typical working face dimensions.[144] Moreover, the SOP provides the mathematical equation for determining the requisite size of the soil stockpile/borrow area necessary to serve *any* working face

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141 *See* Ex. APP-202 at 2837-42.

142 30 TEX. ADMIN. CODE § 330.115.

143 *Id.*

144 *See* Ex. APP-202 at 2839-40 (*see* "Comments" column of table noting "special case" and "typical maximum" working face dimensions); *see also* Trial Tr. at 1054:1 to 1055:6 (Prompuntagorn) (explaining that this "special case" scenario will likely occur on "very, very few occasions").

configuration, should the working face configuration at any given time not correspond exactly to the dimensions in one of the example calculations provided in the SOP.[145]

To the extent that Protestants may dispute the adequacy of the fire protection plan in WMTX's SOP, their dispute would not appear to concern the soil stockpile/borrow area calculations in the SOP, but rather whether the facility will have sufficient equipment on-site to distribute the soil in response to a fire. Per 30 Tex. Admin. Code § 330.115, the facility must maintain on-site sufficient equipment "to place a six-inch layer of earthen material to cover any waste not already covered with six inches of earthen material within one hour of detecting a fire." Notably, the requirement to maintain sufficient equipment is purely performance-based; that is, whereas § 330.115 specifically requires a facility's SOP to "contain calculations demonstrating the adequacy of the earthen material," there is no similar, prescriptive requirement for the SOP to contain a demonstration of the adequacy of the facility's fire fighting equipment.[146] Nevertheless, WMTX's SOP contains such a demonstration.

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145 *See* Ex. APP-202 at 2840.

146 TCEQ revised its SOP regulations in 2004. *See* 29 TEX. REG. 11,054 (Nov. 26, 2004). The principal purpose for the revisions was "to comprehensively address which site operating plan requirements should be performance-based standards and where specificity is warranted." *Id.* at 11,054; *see also id.* at 11,057 ("The purpose of this rulemaking is to develop rules that will provide site-specific, performance-based, enforceable site operating plans."). Discussing the distinction between performance-based standards and prescriptive requirements, and the Commission's intent regarding the purpose and function of a facility's SOP, the agency explained:

> The commission recognizes that a site operating plan should not be a document containing comprehensive owner's manual-type instructions for all aspects of operating a municipal solid waste facility. While some of the specific site operating plan rules are more prescriptive, some of the rules have been amended to provide more discretion to meet a more performance-based standard. To meet these standards, the commission's rules require experienced, trained, or certified facility operating personnel. A municipal solid waste facility cannot be properly operated from a manual, and trained personnel with appropriate experience are required to apply their knowledge and experience to meet performance standards. The commission has modified language in [the SOP rules] to reflect the concept regarding the level of detail and performance standards.

Specifically, WMTX's SOP contains a calculation demonstrating "the capability of equipment to place six inches of earthen material over a conservatively large assumed *uncovered* area in one hour."[147] Here again, the SOP provides an example calculation that facility personnel can use to determine the necessary earthmoving equipment that they must have on-site for fire fighting purposes depending upon the size of the uncovered area(s) of the facility's working face(s) (i.e., areas without a six-inch cover of earthen material) at any given time.[148] Based upon the questioning by TJFA's counsel at the hearing, TJFA would attempt to fault WMTX for not providing an equipment calculation in the application that assumes an uncovered area of the working face that exceeds 200 by 200 feet. Any such attempt would be misplaced, and would be at odds with the performance-based nature of the applicable regulatory requirement.

As specifically stated in the SOP in WMTX's application, and as Mr. Graves testified at the hearing, while the SOP lists potential working face dimensions, that list is neither exhaustive nor indicative of the area(s) of the landfill that may be uncovered at any given time.[149] The fire protection plan in the SOP expressly states that, "[a]t any given time during the day, the actual size of the open, uncovered working face will be smaller" than the dimensions of the working face itself (i.e., at any one time, just a portion of that day's working face will not be covered with

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Id. at 11,062; *see also id.* at 11,065.

Specifically with respect to the fire protection provisions of 30 Tex. Admin. Code § 330.115, TCEQ responded as follows to comments that such provisions should be performance-based:

> The commission generally agrees with these comments and has rewritten this section to be more performance-based and to be less prescriptive. The rule changes include . . . a requirement that sufficient equipment be available to cover the exposed waste within one hour.

Id. at 11,066.

147 Ex. APP-202 at 2840 (emphasis added); *see also* Trial Tr. at 253:5-22 (Graves).

148 *See* Ex. APP-202 at 2840-41.

149 *See* Ex. APP-202 at 2839-40; Trial Tr. at 254:14 to 255:3 (Graves).

six inches of earthen material).[150] As Mr. Graves explained, portions of the working face will get covered with six inches of soil (i.e., "daily cover," as discussed above) throughout the day, as filling operations are completed in one area of the working face and expanded into another.[151] As noted above, the applicable regulatory requirement applies only to the uncovered portions of the working face, not those portions of the working face that have been covered with daily cover.[152]

Accordingly, based on his experience observing how landfills operate, Mr. Graves assumed a "conservatively large" uncovered area of 200 by 200 feet for purposes of preparing the example equipment calculation that is provided in the application.[153] As noted in the SOP, the assumed uncovered area amounts to half of a day's typical working face area.[154] No evidence was put forth at the hearing that would call into question the example equipment calculation provided in the SOP, or the representations in the SOP and the testimony of Mr. Graves that the calculation is conservative based upon typical landfill operations. The calculation demonstrates that a CAT D7 dozer and a CAT 627 scraper are more than adequate to cover a conservatively large uncovered area with six inches of soil in one hour.[155] Furthermore, the minimum equipment list in the SOP specifies that at least one CAT D7 dozer and one CAT

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150 Ex. APP-202 at 2840.

151 *See* Trail Tr. at 254:14-19 (Graves); *see also id.* at 1057:6-8 (Prompuntagorn).

152 *See* 30 TEX. ADMIN. CODE § 330.115; *see also* Trial Tr. at 1057:9-15 (Prompuntagorn) (confirming that the uncovered area of the landfill is what the fire protection plan is intended to address).

153 *See* Trail Tr. at 254:11 to 255:3, 255:23 to 256:1 (Graves); Ex. APP-202 at 2840, 2841.

154 *See* Ex. APP-202 at 2840; *see also* Trial Tr. at 1057:1-5 (Prompuntagorn).

155 *See* Ex. APP-202 at 2840-41.

627 scraper (or functionally equivalent equipment) will be maintained on-site during the active life of the facility.[156]

Should operations require that the facility operate at any given time with an uncovered area exceeding 40,000 square feet, then facility personnel will need to run the example equipment calculation in the SOP to determine whether the CAT D7 dozer and CAT 627 scraper are sufficient for that day's operations, or whether an additional dozer or scraper will need to be on-site to ensure compliance with the regulatory requirement.[157] Similarly, should TCEQ conduct an inspection of the facility, determining compliance with the equipment provisions in § 330.115 is a simple exercise. The agency inspector need only measure the size of the uncovered area of the landfill, perform the example equipment calculation in the SOP, and determine whether the facility has the requisite equipment on-site to serve the area in question. The performance-based nature of the regulation both allows the facility to adjust its operations as necessary to meet the regulatory requirement, and ensures that the regulatory requirement is, at all times, enforceable by the agency.

C. Texas Parks and Wildlife Department Recommendations

During the evidentiary hearing, counsel for TJFA questioned Ms. Castille extensively regarding an October 12, 2005 letter from the Texas Parks and Wildlife Department ("***TPWD***").

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156 *See* Ex. APP-202 at 2829-30 (Table IV-3); *see also* Trial Tr. at 256:3-9 (Graves); *id.* at 1026:4-14, 1033:6-9 (Prompuntagorn) (testifying that the equipment specified in the application is adequate for fire protection purposes).

157 *See, e.g.*, Ex. APP-202 at 2829 (providing that "[e]quipment requirements at the facility may vary based on actual operational requirements" and that Table IV-3 in the SOP specifies the minimum equipment necessary and additional equipment may be added as necessary to meet operational requirements); *id.* at 2830 ("Additional equipment may be used to meet operational needs beyond that specified in [Table IV-3]."); *id.* at 2830-31 (specifying that the facility has access to additional equipment from other WMTX facilities and local equipment dealers or contractors, and that additional equipment will "be added as necessary to adequately perform all required operations").

That letter, and counsel's questioning, concerned recommendations from TPWD regarding measures that may be taken to avoid potential impacts to a "rare bird species," the Mountain Plover, and other birds, riparian ecosystems, and native wildlife species.[158] Specifically, counsel's questioning concerned whether these recommendations (and, presumably, measures for their implementation) should be included in the proposed SOP in the application.

The question, however, must be properly framed in the context of the applicable standard in this proceeding, as follows: "Is inclusion of one or more of the TPWD recommendations in WMTX's application necessary for the application to meet an applicable statutory or regulatory requirement?" The answer to that question is: "No."[159] While WMTX does not doubt that the TPWD's recommendations reflect that agency's sincere and aspirational efforts to provide the utmost protection for species and ecosystems, the legal reality is that the agency's recommended measures are no more than that – recommendations. They are not statutory or regulatory requirements, nor are they measures requisite to achieve or maintain compliance with an applicable statutory or regulatory requirement.

As set forth at the outset of this Closing Argument, the standard in this case is whether WMTX's application meets all applicable statutory and regulatory requirements.[160] There is no applicable statutory or regulatory requirement that requires inclusion of TPWD's recommendations in the application. With respect to species protection, the only requirements

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158 Ex. APP-202 at 582-83.

159 *See, e.g.*, Trial Tr. at 1044:6-15, 1066:5-24 (Prompuntagorn) (confirming that there is no TCEQ rule that requires TPWD's recommendations to be included in WMTX's application).

160 *See* 30 TEX. ADMIN. CODE § 55.210(b).

applicable to WMTX's application concern the protection of state- or federally-listed endangered or threatened species.[161]

As noted in TPWD's October 12, 2005 letter, the Mountain Plover is a "rare" bird species, not an endangered or threatened species.[162] While the other recommendations in TPWD's letter may be so general and sweeping as to provide some measure of protection to listed and non-listed species alike, TPWD nowhere suggests that such measures are necessary for the protection of an endangered or threatened species. Indeed, both the United States Fish and Wildlife Service and Ms. Castille concluded that the proposed landfill expansion area does not contain habitat conducive to the presence of any threatened or endangered species.[163] Additionally, in a letter dated December 6, 2005 (i.e., in a letter *subsequent* to TPWD's October 12, 2005 letter), TPWD responded to Ms. Castille's rare resources review request and

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[161] *See* 30 TEX. ADMIN CODE §§ 330.2(41), 330.11(i), 330.53(b)(13), 330.129; *see also* Ex. APP-202 at 560 (Aug. 18, 2005, U.S. Fish and Wildlife Service letter noting that "candidate" species – "those that are being considered for possible addition to the threatened and endangered species list" – "have no legal protection"); 31 TEX. ADMIN. CODE §§ 65.171, 65.175, 69.1, 69.8 (TPWD regulations regarding protection of endangered and threatened species); TEX. PARKS & WILDLIFE CODE §§ 68.002, 68.003, 68.006, 68.015, 68.019 (state statutory provisions for protection of endangered species); Trial Tr. at 1044:6-15, 1066:5-24 (Prompuntagorn) (confirming that there is no TCEQ rule that requires TPWD's recommendations to be included in WMTX's application).

[162] Ex. APP-202 at 582 (noting that TPWD's recommended measures may "prevent the listing" of the Mountain Plover as an endangered or threatened species "in the future"); *see also id.* at 641, 644 (table indicating that the Mountain Plover is a "rare" species "with no regulatory listing status").

[163] *See* Ex. APP-202 at 167 ("no federal or state-listed endangered or threatened species or their critical habitats were found on or in the vicinity of the proposed expansion area"), 559 ("The proposed project site is not located within designated critical habitat of any federally listed threatened or endangered species."), 640-44 (noting that "[n]o critical habitat areas were identified for any threatened, endangered, or rare species" in the vicinity of the landfill), 646 (concluding that the habitat on the landfill property, including the expansion area, "would not support threatened, endangered or rare species and is not suitable for the critical habitat of such species"); *see also* Ex. APP-300 at 22:10-16 (concluding that the expansion and operation of the Mesquite Creek Landfill, as proposed in the application, will not result in the destruction or adverse modification of critical habitat of threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species).

species assessment as follows: "TPWD does not anticipate significant adverse impacts to rare species from project activities."[164]

For the foregoing reasons, there is no statutory or regulatory basis for inclusion of TPWD's recommendations in WMTX's application.

D. Site Entrance

During the evidentiary hearing, a question arose regarding whether the new site entrance, as proposed in WMTX's application, met the safety standards of the American Association of State and Highway Transportation Officials ("***AASHTO***").[165] Here again, the question must be properly framed in the context of the relevant standard in this proceeding – whether WMTX's application meets all applicable statutory and regulatory requirements.[166] In the body of Texas's statutes and regulations governing MSW facilities, there is no statutory or regulatory requirement that requires compliance with AASHTO standards. With respect to the site entrance, TCEQ's rules require only that "[a] *generalized design* of all site entrance roads from public access roads" be depicted on a plan or figure in the application.[167] The requisite "generalized design" of

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164 Ex. APP-303 at 1; *see also id.* at 3 (noting that the Mountain Plover is nether a federally- nor state-listed endangered or threatened species); APP-300 at 20:13 to 21:18.

165 AASHTO's mission statement reads: "The American Association of State Highway and Transportation Officials advocates transportation-related policies and provides technical services to support states in their efforts to efficiently and safely move people and goods." *See* AASHTO, "Visions and Goals," at http://www.transportation.org/?siteid=37&pageid=330.

166 *See* 30 TEX. ADMIN. CODE § 55.210(b).

167 *Id.* at § 330.56(a)(2) (emphasis added). This rule also concerns "designs of proposed public roadway improvements;" however, the site entrance, which is proposed to be located on property owned by WMTX, is not a "public roadway." *Cf. id.* § 330.2(107) (defining a "public highway" as one that is "not privately owned or controlled"). Additionally, TCEQ's MSW rules regarding transportation concern only the "availability and adequacy" of roadways that will be utilized by vehicular traffic to access the facility. *Id.* § 330.53(b)(9)(A)-(C).

WMTX's proposed site entrance has been provided in the application, as required.[168] Accordingly, the application complies with the applicable regulatory requirement.

Nevertheless, WMTX is committed to providing safe entry and exit to and from its facility. To that end, GeoSyntec analyzed an existing, as-built entrance to the site that is in close proximity to the site entrance proposed in the application.[169] GeoSyntec analyzed the existing entrance for compliance with AASHTO standards and then applied that analysis to the proposed site entrance.[170] From that analysis, Mr. Graves concluded that the proposed site entrance, as shown in the *generalized* design in the application, appears "pretty close" to meeting AASHTO standards, and definitively concluded that the *final* design of the proposed site entrance would meet AASHTO standards.[171]

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168 *See* Ex. APP-202 at 1001 (Drawing 1-4, Landfill Entrance Plan); *see also* Trial Tr. at 258:12-20 (Graves). There was some discussion during the evidentiary hearing regarding whether the site entrance plan in the application was a "conceptual" design, a "construction level" design, a "detailed" design, or an "as-built" design. Trial Tr. at 261:18 to 262:10, 334:9 to 336:16 (Graves). Mr. Graves testified that the plan in the application was a "permit level" design – "an intermediate stage between the one extreme of conceptual design and another extreme of detailed design." *Id.* at 335:5-14 (Graves). While TCEQ's rules do not define what constitutes a "generalized design" as that term is used in 30 Tex. Admin. Code § 330.56(a)(2), it is reasonable to conclude from wording of the regulation that it is something less than a "detailed" design. *Cf.* 30 TEX. ADMIN. CODE § 330.58 (requiring an "as-built set of construction plans and specifications" to be submitted to TCEQ after completion of construction of the facility).

169 *See* Trial Tr. at 1159:5-23, 1160:9 to 1163:11 (Graves); *see also* Ex. APP-214 (*compare* points "A" and "B").

170 *See* Trial Tr. at 1162:11 to 1164:13 (Graves).

171 *Id.* at 1173:17-20, 1174:13-21, 1176:18-23 (Graves) (testifying that the proposed site entrance, by final design, would "absolutely" meet AASHTO standards); *see also id.* at 1163:4-11, 1164:10-13 (Graves) (explaining that, with a "nudge . . . a little bit in either direction" the existing, analyzed entrance would be acceptable under AASHTO standards, and that the proposed site entrance is a "nudge" away from the existing, analyzed entrance); *id.* at 1171:23 to 1173:16 (Graves) (testifying that the existing, analyzed entrance would need to be moved approximately 30 meters to the north to comply with AASHTO standards).

Additionally, Mr. Graves testified that there are a number of available locations along Kohlenberg Lane north of the proposed site entrance that, if necessary, would provide an entrance to the facility that complies with AASHTO standards. *See id.* at 1164:14 to 1165:20, 1176:24 to 1177:7 (Graves); *see also* Ex. APP-214 (*compare* points "B" and "C").

As Mr. Graves explained, the actual location of the site entrance – down to the foot – will be determined at the time of construction in a "detailed" or "construction level" design.[172] Additionally, TCEQ's rules require submittal of an "as-built set of construction plans and specifications" following construction of the site entrance and other facility features.[173] Mr. Graves was questioned at the hearing regarding whether a permit modification would be required if the location of the proposed site entrance, as shown in the generalized design drawing in the application, were to be moved in the more detailed, final or as-built design of the entrance in order for the entrance to meet AASHTO standards. Mr. Graves testified that, in his experience working on MSW permitting projects, whether a permit modification was required would be determined by TCEQ on a case-by-case basis, depending upon how far the entrance needed to be moved.[174]

That TCEQ's rules require only a "generalized design" of the site entrance to be included in the application, and an "as-built set of construction plans and specifications" following construction of the site entrance, indicates that the agency and its rules contemplate that changes on the order of feet to the location of the site entrance may be made, without the need for a permit modification, as the generalized design in the application is finalized and constructed.[175] In any event, should the location of the proposed site entrance, as shown in the generalized design drawing in the application, need to be moved to meet AASHTO standards, as contemplated by the testimony at the hearing, any such change would require, at most, a permit

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172 Trial Tr. at 1165:21 to 1166:3, 1174:13-21 (Graves); *see also id.* at 334:22 to 335:4 (Graves).

173 30 TEX. ADMIN. CODE § 330.58; *see also* Trial Tr. at 335:15 to 336:12, 337:11-20 (Graves).

174 *See* Trial Tr. at 336:17 to 337:24, 1177:8-24 (Graves).

175 *See id.* at 337:2-24 (Graves).

modification. TCEQ's rules specifically provide that "changes to the [facility's] entry gate location that do not alter access traffic patterns delineated in the permit" require only a permit modification.[176] As Mr. Graves discussed, if the proposed site entrance needs to be moved at all to meet AASHTO standards, it would only need to be moved a short distance north along Kohlenberg Lane, which would not change the access routes to the facility.[177]

VII. APPORTIONMENT OF REPORTING AND TRANSCRIPTION COSTS

WMTX has been assessed the reporting and transcription costs for the pre-hearing conference and evidentiary hearing in this matter. Applicant respectfully requests that, in the ALJ's Proposal for Decision, the ALJ recommend allocation of these costs among the parties in a fair and reasonable manner, consistent with 30 Tex. Admin. Code § 80.23(d). Specifically, WMTX requests that these reporting and transcription costs be apportioned equally to WMTX and Protestant TJFA, for the reasons set forth below.

Per the ALJ's Order No. 3, WMTX was required to arrange for court reporting services at the evidentiary hearing, and pay the costs of those services, subject to possible allocation of those costs at the close of the case.[178] These services were essential to the trial of the proceeding, and each party to the proceeding, to some degree, benefited from the services provided. However, with respect to the relative benefit to each party, it cannot be reasonably disputed that

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176 30 TEX. ADMIN. CODE § 305.70(j)(33). Notably, TCEQ's rules describe permit modifications as "minor changes to an MSW facility or its operation that do not substantially alter the permit . . . and do not reduce the capability of the facility to protect human health and the environment." *Id.* § 305.70(d).

177 *See* Trial Tr. at 1163:4-11, 1164:10 to 1165:20, 1171:23 to 1173:16, 1176:24 to 1177:7 (Graves).

178 *See also* 30 TEX. ADMIN. CODE § 80.23(b)(5).

Applicant and Protestant TJFA benefited most from the court reporters' services and transcripts.[179]

As a statutory party to the proceeding, the Office of Public Interest Counsel, by rule, cannot be assessed reporting or transcription costs.[180] Additionally, the Executive Director's participation in this matter, although not mandated by statute, was limited to providing information to complete the administrative record.[181] Accordingly, WMTX does not propose to allocate any portion of the reporting and transcription costs to the Executive Director. That leaves only WMTX and Protestants TJFA and CCL as potential parties to share in the allocation of such costs. Given that Protestant CCL is comprised of individual landowners whose financial means are, presumably, more limited than those of the corporate parties, WMTX and TJFA, and given that Protestant CCL did not participate significantly in the questioning of witnesses at the hearing, WMTX does not propose to allocate any portion of the reporting and transcription costs to Protestant CCL.

With respect to Applicant and Protestant TJFA, both parties were represented by counsel in this proceeding and have otherwise demonstrated that they have the financial ability to pay the reporting and transcription costs at issue.[182] Additionally, as the record reflects, both parties participated extensively in the hearing.[183]

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179 *See id.* § 80.23(d)(1)(D).

180 *See id.* § 80.23(d)(2); TEX. WATER CODE § 5.273(a).

181 *See* 30 TEX. ADMIN. CODE § 80.108(d); TEX. WATER CODE § 5.228(c).

182 *See* 30 TEX. ADMIN. CODE § 80.23(d)(1)(B).

183 *See id.* § 80.23(d)(1)(C).

With regard to other factors that the ALJ may find "relevant to a just and reasonable assessment of costs,"[184] it should be noted that this contested case hearing was initiated by Protestant TJFA, as TJFA was the only party to file a request for a contested case hearing on WMTX's application. WMTX requested a direct referral of its application to the State Office of Administrative Hearings only after receiving notice that TJFA had requested a contested case hearing.

Furthermore, while WMTX would benefit financially from the proposed expansion of the Mesquite Creek Landfill – if the permit amendment is granted – it is equally relevant to the apportionment of costs that the contest of WMTX's permit application has caused WMTX to expend significant resources in pursuit of a landfill expansion that, as the record reflects, is in the public interest and is necessary to continue to serve the waste disposal needs of the counties and communities in the landfill's service area. Moreover, Protestant TJFA would benefit financially if WMTX's application is denied. Given that the existing Mesquite Creek Landfill is nearing its full capacity,[185] a denial of the proposed expansion would likely result in at least a short-term interruption or reduction in waste acceptance at the landfill, thereby requiring waste to be diverted to other, nearby landfills, such as the one owned by the corporate entity that is under the same common control as TJFA.

As established at the preliminary hearing in this matter, TJFA's sole representative in this matter, Mr. Bobby Gregory,[186] owns the Texas Disposal Systems Landfill ("***TDSL***"). The TDSL

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184 *Id.* § 80.23(d)(1)(G).

185 *See* Ex. APP-100 at 6:9-15 (Smith) (explaining that the existing Mesquite Creek Landfill has only three to four years of active life remaining).

186 TJFA is a Texas limited partnership. TJFA's general partner is Garra de Aguila, Inc.; Mr. Gregory is both the limited partner of TJFA and the president of Garra de Aguila.

facility is a MSW landfill located in southern Travis County that competes directly with the Mesquite Creek Landfill. Clearly, Mr. Gregory benefits financially if TDSL has less competition, or no competition, from the Mesquite Creek Landfill, or if TDSL's competitor has to incur the significant expense of contested case proceedings in order to expand its facility and continue its operations.

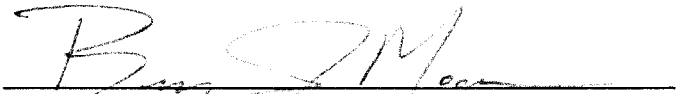
Accordingly, WMTX respectfully requests that the reporting and transcription costs that WMTX has incurred in this proceeding be apportioned equally to WMTX and Protestant TJFA.

CONCLUSION

For the foregoing reasons, and based on the evidentiary record in this proceeding, Applicant respectfully requests that the ALJ recommend issuance of Permit No. MSW-66B.

Respectfully submitted,

VINSON & ELKINS L.L.P.
2801 Via Fortuna, Suite 100
Austin, Texas 78746
Telephone: 512.542.8729
Facsimile: 512.236.3257



Bryan J. Moore/SBN 24044842
John A. Riley/SBN 16927900
M. Nicole Adame Winningham/SBN 24045370

COUNSEL FOR APPLICANT
WASTE MANAGEMENT OF TEXAS, INC.

CERTIFICATE OF SERVICE

I certify that a true and correct copy of the foregoing Closing Argument has been served on the following via hand delivery or facsimile on this the 19th day of December, 2007:

Anthony C. Tatu
Amie Dutta Richardson
Texas Commission on Environmental Quality
P.O. Box 13087, MC-173
Austin, Texas 78711-3087
Phone: (512) 239.0600
Fax: (512) 239.0606

Representing the Executive Director of the Texas Commission on Environmental Quality

Garrett Arthur
Office of Public Interest Counsel
Texas Commission on Environmental Quality
P.O. Box 13087, MC-103
Austin, Texas 78711-3087
Phone: (512) 239.6363
Fax: (512) 239.6377

Representing the Texas Commission on Environmental Quality Office of Public Interest Counsel

James Ballowe
Solid Waste Manager
424 S. Castell Avenue
New Braunfels, Texas 78130
Phone: (830) 221.4044
Fax: (830) 608.2109

Representing City of New Braunfels

Lawrence G. Dunbar
Dunbar, Harder & Benson, L.L.P.
One Riverway, Suite 1850
Houston, Texas 77056
Phone: (713) 782.4646
Fax: (713) 782.5544

Representing TJFA, L.P.

Nancy Schwarzlose
2041 Schwarzlose Road
New Braunfels, Texas 78130
Phone: (830) 372.1500
Fax: (830) 372.4233

Representing Concerned Citizens and Landowners

John Holtman
1520 Schwarzlose Road
New Braunfels, Texas 78130
Phone: (210) 364.4618

Representing Concerned Citizens and Landowners

Bryan J. Moore

Austin 906675v.1