

# State Office of Administrative Hearings



Cathleen Parsley  
Chief Administrative Law Judge

May 8, 2009

Les Trobman, General Counsel  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin Texas 78711-3087

CHIEF CLERKS OFFICE

2009 MAY - 8 PM 12:48

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

Re: **SOAH Docket No. 582-08-2178; TCEQ Docket No. 2007-1774-MSW; In Re:  
Application of BFI Waste Systems of North America, LLC, for Type I MSW  
Permit No. 1447A**

Dear Mr. Trobman:

The above-referenced matter will be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Enclosed are copies of the Proposal for Decision and Order that have been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the original documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than **May 28, 2009**. Any replies to exceptions or briefs must be filed in the same manner no later than **June 8, 2009**.

This matter has been designated **TCEQ Docket No. 2007-1774-MSW; SOAH Docket No. 582-08-2178**. All documents to be filed must clearly reference these assigned docket numbers. Copies of all exceptions, briefs and replies must be served promptly on the State Office of Administrative Hearings and all parties. Certification of service to the above parties and an **original and seven copies** shall be furnished to the Chief Clerk of the Commission. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

A handwritten signature in black ink that reads "William G. Newchurch".

William G. Newchurch  
Administrative Law Judge

WGN:nl  
Enclosures  
cc: Mailing List

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**STYLE/CASE:** BFI WASTE SYSTEMS OF NORTH AMERICA INC

**SOAH DOCKET NUMBER:** 582-08-2178

**REFERRING AGENCY CASE:** 2007-1774-MSW

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**STATE OFFICE OF ADMINISTRATIVE  
HEARINGS**

**ADMINISTRATIVE LAW JUDGE  
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**SOAH DOCKET NO. 582-08-2178  
TCEQ DOCKET NO. 2007-1774-MSW**

**APPLICATION OF BFI WASTE § BEFORE THE STATE OFFICE  
SYSTEMS OF NORTH AMERICA, §  
LLC, FOR TYPE I MSW PERMIT NO. § OF  
1447A §  
§ ADMINISTRATIVE HEARINGS**

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**SOAH DOCKET NO. 582-08-2178  
TCEQ DOCKET NO. 2007-1774-MSW**

|                                       |          |                                |
|---------------------------------------|----------|--------------------------------|
| <b>APPLICATION OF BFI WASTE</b>       | <b>§</b> | <b>BEFORE THE STATE OFFICE</b> |
| <b>SYSTEMS OF NORTH AMERICA,</b>      | <b>§</b> |                                |
| <b>LLC, FOR TYPE I MSW PERMIT NO.</b> | <b>§</b> | <b>OF</b>                      |
| <b>1447A</b>                          | <b>§</b> |                                |
|                                       | <b>§</b> | <b>ADMINISTRATIVE HEARINGS</b> |

**PROPOSAL FOR DECISION**

**I. INTRODUCTION**

BFI Waste Systems of North America, LLC (BFI or Applicant) has applied to the Texas Commission on Environmental Quality (TCEQ) to amend its TCEQ Permit No. MSW-1447 (Permit) for its existing Sunset Farms Landfill (Sunset Farms, Landfill, or Facility) in Travis County, Texas. Sunset Farms is a Type I Municipal Solid Waste (MSW) landfill. The eastern portion of the Landfill would be expanded to have a maximum elevation of waste of 770 feet above mean sea level (msl), and the western portion of the landfill, which is further from potential receptors, would have a maximum elevation of waste of 795 feet msl. Under this configuration, the landfill's capacity will be expanded by approximately 10.6 million cubic yards.<sup>1</sup>

The Executive Director (ED) and Giles Holdings, LP (Giles), which owns and leases a portion of the Facility site to BFI, support the Application. The City of Austin (Austin) does not oppose it, so long as the amended permit includes certain additional provisions to which BFI, Giles, and Austin have agreed. One of those provisions would prohibit the acceptance of waste at the landfill and its operation as a waste transfer station after November 1, 2015. Travis County does not oppose approval of the Application as long as the permit contains that fixed date for closure. The remaining parties oppose the Application.

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<sup>1</sup> BFI Ex. RS-1, pp. 13-14 & 17-18.

The Administrative Law Judge (ALJ) recommends that the Commission issue the attached Updated Revised Draft Permit.<sup>2</sup> He finds that BFI has carried its burden of proof on all issues that the Commission referred to the State Office of Administrative Hearings (SOAH), except that concerning the hours of operation, which he recommends be modified. Additionally, he recommends that half of the cost of the transcript be allocated to BFI and that the other half be allocated to TJFA, L.P. (TJFA).

## II. PARTIES

The following are the Parties in this case:

| <b>PARTY</b>   | <b>REPRESENTATIVE</b>           |
|--|---------------------------------|
| BFI  | Paul Gosselink and John Carlson |
| Giles  | Paul Terrill                    |
| ED   | Steve Shepherd and Susan White  |
| Office of Public Interest Counsel (OPIC)   | Christina Mann                  |
| Travis County  | Kevin W. Morse                  |
| Austin   | Holly Noelke and Meitra Farhadi |
| TJFA   | Bob Renbarger and J.D. Head     |
| Northeast Neighbors Coalition, whose members include Evelyn Remmert, Mark McAfee, and others (Northeast) | Jim Blackburn                   |
| Mark McAfee  | Self                            |
| Melanie McAfee   | Self                            |
| Roger Joseph   | Self                            |
| Delmer D. Rogers   | Self                            |
| Williams, Ltd., a general Texas partnership  | Evan Williams                   |

Northeast; Mark McAfee; Melanie McAfee; Roger Joseph; Delmer D. Rogers; and Williams, Ltd. are aligned for all purposes except settlement. They are collectively referred to as

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<sup>2</sup> ED Ex. 1

NNC, and their alignment's representative is Jim Blackburn. Pioneer Farms had been a party, but it settled with BFI and withdrew.

### III. JURISDICTION

No party disputes either the Commission's or SOAH's jurisdiction. The attached Proposed Order contains the necessary finding and conclusions concerning jurisdiction.

### IV. PROCEDURAL HISTORY

The most important procedural events are listed below:

| DATE              | EVENT   |
|-------------------|---|
| January 20, 2006  | Application filed. <sup>3</sup>   |
| January 31, 2006  | The ED declared the Application was administratively complete. <sup>4</sup>   |
| February 27, 2006 | The Notice of Receipt of the Application and Intent to Obtain a Municipal Solid Waste Permit Amendment was published in the <i>Austin American-Statesman</i> newspaper. |
| March 2, 2006     | The Notice of Receipt of Application and Intent to Obtain Municipal Solid Waste Permit Amendment was published in Spanish in the <i>El Mundo</i> newspaper.             |
| March 21, 2007    | The Executive Director determined that the Application was technically complete and issued a draft permit. <sup>5</sup>   |
| February 28, 2008 | The Commissioners issued their interim order granting certain hearing requests and referring the case to SOAH for hearing on 26 listed issues.                          |
| April 3, 2008     | A revised draft permit was issued to reflect a change in BFI's corporate form and some other minor technical revisions. <sup>6</sup>                                    |

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<sup>3</sup> BFI Ex. RS-1, p. 7

<sup>4</sup> BFI Ex. RS-1, p. 28.

<sup>5</sup> BFI Ex. RS-1, pp. 28-29

<sup>6</sup> BFI Ex. RS-15.

|                   |   |
|-------------------|---|
| April 3, 2008     | TCEQ's Chief Clerk mailed the Notice of Hearing on the Application to potentially affected persons identified in the Application, to various state and local agencies and officials, to state legislators for the districts in which the Facility is located, and to other persons specified in 30 TAC <sup>7</sup> §39.13. |
| April 7, 2008     | The Notice of Hearing on the Application was published in the <i>Austin American-Statesman</i> .  |
| May 8, 2008       | Preliminary hearing.  |
| May 29, 2008      | Discovery began.  |
| October 3, 2008   | Applicant prefiled its direct case in writing, including all testimony and exhibits.  |
| October 23, 2008  | A revised draft permit was issued.  |
| November 5, 2008  | All Parties, except Applicant and ED, prefiled their direct cases in writing, including all testimony and exhibits.   |
| November 13, 2008 | The ED prefiled his direct case in writing, including all testimony and exhibits.   |
| November 17, 2008 | Deadline to file objections to any prefiled evidence.   |
| December 3, 2008  | Deadline to file responses to objections to prefiled evidence.  |
| December 9, 2008  | Deadline to complete all depositions.   |
| December 15, 2008 | Deadline to file any pre-trial motion.  |
| December 19, 2008 | Prehearing conference to rule on objection to prefiled evidence, other pending motions, and other procedural matters.   |
| January 20, 2009  | Hearing on the merits (HOM) of Application began.   |
| January 30, 2009  | Last day of presentation of direct-case evidence in HOM.  |
| February 4, 2009  | Close of evidentiary record after Parties agreed to certain facts, language to be included in any permit that may be issued, and that no rebuttal hearing was necessary   |
| March 12, 2009    | Parties filed closing arguments.  |
| March 30, 2009    | Parties filed responses to closing arguments and case record was closed.  |

The Commission originally set a deadline of 12 months after the preliminary hearing for the issuance of the PFD, which would have been May 8, 2008. However, the ALJ granted the Parties' joint requests for additional time to prepare for the hearing and to submit closing arguments and replies, which extended the PFD deadline to May 29, 2009.

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<sup>7</sup> TEX. ADMIN. CODE (TAC).

## V. BACKGROUND FACTS

### A. The Existing Facility

Sunset Farms is located in east-central Travis County, approximately three-quarters of a mile north of the intersection of U.S. 290 East and Giles Lane.<sup>8</sup> The facility is bounded by Blue Goose Road to the north, Giles Lane to the east, the Austin Community Landfill (ACL) to the south, and open land to the west.<sup>9</sup> Sunset Farms is approximately 349.4 acres in size. The currently permitted footprint is approximately 251.5 acres. The maximum elevation of waste allowed under the existing permit is 720 feet above msl. The currently permitted landfill has a total disposal capacity of approximately 27.7 million cubic yards.<sup>10</sup> Seventeen groundwater monitoring wells presently monitor groundwater at the Facility's boundaries.<sup>11</sup>

BFI operates the Facility and is the sole permittee under the existing permit. The land on which the Facility is located is owned by BFI and Giles. BFI owns a 55-acre tract within the permit boundaries; Giles owns three other tracts that together comprise the remaining acreage of the Facility. The relationship between BFI and Giles is one of landlord, Giles, and tenant, BFI, with respect to the three Giles-owned tracts.<sup>12</sup>

The original MSW permit for Sunset Farms was issued by the Texas Department of Health in 1981. The facility has continuously accepted waste for disposal since it opened in

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<sup>8</sup> BFI Ex. RS-1, p. 7.

<sup>9</sup> BFI Ex. RS-1, p. 13.

<sup>10</sup> BFI Ex. RS-1, pp. 7-10.

<sup>11</sup> BFI Ex. JS-1, p. 41.

<sup>12</sup> BFI Ex. RS-1, pp. 9, 39, and 97.

1982.<sup>13</sup> It is situated in the impermeable clays of the Taylor formation, and is located in an area of Travis County that has been used for waste disposal since the 1950s or earlier.<sup>14</sup>

The Travis County Landfill, which is now closed, is located south of Sunset Farms at the northwest corner of the intersection of U.S. 290 East and Giles Lane. ACL was opened in the early 1970s. It is expected to be operational through at least 2015. ACL is situated between the Travis County Landfill and Sunset Farms.<sup>15</sup>

The permit for the Sunset Farms has been amended or modified on several occasions since it was first issued. The permit was modified in 1994 to comply with the (then) new federal Subtitle D standards. The permit was modified in 2002 to improve the drainage features, and was modified again in 2006 to delete approximately eleven acres from the northeast corner of the landfill footprint.<sup>16</sup>

## **B. The Expansion Project**

As initially contemplated, the expansion project included both vertical and lateral components, as well as plans to excavate deeper in the proposed lateral expansion area. Over time, however, BFI abandoned its plans to expand the landfill laterally and dig deeper. It settled on a two-tiered vertical-only expansion. Under this configuration, the landfill's capacity will be expanded by approximately 10.6 million cubic yards.<sup>17</sup> Enhanced drainage features and expansion of the groundwater monitoring system from 17 to 32 wells are also proposed.<sup>18</sup>

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<sup>13</sup> BFI Ex. RS-1, p. 9.

<sup>14</sup> Tr. 2099-2101.

<sup>15</sup> BFI Ex. RS-1, p. 8.

<sup>16</sup> BFI Ex. RS-1, pp. 9-10.

<sup>17</sup> BFI Ex. RS-1, pp. 13-14 and 17-18.

<sup>18</sup> BFI Ex. JS-1, p. 41.

**C. Change to BFI's Business Form**

Originally, the Applicant was BFI Waste Systems of North America, Inc. However, it changed its form of business organization to BFI Waste Systems of North America, LLC. On April 3, 2008, a revised draft permit was issued to reflect that change in corporate form.<sup>19</sup> The change in business form did not lead to disputes in this case.

**D. The Agreement with Austin**

On October 31, 2008, BFI and Giles entered into a settlement agreement with Austin (Agreement with Austin). BFI agreed to implement various erosion and sedimentation control practices applicable to both interim and final site conditions that exceed the TCEQ's requirements. BFI also agreed to cease accepting waste at the Facility and using it as a waste transfer station after November 1, 2015.<sup>20</sup> These provisions are included in the Updated Revised Draft Permit.

BFI has committed in multiple ways to the November 1, 2015, cessation-of-waste-acceptance date and to not operate a transfer station on the site after that date. BFI made these commitments in writing in response to the Capital Area Council of Governments (CAPCOG's) conditional conformance letter; orally in various public forums; in written settlement agreements; by agreeing to include these commitments as special permit conditions; in restrictive covenants to be filed in the county deed records; and at the evidentiary hearing under oath.<sup>21</sup>

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<sup>19</sup> BFI Ex. RS-15.

<sup>20</sup> BFI Ex. RS-1, pp. 14, 21 & 96; BFI Ex. RS-42; Austin Ex. 3.

<sup>21</sup> BFI Exs. RS-33, RS-42, and BD-1, p. 35; Tr. 1281, 1287, 1289-90, 1296, 1356 & 1375.

### **E. The Updated Revised Draft Permit**

At the hearing, all parties, including those who continue to oppose the Application, agreed that it would be appropriate to include certain language in any permit that might be approved. For example, any permit should include the provisions in the Agreement with Austin. On February 4, 2009, the ED filed the Updated Revised Draft Permit that includes all of the agreed provisions. That document was admitted into evidence.

## **VI. WITNESSES, QUALIFICATIONS, AND CREDIBILITY**

BFI and Giles argues that TJFA is the alter ego of Texas Disposal Systems, Inc. (TDS) and Texas Disposal Systems Landfill, Inc. (TDSL), which are among BFI's competitors in the Central Texas waste hauling and disposal markets and would economically benefit if BFI's Application were denied. The Applicant and Giles question the credibility and opinions of TJFA's testifying experts due to their long history of working with TDS and TDSL and those entities' relationships with TJFA.

TJFA owns land across a road from the BFI Facility. For that reason, TJFA contends its property could be affected if the Application is approved, which is why the Commission granted its request for a hearing and the ALJ admitted it as a party in this case. TJFA argues that it is a separate, freestanding legal entity from TDS and TDSL and there is no evidence that its purpose in this proceeding is to cause delay and increase the costs of BFI.

In their briefs, BFI, Giles, and TJFA drift into wide ranging discussions of anti-trust and freedom-of-speech law as they focus on the relationship between TJFA, TDS, and TDSL. The ALJ sees no need to dissect those legal arguments. Instead, he can more simply conclude that TJFA is affiliated with TDS and TDSL through chains of ownership and TJFA's witnesses have long-standing and on-going professional relationships as retained consultants to TDSL for

another landfill in Travis County. That is sufficient for the ALJ to find that TJFA's witnesses were less credible than they would have been if they had no relationship with TDSL.

TJFA purchased a piece of property catty-corner from Sunset Farms approximately one year before BFI filed its Application but well after BFI had publicly stated that it intended to file an application to expand the landfill. TJFA was formed as a partnership in November 2004.<sup>22</sup> Bob Gregory, the CEO, president and principal owner of TDS and TDSL, is the sole (99%) limited partner and the 100% owner of TJFA's managing general partner, Garra de Aguila, Inc. Neither TJFA nor Garra de Aguila has any employees, and both entities share a common business location, telephone number, and fax number with TDS and TDSL.<sup>23</sup>

Over the past several years, TJFA has serially opposed landfill expansion projects by competitors of TDS and TDSL. In this case, the evidence showed that TJFA has spent several hundred thousand dollars in expert witness fees alone (*i.e.*, not including attorney's fees) protecting its investment in a property that is appraised at \$89,792.<sup>24</sup>

TJFA's expert on groundwater monitoring issues is Dr. Robert Kier. He holds a Ph.D. in geology from the University of Texas, is licensed as a professional geoscientist in Texas and Arkansas, and has been certified as a professional geological scientist by the American Institute of Geologists. Dr. Kier has over 35 years of professional experience in the fields of geology, hydrogeology, engineering geology, municipal solid waste regulations and requirements, water resource development, and the investigation of cleanup of contaminated sites. He has

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<sup>22</sup> BFI/TJFA Stipulation (Feb. 3, 2009)

<sup>23</sup> BFI Ex. 15; Tr. 1683-88.

<sup>24</sup> BFI Exs. 15 & 20; Tr. 1696-98, 1704-1711, and 1825-27.

participated in approximately 30 municipal solid waste applications. Dr. Kier estimates that he has equally split his work between municipal solid waste permit applicants and protestants.<sup>25</sup>

Mr. Pierce Chandler, P.E., serves as TJFA's expert witness with respect to the referred slope stability issue. Mr. Chandler has over 30 years experience in the solid-waste arena and has worked on over 100 solid-waste projects. Mr. Chandler has participated as an expert for both applicants and protestants. He is a licensed professional engineer in the state of Texas, has been recognized as a "qualified groundwater scientist" since the early 1980s, and has taught graduate level courses in contaminant hydrogeology. He has conducted numerous subsurface investigations, designed groundwater and landfill gas monitoring systems for MSW landfills, and performed numerous geophysical investigations and analyses. His consulting services have encompassed design and construction of public infrastructure, dams, power plants, surface mines, and waste management facilities and remedial investigations at waste sites. He has past experience, both as a design engineer and peer reviewer, for a number of slope stability analyses at a number of municipal landfills as well as other civil engineering projects, such as dams.<sup>26</sup>

Both Dr. Kier and Mr. Chandler were well qualified to reach opinions on the issues concerning which they testified, and no party questions their qualifications. However, BFI and Giles question their objectivity. TJFA's testifying experts have a long history of working for TJFA, TDS, TDSL and Mr. Gregory, and each has received thousands of dollars for their services. Each of the experts has done extensive work for TDS and the TDSL facility in southern Travis County.<sup>27</sup>

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<sup>25</sup> TJFA Ex. BK-1, pp. 1-3 and BK-2.

<sup>26</sup> TJFA Ex. PC-1, pp. 2 and 5-10; TJFA Ex. PC-2.

<sup>27</sup> Tr. 1446-49, 1452-53, 1455-56, 1628, 1690-93, and 1697-98.

Without combing the record for citations, the ALJ will simply note that all of BFI's witnesses were compensated directly or indirectly for testifying in this case.<sup>28</sup> It is common for parties opposed to an Application to at least go through the motions of questioning the objectivity of an applicant's expert witnesses because they are being compensated to testify and wish to preserve their good relationship with the applicant. Those exercises usually amount to nothing for two reasons. First, with extremely rare exception, no one would testify for as an expert without being compensated. Second, because their professional reputations are on the line and people have long memories, most experts for all parties want to, and do, offer a cogent and reasonable analysis of the portions of an application within their realm of expertise.

Similarly, the mere fact that they are being paid for their services and have testified for a competitor in the past should not completely discredit Dr. Kier and Mr. Chandler. Instead, it should alert the ALJ and Commissioners to be on greater alert for inconsistencies, misdirections, and deviations from generally accepted professional standards in their testimony. In this case, BFI and Giles argue that the opinions that Dr. Kier and Mr. Chandler offered were wholly unreasonable, due to that their lack of objectivity. The ALJ will consider the merits of their opinions later in the PFD, but he does not agree that Dr. Kier's and Mr. Chandler's relationships with Mr. Gregory, TDS, and TDSL significantly call their credibility into question.

## VII. REFERRED ISSUES

The Commission referred 26 issues to SOAH for hearing as set out below. As to several of the issues, no party argues that BFI has not met its burden of proof.

- A. Whether The Application Demonstrates That Natural Drainage Patterns Will Not Be Significantly Altered By The Expansion, In Accordance With Agency Rules, Including 30 TAC § 330.56(f)(4)(A)(iv).**

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<sup>28</sup> Any objection to the ALJ taking notice of this fact should be filed as an exception to the PFD.

Only TJFA and NNC argue that BFI failed to carry its burden of proof on this issue. The ALJ disagrees with them.

### 1. BFI's Evidence

There is no dispute that BFI submitted an attachment concerning the proposed alteration to the landfill and drainage patterns.<sup>29</sup> BFI's drainage expert, Adam Mehevec, calculated the peak flow rates, peak velocities, and total volumes at each of those outfalls under existing/pre-development conditions and under proposed/post-development conditions and concluded that there would be no significant change.<sup>30</sup>

Mr. Mehevec calculated those differences using two methodologies. He first performed analyses using the methodology required by the TCEQ, which is based on a Texas Department of Transportation (TxDot) Manual.<sup>31</sup> He then performed additional analyses for the City of Austin using the City's different methodology.<sup>32</sup> Using the TCEQ preferred TXDOT methodology, Mr. Mehevec calculated what is shown on the following two tables:<sup>33</sup>

| <b>25-year, 24-hour Storm Event<br/>Before and After Development Under Application<br/>(TCEQ Methodology)</b> |                                 |              |                                   |              |  |              |
|---|---------------------------------|--------------|-----------------------------------|--------------|--|--------------|
| <b>Outfall</b>  | <b>Peak Flow rate<br/>(cfs)</b> |              | <b>Run-off Volume<br/>(ac-ft)</b> |              | <b>Discharge Velocity<br/>(ft/sec)</b> |              |
|   | <b>Before</b>                   | <b>After</b> | <b>Before</b>                     | <b>After</b> | <b>Before</b>                          | <b>After</b> |
| 1   | 1045                            | 954          | <b>236.4</b>                      | <b>242.9</b> | 1.4                                    | 1.4          |
| 2   | 275                             | 270          | 29.1                              | 26.8         | 3.2                                    | 3.2          |
| 3   | 98                              | 89           | 10.1                              | 8.5          | 6.7                                    | 6.7          |

<sup>29</sup> RS-11, Attach. 6, p. APP000922, *et seq.*

<sup>30</sup> BFI Ex. AM-1, p. 30.

<sup>31</sup> Apparently a reference to 30 TAC §330.55(b)(5)(B).

<sup>32</sup> Tr. 1027.

<sup>33</sup> BFI Exs. AM-1, pp. 15-16 and 27-29.

|   |     |     |      |      |     |     |
|---|-----|-----|------|------|-----|-----|
| 4 | 66  | 61  | 6.6  | 6.4  | 2.3 | 2.2 |
| 5 | 175 | 171 | 20.0 | 17.8 | 2.8 | 2.8 |
| 6 | 9   | 9   | 1.5  | 1.5  | 1.3 | 1.3 |

(Emphasis added to show only increase.)

| 100-year, 24-hour Storm Event<br>Before and After Development Under Application<br>(TCEQ Methodology) |                         |       |                           |              |                                |       |
|---|-------------------------|-------|---------------------------|--------------|--------------------------------|-------|
| Outfall   | Peak Flow Rate<br>(cfs) |       | Run-off Volume<br>(ac-ft) |              | Discharge Velocity<br>(ft/sec) |       |
|   | Before                  | After | Before                    | After        | Before                         | After |
| 1   | 1354                    | 1302  | <b>321.1</b>              | <b>329.8</b> | 1.5                            | 1.5   |
| 2   | 393                     | 386   | 39.0                      | 35.9         | 3.7                            | 3.7   |
| 3   | 141                     | 128   | 13.5                      | 11.4         | 6.7                            | 6.7   |
| 4   | 94                      | 88    | 8.8                       | 8.5          | 2.5                            | 2.5   |
| 5   | 251                     | 245   | 26.8                      | 23.8         | 3.1                            | 3.1   |
| 6   | 13                      | 13    | 2.1                       | 2.1          | 1.9                            | 1.9   |

(Emphasis added to show only increase.)

With one exception, every category at every outfall showed either no change or a slight improvement. There is a two-percent increase in total volume of runoff predicted at Outfall 1. Mr. Mehevec testified this increase is very slight. Moreover, it will be released at a slower rate than pre-development because the peak flow rate would be reduced.<sup>34</sup> The peak flow rate at Outfall 4 goes down by one percent using the TCEQ (TxDOT based) methodology and up by one percent using the City of Austin methodology, which is not set out in tables. Mr. Mehevec testified that both changes are insignificant.<sup>35</sup> Every drainage expert who testified in this case –

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<sup>34</sup> BFI Ex. AM-1, p. 30

<sup>35</sup> Tr. 1031.

including TJFA's expert – agreed after reviewing the Application and Mr. Mehevec's testimony that natural drainage patterns would not be significantly altered by the proposed expansion.<sup>36</sup>

Yet TJFA and NNC argue that BFI failed to carry its burden of proof on this issue. They significantly differ on what BFI was legally bound to prove. However, if NNC's legal argument is correct, TJFA alternatively adopts NNC's position.

## 2. Applicable Law and Legal Arguments

Section 330.56 of the Commission's rules is entitled Attachments to the Site Development Plan, and subsection (f)(4)(A)(iv) requires a groundwater and surface water protection plan and drainage plan. It also states:

These plans must reflect locations, details, and typical sections of levees, dikes, drainage channels, culverts, holding ponds, trench liners, storm sewers, leachate collection systems, or any other facilities relating to the protection of groundwater and surface water. Adequacy of provisions for safe passage of any internal or externally adjacent floodwaters should be reflected here.

...

(4) As part of the attachment, the following information and analyses must be submitted for review, as applicable.

(A) Drainage and run-off control analyses:

...

(iv) discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development;

TJFA claims that BFI failed to meet its burden of proof on the drainage-change issue due to its failure make the required comparison. According to TJFA, BFI improperly compared the

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<sup>36</sup> Tr. 69, 1896-1897, 2197, 2278 & 2286; BFI Ex. AM-1, p. 30; ED Ex. ED-MU-1, p. 11.

drainage conditions proposed in the Application to the currently permitted conditions rather than to the natural drainage conditions that existed prior to any development. TJFA focuses on the word “natural,” which is used in 30 TAC § 330.56(f)(4)(A)(iv) to describe the drainage pattern that must not be significantly altered. It correctly notes that at least two other rules provide that “natural drainage patterns” may not be “significantly altered” as a result of the proposed landfill development.<sup>37</sup>

To compare drainage conditions, BFI’s witness, Mr. Mehevec, used TCEQ Regulatory Guidance RG-417, which is entitled *Guidelines for Preparing a Surface Water Drainage Plan for a Municipal Solid Waste Facility*. The TCEQ Waste Permits Division adopted RG-417 in June 2004.<sup>38</sup> As to the current dispute, RG-417 states:

For expansions of existing facilities, the appropriate comparison should be between the currently approved (permitted) site closure condition and the proposed postdevelopment condition.

TJFA claims that RG-417 has misconstrued the applicable rules, which require a comparison between the natural and proposed drainage patterns rather the currently permitted and proposed conditions. According the TJFA, RG-417’s guidance on this point was unauthorized rulemaking, which was contrary to the Administrative Procedures Act and case law. It concedes that the applicable rules were modified after BFI filed its application in order to require a comparison between post-development and existing conditions, but TJFA notes that those rules are not applicable to BFI’s Application. Instead, TJFA claims that the change in rules shows that the comparison required of BFI is different from the one required of current applicants.

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<sup>37</sup> 30 TAC §§ 330.55(b)(5)(D) and 330.56(f)(2); BFI Ex. RS-34.

<sup>38</sup> BFI Ex. RS-34.

There is no need to analyze the unauthorized rulemaking argument. The Commission must follow its own rules as adopted until it changes them in accordance with the Administrative Procedure Act.<sup>39</sup> Thus, the “natural drainage patterns” rules apply to BFI’s Application. But what does that phrase mean?

In the absence of a technical meaning ascribed to a word used in a rule, TJFA correctly notes that courts have held, pursuant to the rules of statutory construction, that a word or term should be given its common meaning.<sup>40</sup> That is correct, but TJFA ignores that a technical or particular meaning can be acquired in various ways. The Code Construction Act<sup>41</sup> is applicable to agency rules adopted under the state’s revised codes.<sup>42</sup> Gov’t Code § 311.011 states:

- (a) Words and phrases shall be read in context and construed according to the rules of grammar and common usage.
- (b) Words and phrases that have acquired a technical or particular meaning, whether by legislative definition or otherwise, shall be construed accordingly.

TJFA heads straight for the dictionary and argues that the common meaning of “natural” is “being in accordance with or determined by nature,” “having or constituting a classification based on features existing in nature,” or “existing in or produced by nature: not artificial.” But TJFA has skipped a step. Those common meanings only apply if “natural drainage patterns” has not acquired a technical or particular meaning, whether by definition in statute or rule or “otherwise.”

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<sup>39</sup> Water Code § 5.103(c). The same principle applies to every agency, and it is arbitrary and capricious for an agency not to follow its existing rules. *See, Rodriguez v. Service Lloyds Ins. Co.*, 997 S.W.2d 248, 255 (Tex. 1999); *Public Util. Comm'n v. Gulf States Util. Co.*, 809 S.W.2d 201, 207 (Tex. 1991).

<sup>40</sup> *Myers v. State*, 169 S.W.3d 731, 734 (Tex.App—Austin, 2005).

<sup>41</sup> Chapter 311 of the TEX. GOV’T CODE ANN. (Gov’t Code) (West 2009).

<sup>42</sup> Gov’t Code § 311.002(4).

While they do not specifically refer to Gov't Code § 311.011(b), BFI and the ED argue that RG-417 reflects how the TCEQ and its predecessor agencies have always interpreted the requirement to demonstrate that natural drainage patterns will not be significantly altered by a proposed landfill amendment. In effect, they are saying that the acquired technical or particular meaning of "natural drainage patterns" is the currently approved site closure condition. The ALJ agrees.

There are several reasons to reach this conclusion. First, all of the expert drainage witnesses understood that in the context of a landfill amendment "natural drainage patterns" means the currently approved site closure condition. The phrase has that meaning to the technical community.

Second, there is what might be called the chain-of-approvals argument. The ED notes that the prohibition on significantly altering natural drainage patterns has remained in effect since before BFI obtained its original permit in 1982.<sup>43</sup> Assuming that the "natural drainage conditions" were those that existed prior to the issuance of BFI's initial permit, the Commission's predecessor agency, when it issued BFI's initial permit, must have concluded that the site closure condition proposed in the BFI's application would not alter them. Similarly, the Commission and its predecessors must have concluded that each subsequent amendment would not significantly alter those drainage conditions. As BFI's drainage expert, Mr. Mehevec, succinctly put it:

The drainage analyses that were performed for the original permit and subsequent permit modifications were all reviewed by the TCEQ and determined to not significantly alter natural drainage patterns. Therefore, this [existing permitted] condition has become the natural drainage condition.<sup>44</sup>

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<sup>43</sup> The ED attached to his reply brief what purports to be the rules of the Texas Board of Health that became effective on November 19, 1980. Section E – Permit Procedures and Design Criteria, E-2.3e(6)(c) states: "Natural drainage patterns shall not be significantly altered." **The ALJ takes official notice of this rule adopted by the TCEQ's predecessor agency. Any objection to that notice should be filed as an exception to this PFD.**

<sup>44</sup> BFI Ex. AM-1, pp. 18-19.

Third, and most importantly, there is RG-417, which was written by the Commission Staff to reflect its understanding of the how to apply the no-significant-change-in-natural-drainage rule when a permit has already been issued and an amendment is filed. It also appears that RG-417 reflects the Commission's understanding and not just its Staff's. As TJFA notes, the Commission revised the no-significant-change-in-drainage-conditions rule in 2006.<sup>45</sup> The revised rules states that "existing drainage patterns will not be adversely altered," and the Commission indicated in its preamble:

The commission made this change to make the rule language consistent with the language provided in guidance (RG-417, Guidance for Preparing a Surface Water Drainage Plan for a Municipal Solid Waste Facility).<sup>46</sup>

TJFA reads this language as indicating a substantive change, but to the ALJ it shows that RG-417 reflects the Commissioners' understanding of the rules that had been in place, which are applicable to BFI's application. A long line of cases stands for the proposition that an agency's interpretation of its own rules must be given deference.<sup>47</sup> The ALJ concludes that RG-417 reflects the Commission's understanding of the rules applicable to BFI's application. Thus, for the proposed expansion of BFI's existing Facility sought in this case, the appropriate comparison is between the currently approved (permitted) site closure condition and the proposed post-development condition sought in BFI's amendment.

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<sup>45</sup> Current version of 30 TAC § 330.63(c)(1)(C), which is not applicable to the current Application because BFI filed it before that rule was adopted.

<sup>46</sup> 31 Tex. Reg. 2558 (Mar. 24, 2006). **The ALJ takes official notice of this preamble language. Any objection to that notice should be filed as an exception to the PFD.**

<sup>47</sup> *PUC v. Gulf States Utilities Co.*, 809 S.W.2d 201, 207 (Tex. 1991); *BFI Waste Systems of North America, Inc. v. Martinez Environmental Group*, 93 S.W.3d 570, 575-76 (Tex.App.—Austin 2002, pet. denied); *H.G. Sledge, Inc. v. Prospective Inc. Trading Co., Ltd.*, 36 S.W.3d 597, 604 (Tex.App.—Austin 2002, pet. denied).

### 3. Factual Arguments

NNC's position is very different from TJFA's. NNC agrees with BFI that it was required to compare its proposed post-development drainage conditions to those that are currently permitted to exist. However, BFI's comparison shows, according to NNC, that drainage peak flow on the west side of landfill will significantly increase from the existing conditions that are currently permitted if the applied-for post-development conditions are approved. NNC particularly objects because it contends that the increase in the drainage peak flow will flow onto and harm Williams Ltd.'s property.

NNC focuses on a drainage drawing that was submitted for BFI's 2002 permit modification and was labeled "PROPOSED DRAINAGE CONDITION."<sup>48</sup> Since that was the last time the permit was changed, NNC contends that drawing should represent the existing drainage condition, which BFI may not significantly alter.<sup>49</sup> However, in its current Application, BFI submitted a drawing labeled "EXISTING DRAINAGE CONDITION" that shows different and much higher peak flows at two outfalls on the west side of the landfill.<sup>50</sup> The drawing for the current Application shows a 175.4 cfs peak flow at Outfall 5, while the drawing for the 2002 modification showed a peak flow of 66 cfs at that same location, though for a somewhat smaller drainage area. At Outfall 4, the drawing for the current Application shows a 65.8 cfs peak flow, while the one for the 2002 modification showed a 26 cfs peak flow for the same drainage area.<sup>51</sup>

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<sup>48</sup> NNC Ex. 3.

<sup>49</sup> The drainage drawings finally approved on October 22, 2002, for the 2002 modification is also in evidence as BFI Ex. AM 32, but it, too, shows the same 66 cfs and 26 cfs peak flows at the same locations. Tr. 983 *et seq.*

<sup>50</sup> NNC Ex. 4, which is also BFI Ex. RS-11, p. APP 000967.

<sup>51</sup> Tr. 169 *et seq.*

Assuming for the sake of argument that it was proper for BFI to compare proposed conditions to those currently approved, TJFA focuses on different evidence than NNC and argues that it, too, shows that peak flows will substantially increase at Outfalls 4 and 5. It notes that BFI's consultant prepared and submitted to Austin two other drawings showing the existing and proposed drainage conditions.<sup>52</sup> For Outlet 5, these show a 113.3 cfs peak flow under existing conditions and a 112 cfs peak for proposed conditions. For Outfall 4, they show a 40.8 cfs peak flow under existing conditions and a 41.8 cfs peak flow under proposed conditions. Focusing on the proposed conditions in those submittals to Austin and comparing them to the existing conditions shown in the current permit Application, TJFA argues they show substantial increases in flows: from 26 cfs to 41.8 cfs at Outlet 4 and from 66 to 112 cfs at Outlet 5.

There is no substance to these contentions that the amended conditions would increase peak flows from Outlets 4 and 5 over existing approved conditions. First, as previously indicated, none of the drainage experts testified that there would be an increase in peak flows from those two outlets. These TJFA's and NNC's arguments are based solely on their lawyers' interpretations of documents. Having said that, why do the documents that NNC and TJFA point to appear to show increases in peak flows at Outlets 4 and 5?

BFI submitted a drainage permit modification in 2002.<sup>53</sup> As it relates to Outfall 5, the peak discharge flow was 66 cfs based on the then-applicable TCEQ methodology. That calculation reflected BFI's consultants' understanding at the time that the flow in the northwest corner of the landfill outside the footprint but inside the site boundary naturally flowed to the east. Additionally, the calculation assumed that the drainage area in the northwest corner of the landfill did not include the 50-foot buffer zones in that corner.

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<sup>52</sup> BFI Exs. AM 34 and 35.

<sup>53</sup> BFI Ex. AM-32.

TxDOT adopted new drainage calculation criteria in 2004. It contained many significant changes from the previous TxDOT method that had been in effect since 1985. The TCEQ requires an applicant to use that TxDOT method.<sup>54</sup>

BFI first submitted its permit expansion application to the TCEQ for review in January 2006. The Application originally contained a pre-development flow estimate of 175 cfs at Outfall 5 using the revised TxDOT criteria, the inclusion of the buffer zones in all watersheds for the drainage analysis, and the realization (based upon updated survey data that was more precise) that approximately 2½ acres of the buffer zone in the northwest corner that are unaffected by the landfill footprint did not naturally flow to the east and toward Outfall 1 as BFI previously believed. Instead, that small triangle of land contributed a *de minimis* increase in flow (using the new TxDOT criteria) to the south toward Outfall 5.<sup>55</sup>

Also in 2006, BFI submitted a modification to delete eleven acres from the northeast corner of the landfill footprint.<sup>56</sup> Because the only outfall that was impacted by the deletion of this area was Outfall 1 (which is in the northeast corner), the modification did not change flows for the other five outfalls, so they were not recalculated.<sup>57</sup> For the current Application, Mr. Mehevec recalculated the flows for all of the outlets since modifications to all watersheds are being proposed.

The final submission of the Application in this case was declared technically complete in March 2007. The flows depicted in the technically complete Application were all calculated using the newly revised TxDOT criteria and the properly delineated drainage areas for each

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<sup>54</sup> Tr. 1026, and 1033 *et seq.*

<sup>55</sup> Tr. 1026.

<sup>56</sup> BFI Ex. AM-33.

<sup>57</sup> Tr. 1047.

outfall using the revised topographic information. That is what is set out in the tables above in the PFD, which show one change, the increase in run-off volume Outfall 1.

When all of the above is sorted through, it is sufficiently clear to the ALJ that NNC and TJFA are comparing existing and proposed peak flows at Outlets 4 and 5 that were calculated using different methodologies. Additionally, some of the “existing” peak flows that NNC and TJFA cite do not reflect the changes in inputs that Mr. Mehevec properly made when he recalculated “existing” peak flows for this case, such as the updated survey data that was more precise.

Ultimately of course, the ALJ and the Commission must rely on properly qualified experts to determine whether altering a landfill would substantially impact drainage conditions. Thus, the most critical evidentiary point is that no expert challenged Mr. Mehevec’s conclusion that there would be no significant impact on drainage conditions. The ALJ sides with all of the experts. He concludes that Application demonstrates that natural drainage patterns will not be significantly altered by the expansion, in accordance with agency rules, including 30 TAC § 330.56(f)(4)(A)(iv).

**B. Whether The Application Includes Adequate Provisions To Control Disease Vectors, In Compliance with Agency Rules, Including 30 TAC §§ 330.126 and 330.133(a).**

BFI offered sufficient evidence, and no other Party contests this issue. The ALJ finds the Application includes adequate provisions to control disease vectors, in compliance with agency rules.

**C. Whether The Application Proposes Adequate Protection Of Ground Water and Surface Water, In Compliance with Agency Rules, Including 30 TAC §§ 330.55(b)(1), 330.56(f), 330.134, and 330.200-.206.**

TJFA argues that BFI has not proposed adequate protection of either surface water or groundwater. In fact, it claims that BFI's landfill liner may already be leaking and polluting groundwater. NNC does not go that far, but it does agree that BFI has not shown it will protect surface water.

BFI claims that it has carried its burden of proof on these water protection issues, and all parties other than TJFA and NNC agree. The ALJ agrees that BFI has proven its case.

**1. Applicable Rules**

Section 330.55(b) (1) of the Commission's rules provides:

A facility shall not cause:

(A) a discharge of solid wastes or pollutants adjacent to or into the water in the state, including wetlands, that is in violation of the requirements of the Texas Water Code, § 26.121;

(B) a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to § 402 as amended;

(C) a discharge of dredged or fill material to waters of the United States, including wetlands, that is in violation of the requirements under the Federal Clean Water Act, § 404, as amended; and

(D) a discharge of a nonpoint source pollution of waters of the United States, including wetlands, that violates any requirement of an areawide or statewide water quality management plan that has been approved under the Federal Clean Water Act, § 208 or § 319, as amended.

Section 330.56(f) requires an applicant for a municipal solid waster permit to include in its site development plan an Attachment 6, which is a groundwater and surface water protection plan and drainage plan. There are many specifics, but generally the rule requires:

These plans must reflect locations, details, and typical sections of levees, dikes, drainage channels, culverts, holding ponds, trench liners, storm sewers, leachate collection systems, or any other facilities relating to the protection of groundwater and surface water. Adequacy of provisions for safe passage of any internal or externally adjacent floodwaters should be reflected here.

Additionally, 30 TAC §§ 330.200-.206 provide the requirements for ground water protection design and operation.

## **2. Surface Water Protection**

As to surface water protection, NNC makes the same argument discussed above under Issue A. It claims that BFI's own evidence shows that if the Application is approved there will be an increase in drainage peak flow volume on the west side of the landfill and onto Williams Ltd.'s property from that currently existing and permitted.

TJFA makes a different argument. It contends that BFI's proposed methods of controlling erosion are inadequate; hence, eroded sediment will adversely impact surface water. TJFA's argument is considered under Issue Y, below, concerning the sufficiency of the proposed erosion control methods.

As set out under Issues A and Y elsewhere in the PFD, the ALJ disagrees with both NNC and TJFA. He concludes that the Application proposes adequate protection of surface water.

### 3. Groundwater Protection

TJFA and its experts claim that BFI's Application and other evidence indicate that BFI's Landfill is already not protective of groundwater. No other party or witness agrees with TJFA's contention. Neither does the ALJ.

#### a. Exploration of the Subsurface

To protect groundwater, BFI needs a proper understanding of the subsurface at its Facility. TJFA's expert, Mr. Pierce Chandler P.E., testified that the Application does not adequately characterize the subsurface. Mr. Chandler contends that the subsurface investigation methods used were inadequate and did not provide information needed to design and operate a landfill.<sup>58</sup> No other testifying expert shares Mr. Chandler's opinion on this point. The ALJ does not agree with Mr. Chandler.

BFI conducted a subsurface investigation to determine the geologic feasibility and soundness of the proposed vertical expansion. Mike Snyder, a geologist and registered professional geoscientist, and individuals under his direction performed field activities for the subsurface investigation.<sup>59</sup>

Mr. Snyder and his team also reviewed previous subsurface investigations that had been conducted at the site, including the original investigation that was performed by the Raba-Kistner consulting firm in the early 1980s. They analyzed data from soil borings and piezometers that were installed during those investigations to determine and confirm subsurface conditions.<sup>60</sup>

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<sup>58</sup> TJFA Ex. PC-1, pp. 34 and 45.

<sup>59</sup> BFI Ex. JS-1, pp. 10-11 and 21-23.

<sup>60</sup> BFI Ex. JS-1, pp. 21-22 and 25-26.

TCEQ and its predecessor agencies had previously concluded that the subsurface conditions had been adequately characterized beneath the existing facility.<sup>61</sup>

The existing permit for the Landfill was issued based on prior applications meeting the rules in effect at the time, including rules that required characterizing the subsurface at the site. In addition, BFI modified its permit in the mid-1990s to comply with new state requirements to upgrade to federal RCRA Subtitle D standards for MSW landfills, including standards for groundwater characterization and monitoring system design. As part of that upgrade to Subtitle D standards, BFI performed additional characterization of the groundwater at the site, redesigned the groundwater monitoring system, and installed the redesigned monitoring system. The results of these previous investigations are incorporated in the Geology and Geotechnical Report in Attachment 4 to the Site Development Plan, in Part III of the Application.

In April 2004, Mr. Snyder submitted a boring plan to the Executive Director on BFI's behalf in connection with the proposed expansion. At the time, BFI was contemplating a 14-acre lateral expansion of the landfill in addition to a vertical expansion, with deeper excavations in this 14-acre lateral expansion area. The initial boring plan was revised in June 2004, and was approved by the Executive Director in July 2004. Under Mr. Snyder's supervision, eighteen additional borings were drilled in the summer of 2004 in connection with the plan. All told, at least 85 borings have been completed at the site since the original boring plan for the facility was prepared and executed by Raba-Kistner. All of the borings were conducted in accordance with established field exploration methods. No additional excavations will occur in connection with the vertical-only expansion of the landfill.<sup>62</sup>

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<sup>61</sup> ED Ex. ED-AA1, pp. 42-43; Tr. 2259.

<sup>62</sup> BFI Ex. JS-1, pp. 20-21 and 23; Tr. 1486.

TJFA's expert, Mr. Chandler, acknowledged that the borings he was critical of were extra borings for the abandoned vertical expansion, which were not required to be in this Application.<sup>63</sup> Therefore, Mr. Chandler's concerns about the additional subsurface investigation are not relevant to whether this Application should be approved.

**b. Character of the Subsurface**

The geology and hydrogeology at the Sunset Farms site is uniform, simple, and straightforward.<sup>64</sup> The landfill is located within the general outcrop area of the Taylor Group, which is comprised of highly impermeable clays/shales.<sup>65</sup> All witnesses who were asked, including TJFA's Mr. Chandler, agreed that the Taylor is one of the best formations in the state in which to locate landfills.<sup>66</sup> Indeed, a significant number of landfills have been permitted and constructed in the Taylor, including the TDS Landfill in southern Travis County that is owned and operated by TJFA's limited partner and corporate affiliates.<sup>67</sup>

The soils of the Taylor are divided into the upper "weathered" and the lower "unweathered" Taylor. At the site, the weathered Taylor consists of 30 to 75 feet of stiff-to-hard clay weathered from the marl; the average thickness of the weathered Taylor across the site is approximately 45 feet. The unweathered Taylor lies immediately below the weathered Taylor and is several hundred feet thick at the site. The contact between the weathered and unweathered Taylor tends to mimic the contours of the original surface topography. The unweathered Taylor is of sufficiently low permeability and of lateral areal extent to prevent the downward migration

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<sup>63</sup> Tr. Page 1470

<sup>64</sup> Tr. 1457-58, 1508-09 & Tr. 1715-16.

<sup>65</sup> BFI Ex. JS-1 at pp. 16-17.

<sup>66</sup> Tr. 415, 1461 & 1717-18.

<sup>67</sup> Tr. 1458.

of shallow groundwater from the uppermost aquifer to deeper aquifers. It serves as the aquiclude (or, alternatively, "aquitard" or "lower confining unit") beneath the uppermost aquifer.<sup>68</sup>

The ALJ concludes that the native soils at the site minimize the possibility of groundwater being contaminated by the BFI Landfill.

**c. Existing Landfill Liner**

The entire 251.5-acre fill area has been excavated and lined in accordance with the provisions of BFI's prior and existing permits.<sup>69</sup> Approximately 90 acres of the landfill's footprint was lined under the pre-Subtitle D permit and associated regulations, and approximately 161.5 acres of the footprint were lined under a Subtitle D-compliant permit and associated regulations.<sup>70</sup> The pre-Subtitle D liner was constructed with a liner system consisting of a minimum of three feet of compacted clay; this clay liner was compacted to have a maximum permeability of  $1.0 \times 10^{-7}$  cm/sec.<sup>71</sup> The Subtitle D liner was constructed with a liner system consisting of a minimum of two feet of clay compacted to a maximum permeability of  $1.0 \times 10^{-7}$  cm/sec overlain with a 60-mil thick plastic membrane liner. These liners were constructed in accordance with the relevant regulatory standards.<sup>72</sup> All liners were tested and soil liner evaluation reports (SLERs) were approved by the TCEQ and its predecessors.<sup>73</sup>

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<sup>68</sup> BFI Ex. JS-1, pp. 27-32 and 35-36; Tr. 1459-1460, 1620, & 1716-1717.

<sup>69</sup> BFI Ex. JS-1, p. 47.

<sup>70</sup> BFI Ex. RS-1, p. 11; BFI Ex. 11.

<sup>71</sup> BFI Ex. 11; Tr. 1563-64.

<sup>72</sup> BFI Ex. RS-1, p. 48.

<sup>73</sup> BFI Ex. 11; Tr. 1548-53.

BFI provided the following information in Attachment 10 (Soil and Liner Quality Control Plan) of Part III of the Application:<sup>74</sup>

- a summary of the types of soil and geologic formation at the site;
- details of the composite liner and leachate collection system used for waste containment at the site;
- material specifications, installation and quality control testing methods and procedures for the compacted clay liner, the flexible membrane liner, and the leachate collection system;
- details of the proposed short-term and long-term hydrostatic uplift pressure relief systems for liners constructed below the groundwater table at the site using underdrain dewatering and ballasting methods; and
- details of the liner (construction/installation) evaluation reporting and ballast (installation) evaluation-reporting procedures.

The ALJ concludes that the liners at the BFI Facility further and substantially reduce the minimal possibility of groundwater being contaminated due to the BFI Landfill.

**d. There is No Reason to Believe that BFI's Liner is Leaking**

TJFA contends that there is a strong probability that water (*i.e.*, leachate) is mounding in BFI's landfill due to liner leakage. BFI vigorously denies that its landfill is leaking. No other Party agreed that there was evidence that BFI's liner leaks. The ALJ finds that there is no credible evidence that the Landfill's liner is leaking.

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<sup>74</sup> BFI Ex. RS-11, pp. APP 001157, *et seq.*

In his prefiled testimony, TJFA's witness, Dr. Kier, did not merely suggest that there may be a leak. He stated:

[B]ased on the information provided in the permit amendment application . . . it appears that the landfill is a source of groundwater recharge, which by definition is leachate, not only within the landfill, but hydraulically connected to the outside of the landfill and that this groundwater is moving offsite.<sup>75</sup>

Similarly, TJFA's Mr. Chandler testified in his prefiled that:

[T]he application provides conclusive evidence that the existing landfill is releasing contaminated leachate into the subsurface [and] groundwater mounding is occurring under the landfill.<sup>76</sup>

Dr. Kier and Mr. Chandler did not simply note inconsistencies, poorly worded statements, or lack of supporting information in BFI's Application that suggested BFI's liner might be leaking. Instead, they stated that BFI's liner actually was leaking leachate into and polluting the groundwater. The ALJ concludes that Dr. Kier and Mr. Chandler had no reasonable and intellectually honest basis for claiming that BFI's liner was leaking.

As BFI points out, alleging that a landfill's liner is leaking is a very serious charge. TJFA's affiliate, TDS, sued a competitor, Waste Management of Texas, simply for disparaging the quality of TDS's liner. Waste Management had never indicated that the TDS liner had leaked.<sup>77</sup> As set out below, however, there no significant evidence that BFI's liner in leaking.

The ALJ would expect any expert witness, and especially one who regularly prepares and testifies concerning permit applications before the Commission to have conducted thorough

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<sup>75</sup> TJFA Ex. BK-1, p. 7.

<sup>76</sup> TJFA Ex. PC-1, pp. 86-87.

<sup>77</sup> Tr. 1721-22.

investigations before making such a serious and unequivocal allegation that a landfill liner is leaking. Dr. Kier and Mr. Chandler utterly failed to do this. Instead, Dr. Kier and Mr. Chandler interpreted information in BFI's Application and elsewhere in ways that made no sense. It is as if they had decided in advance to claim that BFI's liner had a leak, no matter what the evidence showed. That is not acceptable in this or any other case. The ALJ is forced to conclude that Dr. Kier and Mr. Chandler, despite their qualifications, are not credible witnesses on this issue.

**(i) Potentiometric Water Level Drawings**

When they prepared prefiled testimony claiming that BFI had a liner leak, Mr. Chandler and Dr. Kier pointed only to the groundwater level symbols and a dotted line on drawings in the Application.<sup>78</sup> They could point to no groundwater monitoring data to support their claim that the landfill was leaking. In fact, they conceded that they did not even look for any such recent data to either confirm or refute their allegations.<sup>79</sup> Neither man performed or even attempted to perform any independent analyses, studies, or calculations in support of their allegations.<sup>80</sup>

Dr. Kier and Mr. Chandler both testified that materials contained in the Application reflected high water levels in the western portion of the landfill, indicative of leakage.<sup>81</sup> They based their conclusions on a review of groundwater contours reflected in cross-sections contained in Part III, Attachment 4 of the Application.<sup>82</sup>

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<sup>78</sup> Tr. 1519-21, 1594-96, 1614, 1724-26, and 1738, *et seq.*; TJFA Ex. BK-1, pp. 8-9.

<sup>79</sup> Tr. 1438; Tr. 1526-27; Tr. 1617, 1620, and 1738.

<sup>80</sup> Tr. 1526-27 and 1739-42.

<sup>81</sup> TJFA Ex. BK-1, p. 7, and Ex. PC-1, pp. 86-88.

<sup>82</sup> BFI Ex. RS-11, pp. APP 000409 and APP 000708 – APP 000715, and Ex. JS-4; TJFA Ex. 3.

The cross-sections were signed and sealed by either Mr. Snyder, BFI's groundwater expert, or by Mr. Olson, one of BFI's engineers.<sup>83</sup> Each of the referenced cross-sections contained a legend indicating that a dashed and dotted line represented the groundwater levels from December 1999. As these materials depicted geologic cross-sections of the landfill, the groundwater levels varied on the individual cross-sections. However, according to Mr. Chandler they showed consistently high water levels in the western portion of the landfill. He stated that the high water levels reflected a groundwater "mound" that in certain places exceeded the height of the previously existing natural ground surface.<sup>84</sup>

Additional contour maps were produced during discovery. These maps also depicted groundwater contours prepared by the Carel Corporation, BFI's longstanding groundwater monitoring consultant. TJFA contends that Carel's contour maps also indicate higher elevations of groundwater in the western portions of BFI's landfill.<sup>85</sup>

Mr. Snyder explained the drawings that Dr. Kier and Mr. Chandler claimed proved a leak. Mr. Snyder was precise: the water level shown on the drawings did not indicate the level of water in the landfill, but a water level projected from a potentiometric surface map that was drawn to reflect water levels on that day.<sup>86</sup> To understand that statement, requires some background information.

The BFI site sits on a topographic high, and groundwater flows in all directions from the site.<sup>87</sup> As BFI developed the landfill, portions of the uppermost aquifer were excavated and blocked off at the edges of the excavations by the landfill liners, which are designed to cause the

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<sup>83</sup> Tr. 1615.

<sup>84</sup> TJFA Ex. PC-1, pp. 86-87; BFI Ex. RS-11, Attachment 2, p. APP 000409.

<sup>85</sup> TJFA Exs. BK-1, p. 15-16; BK-3; BK-5; and BK-6.

<sup>86</sup> Tr. 294.

<sup>87</sup> BFI Ex. JS-1, pp. 33-34 & 42.

groundwater to flow around those parts of the landfill in approximately the same directions as indicated by the potentiometric surface map. Mr. Snyder testified that the dashed contour lines on the drawings simply reflected high potentiometric surface elevations due to a “groundwater divide” from which groundwater flows to the west and to the east.<sup>88</sup> According to the December 1999 groundwater potentiometric surface map in Figure 4I.2 in Appendix I of Attachment 4, all of the groundwater elevation measurements in December 1999 were taken in wells or piezometers around the periphery of the landfill, and none were from within the landfill itself.<sup>89</sup> The groundwater potentiometric contours were drawn within the waste disposal area merely to represent the interpretation of BFI’s geologist as to what the shape of the potentiometric surface would be in the middle of the site, the level to which that water would rise in the absence of landfill development.<sup>90</sup>

The method of depicting a potentiometric surface used on the drawings in BFI’s Application is apparently common in the profession. The ED’s expert, Arten Avakian, had no problem understanding that the dotted and dashed line within the footprint of the excavated landfill represented only a potentiometric surface and did not reflect groundwater mounding within the Landfill.<sup>91</sup>

To test whether Dr. Kier truly had a different professional understanding, he was shown groundwater contours and a geologic cross-section drawing from a TDSL landfill Application during his cross-examination.<sup>92</sup> Like BFI’s Application, the contours and cross-section also depicted historic groundwater levels in the middle of the to-be-constructed landfill.<sup>93</sup> Yet

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<sup>88</sup> Tr. 440; TJFA Ex. 8; BFI Ex. RS-11, p. APP 000711.

<sup>89</sup> Tr. 403.

<sup>90</sup> Tr. 402-404.

<sup>91</sup> Tr. 2260-61.

<sup>92</sup> Tr. 1763 *et seq.*

<sup>93</sup> BFI Ex. 18.

Dr. Kier was quick to deny that the depictions in the TDSL application reflected actual groundwater levels inside the TDSL landfill or that the TDSL landfill was leaking.<sup>94</sup> The ALJ agrees with BFI that Dr. Kier applied a different standard of interpretation to the drawings in BFI's Application than he did to those in TDSL's, on which he had worked.

The ALJ concludes that the potentiometric water level drawing only show the level to which groundwater would have risen if no excavation and lining had not occurred at the BFI site. They do not indicate that groundwater has infiltrated BFI's liner.

**(ii) Information Concerning the Applied Materials Site**

Dr. Kier cited a portion of a 2002 report prepared by a consulting company, PBS&J,<sup>95</sup> which he argued showed groundwater contamination for which BFI is responsible. The PBS&J report concerned property to the east of BFI, where there is an Applied Materials facility. The reliability of this report is highly questionable since the people who actually prepared it are not identified, much less shown to be qualified to reach the conclusions contained in the report. Nevertheless, the portion of the report in evidence did not indicate that BFI was somehow responsible for contamination at Applied Materials. Moreover, BFI witness, Kevin Timothy Carel, specifically testified that there was no evidence of any leakage of leachate from the BFI Landfill traveling to the Applied Materials site.<sup>96</sup>

Leaving reliability concerns aside, the PBS&J report stated that samples from eight wells at the Applied Materials site were non-detect for both Appendix I and Appendix II constituents. Those are the constituents that EPA and TCEQ have specifically selected for groundwater

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<sup>94</sup> Tr. 1764-70.

<sup>95</sup> TJFA Ex. BK-7.

<sup>96</sup> Tr. 786-787.

sampling and analysis at MSW sites because they are potentially indicative of releases from landfills. The report tentatively identified a compound found in three wells, but even Dr. Kier agreed those wells were not downgradient from the BFI Facility. Additionally, two of those three wells were located near a former body shop and former gas station.<sup>97</sup>

A fourth well at Applied Materials is downgradient as groundwater flows from BFI. That well is located in the center of the Applied Materials site, at least 1,350 feet from Giles Lane and 2,000 feet from the BFI's landfill.<sup>98</sup> Mr. Snyder testified that groundwater flows in the area at a rate of 10 feet per year or less.<sup>99</sup> When asked what he thought of Mr. Snyder's estimated, Dr. Kier admitted that it was based on two actual measurements and a porosity assumption. When asked if he disagreed with that assumption, Dr. Kier admitted he had not looked at it and said, "I don't know. I don't know what it is. I didn't care."<sup>100</sup>

At 10 feet per year, Dr. Kier calculated that groundwater would take over 130 years to travel just from Giles Lane to the fourth well on the Applied Material site.<sup>101</sup> Since the BFI Facility has been open only 26 years, it would be impossible for any constituent that leaked from it to have traveled to that downgradient well at Applied Materials unless groundwater was flowing at a rate much higher than 10 feet per year.

Dr. Kier testified that groundwater might have flowed faster than ten feet per year due to changes in the subsurface clay caused by the impact of acids and solvents placed at the Waste Management landfill adjacent to BFI's.<sup>102</sup> His explanation made no sense. He was repeatedly

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<sup>97</sup> Tr. 1748-51; TJFA Ex. BK-7.

<sup>98</sup> Tr. 1751-55.

<sup>99</sup> Tr. 412 and 1615-1616.

<sup>100</sup> Tr. 1616-1617.

<sup>101</sup> Tr. 1754-55.

<sup>102</sup> Tr. 1621 *et seq.*

asked if he had taken measurements or seen specific data to support that theory, but he never cited any or properly responded to the question.<sup>103</sup> When repeatedly asked if he had seen any data to support his theory that groundwater was moving at such a high velocity, Dr. Kier reasoned in a circle:

[I]f you have these constituents over at Applied Materials and they could only have come from Waste Management, that is a measure of groundwater velocity to the limited extent that if you assume it started here in '70 and it's here now.<sup>104</sup>

In other words, Dr. Kier claims that the constituents must have traveled in the groundwater at a rate greater than 10 feet per year because a greater rate was required to go from the point that Dr. Kier insisted that they came from to another point that he insisted they got to in the time he insisted that they took. This is junk science.

Finally, the compound of concern that the PBS&J report tentatively identified in the one well at Applied Materials that is downgradient of BFI is identified with nylon. That suggests nothing more than a sampling error, since nylon rope was used in the sampling procedure.<sup>105</sup> Notably, in a 1998 study that Dr. Kier prepared for Bob Gregory, Dr. Kier wrote that there was no evidence that BFI's Landfill had contributed to any alleged contamination on the Applied Materials site.<sup>106</sup>

In the absence of specific contradictory evidence, the ALJ concludes that Mr. Snyder's opinion that groundwater in the area moves at ten feet per year or less is correct. Based on that and the distance from the BFI Facility to the only monitoring well on the Applied Material

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<sup>103</sup> Tr. Tr. 1620 *et seq.*

<sup>104</sup> Tr. 1622.

<sup>105</sup> Tr. 321-326.

<sup>106</sup> Tr. 1747; TJFA Ex. BK-8.

property that is downgradient from the BFI Facility, the ALJ concludes that any contamination in that well could not have come from the BFI Landfill.

**(iii) Extraction Wells and Leachate**

According to TJFA, evidence from BFI's landfill gas extraction wells indicates leachate is mounding in the landfill, presumably due to leaks in the liner. No testifying expert, including TJFA's, reached this conclusion, no other party agrees with it. Neither does the ALJ.

To support its claim, TJFA relies primarily on a discussion of Mike Snyder's testimony. He identified selected water levels from the leachate level chart and transposed them onto a landfill gas (LFG) well location map. According to TJFA, this exercise showed that water levels in some of the LFG wells were high and that some of the leachate levels in the wells exceeded the height of the tops of the groundwater monitoring wells at the facility.<sup>107</sup>

Most of the LFG wells in which TJFA claims leachate levels are high are located in the western and southern areas of BFI's pre-Subtitle D landfill.<sup>108</sup> That includes EW-63 and EW-58, which TJFA argues showed some of the highest water levels. This pre-Subtitle D area is in the same vicinity where TJFA claimed groundwater was mounding.

But TJFA ignores Mr. Snyder's conclusion that liquid or condensate levels in individual LFG extraction wells is not indicative of leachate levels within the landfill itself.<sup>109</sup> He agreed that there is liquid leachate in some extraction wells, but noted that multiple wells around those do not contain liquid leachate. He stated, based on his experience, that

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<sup>107</sup> TJFA-9; Tr. 310; *see also* TJFA-1; BFI Ex. RS-11, Figure 14E-1, p. APP 001557 and Attachment 1.1, p. APP 000401.

<sup>108</sup> Tr. 311.

<sup>109</sup> Tr. 448 and 450.

. . . when you drill a hole into waste, there are pockets of moisture of leachate, and when you drill a hole through there, that provides an avenue for all that leachate to escape its normal condition where it's perched on waste levels or soil levels. And this is an accumulation of either leachate or possible gas condensate in a well, and it's reflective of a – either vertical or lateral connected level.<sup>110</sup>

BFI's landfill odor witness is Shari Beth Libicki. She holds a Ph.D. in chemical engineering from Stanford University and has extensive experience concerning air quality issues related to landfills and the use of landfill gas collection systems to control odors.<sup>111</sup> When cross-examined by TJFA, Dr. Libicki testified that, hypothetically, a 23-foot LFG well with 12 feet of liquid in it would not exhibit such a liquid level as a result of LFG condensate.<sup>112</sup> However, she also testified that she had no expertise in designing landfill gas or leachate collection systems.<sup>113</sup> If the liquid was not LFG condensate, TJFA infers that it was leachate.

TJFA also cites testimony of BFI witness Ray Lee Shull. He stated that the extraction wells extend to near the liner and that there were indications of leachate levels greater than one foot in the wells. One foot of leachate is the maximum allowed in post-Subtitle D landfills.<sup>114</sup>

A March 3, 2003 report by Gas Recovery System, LLC, (GRS), which was the operator for BFI's LFG system, stated that there were "high leachate levels" on the south slope of the landfill.<sup>115</sup> On July 13, 2004, a letter from GRS identified "leachate outbreaks" near wells EW-80 and EW-81.<sup>116</sup> On June 23, 2004, the Commission issued an Agreed Order that addressed

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<sup>110</sup> Tr. 309-10.

<sup>111</sup> BFI Ex. SL-1, pp. 1 *et seq.* and Tr. 466.

<sup>112</sup> Tr. 529.

<sup>113</sup> Tr. 465.

<sup>114</sup> Tr. 72-78; TJFA Ex. 1.

<sup>115</sup> TJFA Ex. 22.

<sup>116</sup> TJFA Ex. 21.

allegations stemming from alleged high leachate levels occurring at the landfill from late 2001.<sup>117</sup>

Matt Kent Stutz is a civil, environmental, and registered professional engineer who has participated in the design of landfill gas collection and control systems for over 100 landfills throughout the United States over the last ten years.<sup>118</sup> He designed the gas collection system for the BFI Facility.<sup>119</sup> He testified that leachate outbreaks are moist areas on the landfill side slope where leachate has surfaced on the outside of the landfill.<sup>120</sup> He explained that water in gas extraction wells is commonplace, expected, and not indicative of leachate levels within the landfill.<sup>121</sup> He stated:

All it tells us is that in that particular area that liquids have accumulated into that well. It tells us that as water percolates through the waste up above that well, that it has somehow come in contact with the well and that gravel pack has accumulated in that area.<sup>122</sup>

Mr. Stutz noted that he designs gas extraction wells in anticipation of collection of some liquids within the gas piping, and the design includes an installed pump to remove liquids as needed. He testified that liquid in the wells “does not in any way indicate that there's an amount of water coming from the bottom up. It's more likely that the water in the well is coming from water down . . .”<sup>123</sup> More specifically, concerning BFI's landfill and the liquids in Gas Well 110, Mr. Stutz stated:

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<sup>117</sup> BFI Ex. SL-11.

<sup>118</sup> BFI Exs. MS-1, p. 4 and MS-2.

<sup>119</sup> BFI Ex. MS-1, p. 6.

<sup>120</sup> Tr. 895.

<sup>121</sup> Tr. 915-926.

<sup>122</sup> Tr. 915-17.

<sup>123</sup> Tr. 921-922.

My opinion is that that well is in that area, that there's a leachate collection system in that area, that there's - - the water is not mounding up from the bottom, but simply the water has entered from the top. That's my opinion.<sup>124</sup>

The ALJ cannot conclude that the evidence of leachate levels in BFI's extractions wells indicates that groundwater has infiltrated BFI's landfill or that leachate is leaking through the liner into the groundwater.

**(iv) One Well is in Detection Monitoring**

To support its argument that the Application is not protective of groundwater, TJFA points to MW-30, on BFI's southern boundary with the ACL. That well has been placed into assessment monitoring due to the presence of 1-1 DCA, a volatile organic compound. PCE, a chemical associated with dry cleaner solvents, has also been detected in MW-30.<sup>125</sup> A prior monitoring well (MW-9) located near the present location of MW-30 along the BFI/ACL property line has also had statistically significant hits of Appendix 1 compounds in the past.<sup>126</sup> Dr. Kier concluded, based on this evidence, that the groundwater is contaminated at the location of MW-30 at BFI's landfill.<sup>127</sup>

Assessment monitoring is required whenever a statistically significant change in the quality of groundwater has been detected from one of the routinely monitored constituents. During assessment monitoring, the owner or operator must continue to sample for the standard lists of monitored constituents and also a significant additional list of constituents.<sup>128</sup>

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<sup>124</sup> Tr. 925.

<sup>125</sup> Tr. 348 and 349.

<sup>126</sup> Tr. 349 and 350.

<sup>127</sup> Tr. 1588.

<sup>128</sup> 30 TAC § 330.235.

Both Mr. Snyder and Mr. Carel openly discussed MW-30 in their testimony; both reasonably opined that the detections of low levels of volatile organic carbons (VOCs) were the result of landfill gas migrating through the unsaturated portion of the monitor well screen.<sup>129</sup> Neither VOC detected in MW-30 was detected at statistical levels over their respective groundwater protection levels.<sup>130</sup> Mr. Carel testified that the concentrations of DCA are small and have been decreasing over time and that PCE hasn't been detected at all in recent sampling events.<sup>131</sup> No other constituents have been detected in MW-30 that one would expect to see if a release of leachate actually occurred.<sup>132</sup>

**(v) Designation of Groundwater Monitoring Wells**

TJFA resorts to a word game to attempt to prove that groundwater is infiltrating BFI's landfill because the liner is leaking. BFI proposes a groundwater monitoring system that completely surrounds its Facility. A drawing sealed by Mr. Snyder is included in the Application that illustrates that system and shows the entire perimeter of the landfill to be the "downgradient point of compliance."<sup>133</sup> As TJFA notes, 30 TAC § 330.2(98) defines "Point of compliance" as:

A vertical surface located no more than 500 feet from the hydraulically downgradient limit of the waste management unit boundary, extending down through the uppermost aquifer underlying the regulated units, and located on land owned by the owner of the permitted facility.

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<sup>129</sup> BFI Ex. JS-1, pp. 45-46, and Ex. KC-1, pp. 17-22; Tr. 767-68.

<sup>130</sup> BFI Ex. JS-1, p. 46, and Ex. KC-1, p. 21.

<sup>131</sup> Tr. 781 and 790.

<sup>132</sup> BFI Ex. KC-1, p. 22.

<sup>133</sup> BFI Ex. RS-11, Figure 5A.1, p. APP 000874.

According to TJFA, by designating all of its groundwater monitoring wells as downgradient, BFI has admitted that groundwater levels within the landfill footprint are at higher elevations in order for the groundwater to flow towards its monitoring system. This argument is without merit.

Elsewhere in the PFD the ALJ concludes that the groundwater monitoring system complies with the applicable rules. In fact, by surrounding its entire facility with closed placed monitoring wells, BFI has exceeded what is required to detect groundwater contaminants flowing onto or off its Facility. Choosing to ring a landfill with monitoring wells in no way suggests that groundwater is flowing out of the landfill's liner.

**e. Separatory Liner**

While it concedes that BFI has complied with the rules applicable to its Application, OPIC nevertheless recommends that the Commission require BFI to install a separatory liner between the existing area where waste was deposited (Pre-Subtitle D Area) and the planned vertical expansion. There is no evidence showing a separatory liner is needed. In fact, Mr. Shull testified that consulting engineers did not determine that there was a technical need for such a liner.<sup>134</sup> Instead, OPIC argues that installing one would be more conservative and notes that current rules would require a new applicant to install such a liner.

The ALJ cannot find that installing a separatory liner is either required or needed.

**f. Groundwater Protection Conclusion**

The ALJ finds that the Application includes adequate provisions to ensure proper containment and isolation of deposited waste and associated leachate from ground water and

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<sup>134</sup> Tr. 78-79.

surrounding potential receptors. He also finds that the evidence and the Application demonstrate that there are adequate provisions to protect groundwater in compliance with the Commission's rules.

#### **4. Water Protection Conclusion**

The ALJ concludes that the Application proposes adequate protection of ground water and surface water, in compliance with agency rules, including 30 TAC §§ 330.55(b)(1), 330.56(f), 330.134, and 330.200-.206.

#### **D. Whether The Application Includes Adequate Provisions To Control Odors, In Compliance With Rules, Including 30 TAC §§ 330.125(b) and 330.133(a).**

NNC contends that BFI has failed to carry its burden of proof concerning odor control and that offensive odors make the Facility incompatible with surrounding land uses. TJFA agrees that odors make BFI's facility incompatible with surrounding land uses. BFI claims that it has made its case concerning odor control. The ALJ finds that BFI has carried its burden of proof on this issue.

##### **1. Odor Control Plan**

One of the rules referenced in the referral order, 30 TAC § 330.125(b), requires an odor management plan. It states:

The site operating plan must have an odor management plan that addresses the sources of odors and includes general instructions to control odors or sources of odors. Plans for odor management must include the identification of wastes that require special attention such as septage, grease trap waste, dead animals, and leachate.

The Application includes an Odor Control Plan, as required by 30 TAC §330.125(b). It gives special consideration to any potential sources of odor at the facility and requires special operating measures to be taken to identify potentially odiferous wastes that might require special attention.<sup>135</sup> Potential sources of odors such as liquid waste stabilization ponds and potential odor-producing practices such as the recirculation of leachate or use of alternate daily cover (ACD) have been removed or discontinued, and BFI is willing to accept special provisions prohibiting such practices.<sup>136</sup> With or without the special provision, neither recirculation of leachate nor liquid waste stabilization will occur at the Sunset Farms Landfill. Under the Odor Management Plan, BFI personnel would conduct a daily inspection of the Facility to determine if odors were being generated so that corrective measures could immediately be implemented.<sup>137</sup>

No party disputes that the Application contains an odor control plan as required by 30 TAC §330.125(b). The ALJ concludes that BFI has complied with that requirement.

## **2. Daily Cover**

The other specifically referenced rule, 30 TAC § 330.133(a), concerns daily cover and provides:

All landfills, with the exception of Type IV landfills, must apply six inches of well-compacted earthen material not previously mixed with garbage, rubbish, or other solid waste at the end of each operating day to control disease vectors, fires, odors, windblown litter or waste, and scavenging, unless the executive director requires a more frequent interval to control disease vectors, fires, odors, windblown litter or waste, and scavenging. Landfills that operate on a 24-hour basis must cover the working face or active disposal area at least once every 24 hours. All Type IV facilities must follow the requirements of this subsection

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<sup>135</sup> BFI Ex. RS-11, pp. APP 001754-55.

<sup>136</sup> BFI Ex. BD-1, pp. 25-27.

<sup>137</sup> BFI Ex. SL-1, pp. 31-32.

except the rate of cover must be no less than weekly, unless the commission approves another schedule.

The site operating plant (SOP) also requires use of daily cover to prevent odors as required by 30 TAC § 330.133(a).<sup>138</sup> The Sunset Farms Landfill does not use and does not seek authorization for use of alternative daily cover.<sup>139</sup>

No party contends that that BFI has failed to submit a daily cover plan to control odors. The ALJ concludes that BFI has complied with 30 TAC § 330.133(a).

### **3. History of Odors**

Despite the compliance with the odor-management-plan and daily-cover rules, NNC argues that offensive odors from the BFI Facility have been an ongoing problem. BFI responds that the great weight of the evidence is that it has adequately controlled odors. The ALJ agrees with BFI.

Several referred issues concern the history of odors from the BFI landfill. Those include the present issue, landfill gas management, provisions for cover, compliance history, compatibility with land uses in the area, and the avoidance of nuisance. To avoid confusing fragmentation and redundancy, the ALJ considers here all of the evidence concerning the history of odors from BFI's landfill.

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<sup>138</sup> BFI Ex. RS-11, pp. APP 001760-61.

<sup>139</sup> Tr. 505-07.

**a. Admitted Odor Violations**

BFI's Mr. Dugas testified that in November 2001, there was a very large rainfall event that led to odor problems at the BFI Facility and at the neighboring Waste Management landfill. Both had been accepting large amounts of construction and demolition waste prior to the rain, which contained wallboard that generates hydrogen sulfide when it decays. Hydrogen sulfide smells like rotten eggs.<sup>140</sup>

The ED subsequently issued notices of violation to BFI in April and May 2002. He alleged, among other things, that BFI had allowed leachate levels to rise more than twelve inches above the liner on December 6, 2001, and discharge one or more air contaminants in such concentration and duration as to interfere with normal use and enjoyment of property on April 4, 2002. BFI denied the allegations, but agreed to take corrective action as reflected in an agreed order issued by the Commission on June 23, 2004.<sup>141</sup>

BFI admits in its closing argument that its Facility contributed to some of the odor problems that existed in the vicinity of the landfills in late 2001 and 2002. According to NNC, BFI admits that it had an odor problem from 2001 until 2004.<sup>142</sup> That is not entirely supported by the record. As to the time frame, BFI admits that the odor problems continued into 2002, but not into 2004. In fact, according to the Agreed Order, the ED only alleged violations during the time frame from December 6, 2001, to April 4, 2002.

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<sup>140</sup> BFI Ex. BD-1, p. 20 *et seq.*

<sup>141</sup> BFI Ex. SL-11.

<sup>142</sup> BFI Ex. BD-1, p. 20 *et seq.*

In accordance with the Agreed Order, BFI took action to address and resolve any odor problems.<sup>143</sup> It completed a 180-well gas collection system that covers the entirety of the landfill.<sup>144</sup> It eliminated the liquid waste stabilization basin, and no longer accepts liquid wastes that do not pass the paint filter test.<sup>145</sup> It stopped recirculating leachate and condensate, which is now disposed off-site at a publicly owned treatment works (POTW). It installed and still uses a mister system.<sup>146</sup> It developed and implemented an Odor Management Plan, and, as part of that plan, it now conducts daily odor inspections at the site. It agreed not to use alternate daily cover.<sup>147</sup> And it has incorporated various practices involving waste acceptance, placement and compaction that all serve to control potential odors.<sup>148</sup>

NNC contends that the odor problems in 2001 and 2002 indicate those problems are likely to return. BFI disputes that. As to the specific conditions that gave rise to those odor violations, BFI correctly responds that there is no evidence that they continue to exist or will exist under the permit amendment. Moreover, aside from those that were the subject of the Agreed Order, BFI has not received another odor-related notice of violation (NOV) for Sunset Farms in 26 years.<sup>149</sup> The ALJ cannot conclude that the specific activities that led to odors that were the subject of the Agreed Order are likely to recur.

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<sup>143</sup> BFI Ex. MS-5.

<sup>144</sup> Tr. 871; BFI Ex. MS-6.

<sup>145</sup> BFI Ex. BD-1, p. 13.

<sup>146</sup> BFI Ex. RS-1, pp. 56-57.

<sup>147</sup> BFI Ex. SL-1, pp. 33-34.

<sup>148</sup> BFI Ex. SL-1, p. 37.

<sup>149</sup> BFI Ex. BD-1, p. 48.

**b. Other Alleged Odors**

According to several NNC witnesses, however, the odors from the Facility have never completely gone away. Evelyn Remmert lives directly north of the Facility. She has noticed the same level of odors for the last twelve years, which were nauseating on at least one occasion and are worse when it rains.<sup>150</sup> John Wilkins is trustee for a 119-acre tract that is one-quarter mile west of the landfill. Mr. Wilkins concedes that the odors have diminished since 2004 but stated that they are still there when the wind blows from the east.<sup>151</sup> Mark McAfee owns the Barr Mansion, which is about one mile west of the Facility and which he rents for weddings and parties. Mr. McAfee has noticed odors, which on one occasion were so bad that a repeat customer stopped booking the mansion for holiday parties.<sup>152</sup>

Harris Branch is a subdivision less than one mile northeast of BFI's Facility that contains over one thousand homes with more being built.<sup>153</sup> For eighteen years, Robert Andrews has lived in Harris Branch. When the wind blows from the south, he claims that the odors from BFI smell like "baby poop."<sup>154</sup> Jeremiah Bentley has noticed odors at the Harris Branch Recreation Center and the Bluebonnet Trail Elementary School, near Harris Branch.<sup>155</sup> Delmar Rogers also lives to the northeast and notices odors when there is a south wind.<sup>156</sup>

The ALJ certainly found each of those lay witnesses credible when they testified that they have noticed odors and were offended by them. There is, however, other evidence to indicate

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<sup>150</sup> Tr. 1975 *et seq.* and NNC Ex. ER-7.

<sup>151</sup> Tr. 1637 *et seq.*

<sup>152</sup> NNC Ex. MM-1, p. 1 and Tr. 2035 *et seq.*

<sup>153</sup> NNC Ex. RGA-1, p. 1 and NNC Ex. JB-1, 5; Tr. 2126-27; BFI Ex. JW-4, p. 4.

<sup>154</sup> Tr. 1661.

<sup>155</sup> NNC Ex. JB-1, p. 5 *et seq.*

<sup>156</sup> Tr. 1663 *et seq.*

that the odors have declined to low levels in recent years and have not been extreme since the events covered by the Agreed Order.

BFI's witness Dr. Libicki was the only expert to testify regarding odor issues in the hearing. In addition to her other qualifications previously discussed, she works primarily in the air quality field, focusing on airborne emissions criteria and toxic pollutants and greenhouse gas emissions. She has worked as a consultant on numerous landfill air quality assessments. Dr. Libicki serves on a science advisory board that has reviewed the scientific merits of projects that have been funded with \$50 to \$70 million for strategic environmental research and development administered by the U.S. Departments of Defense and Energy and EPA. She teaches courses in environmental policy and regulation at Stanford University.<sup>157</sup>

Using data concerning odor complaints received by the Commission, Dr. Libicki prepared a chart showing the number of complaints received per month and the neighborhood or other location of the complainant. It graphically illustrates that complaints spiked from ten or less to nearly 260 in February 2002, receded to less than 40 in April and May 2002 and less than 20 from June to September 2002, then spiked again to approximately 90 in January 2003. By April 2003, odor complaints had fallen to nearly zero. Since then, complaints have averaged approximately five per month, except for an uptick to about 20 in September 2005 and about eight in October and November 2007.<sup>158</sup>

Dr. Libicki also prepared a series of maps to show the location of the complaints. There were none in 2000. In 2001, there was one or two from two locations in Harris Branch and a third location to the west of the Waste Management landfill. As indicated above, complaints spiked during 2002. The vast majority of those were from approximately eight locations in

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<sup>157</sup> BFI Ex. SL-1, p. 1 *et seq.* and BFI Ex. SL-2.

<sup>158</sup> BFI Ex. SL-8.

Harris Branch and three locations west of Waste Management. Since 2002, a small number of complaints have come from scattered locations in Harris Branch and the neighborhood west of the Waste Management facility.<sup>159</sup>

Joyce Best once lived in Harris Branch, but moved away, primarily due to the proximity of the landfill.<sup>160</sup> She noticed odors as early as 2001, which peaked by 2003 but persisted through 2006.<sup>161</sup> Ms. Best was dismissive of BFI's contention that odors must have declined since complaints had declined. She insisted that people simply got tired of complaining to the TCEQ, which took no action.<sup>162</sup> However, there is documentary evidence showing that TCEQ field personnel have quickly responded to odor complaints, even at night and on weekends.<sup>163</sup>

Additionally, a weeklong, 24-hour-per-day investigation of the odor problems was conducted by a TCEQ Strike Team in December 2002. Sensitive equipment was used to detect hydrogen sulfide, VOCs, and heat lines indicative of seeps from the gas recovery system and associated piping. In all, 409 samples were taken during 136 sampling events at numerous locations, including the Facility fence line, residences, schools, and businesses. Odors were categorized as 1 through 5. When an observation was conducted but no odor was detected, that fell into Category 1. Category 2 and 3 odors were barely detectable or noticeable, but not unpleasant. Category 4 odors were light to moderate or strong but intermittent and not of sufficient duration to be objectionable. Forty-nine percent of the observations were Category 1. Forty-one percent were Category 2 or 3, and ten percent were Category 4. The majority of the Category 4 odors were at the BFI fence line.<sup>164</sup>

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<sup>159</sup> BFI Ex. SL-10.

<sup>160</sup> NNC Ex. BEST-1, p. 1.

<sup>161</sup> Tr. 1952 *et seq.* and 1970 *et seq.*

<sup>162</sup> Tr. 1971.

<sup>163</sup> BFI Exs. 2, 3, and 4; Tr. 512-15.

<sup>164</sup> BFI Ex. SL-3.

Category 5 odors are capable of causing health effects, are highly objectionable, or can impact the intended use of a property. During its week of observation in December 2002, the strike team observed no Category 5 odors.<sup>165</sup>

Based on the above evidence, the ALJ concludes that the Commission Staff does take odor complaints seriously and investigates them intently when reasonably warranted by a high numbers of complaints. He also concludes that the Commission staff uses standardized, objective methods of observation when it investigates odor complaints. He also finds that the number of complaints has reasonably correlated with other evidence of the frequency and intensity of odors near the BFI Facility, as shown by corresponding spikes in complaints and other evidence of odors in 2001 and 2002. For that reason, the ALJ reasonably infers that odors from the BFI facility have been low in frequency and intensity since December 2002.

#### 4. Summary

There is no rule that prohibits all odors from a landfill. Instead, 30 TAC § 330.125(b) and other rules discussed in other portions of the PFD require an applicant to control odors. Based on the above and his finding below concerning management of landfill gas, the ALJ concludes that BFI's Application includes adequate provisions to control odors.

#### **E. Whether The Application Includes Adequate Provisions To Manage Landfill Gas, In Compliance With Agency Rules, Including 30 TAC §§ 330.56(n) and 330.130.**

TJFA did not concede this issue, but it offered no evidence or argument that BFI failed to carry its burden of proof. The ALJ finds that BFI has proven its case on this issue. Nevertheless, because it also concerns BFI's odor control, which is contested, the ALJ will summarize the landfill-gas-management evidence.

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<sup>165</sup> BFI Ex. SL-1, pp. 25 *et seq.* and 37-38 and BFI Ex. SL-3.

30 TAC § 330.56(n) requires an owner or operator to describe how landfill gases will be managed and controlled, requires methane monitoring, sets minimum standards for the monitoring system, sets limits on the amounts of methane allowed at the permit boundary and in facility structures, and requires action if the limits are exceeded. The rule also requires that these details be documented in a landfill gas management plan. 30 TAC § 330.130 requires that all landfill gases be monitored in accordance with the landfill gas management plan developed pursuant to 30 TAC § 330.56(n), and that all required reports and other submittals be included in the operating record of the facility and submitted to the ED.

BFI included a Landfill Gas Management Plan as Part III, Attachment 14 of the Application.<sup>166</sup> This plan contains all information required by the MSW regulations – including provisions to ensure that landfill gas does not exceed regulatory limits in on-site structures or at the site perimeter [30 TAC §§ 330.56(n)(1)&(7)]; a methane monitoring program to be conducted at appropriate frequencies and with required reports, submittals, and records to ensure those standards are met [30 TAC §§ 330.56(n)(2)&(8) and 30 TAC § 330.130]; and an Exceedence Action and Remediation Plan [30 TAC § 330.56(n)(3)].

The Gas Control and Collection System (GCCS) at Sunset Farms was initially installed in 1997 and 1999 for purposes of collecting gas to deliver to an on-site gas-to-energy facility.<sup>167</sup> The GCCS was not required at that time by any federal or state regulatory program, and the Facility had not experienced any odor issues since it opened in 1982. However, an odor problem later developed in the vicinity of the Sunset Farms and ACL landfills after several unusually large rain events occurred in late 2001.<sup>168</sup> BFI personnel determined that landfill gas from Sunset Farms was a likely contributor to the odor problem, and immediately implemented an

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<sup>166</sup> BFI Ex. RS-11, pp. APP 001500-65; BFI Ex. MS-3.

<sup>167</sup> BFI Ex. MS-1, p. 18.

<sup>168</sup> BFI Ex. SL-1, pp. 15-16 & 21-22.

aggressive plan to enhance the GCCS so that it would effectively control any landfill gas emissions and gas-related odors in addition to simply collecting and delivering gas to the gas-to-energy facility.<sup>169</sup>

BFI engaged a landfill gas expert, Matt Stutz, to design and oversee the installation of the GCCS enhancements. Based on Stutz's plans, which were approved by the TCEQ, BFI expanded the system to cover the entire landfill.<sup>170</sup> By late 2002 or early 2003, the odor problem was under control.<sup>171</sup> Since that time BFI has continued to expand the GCCS to maintain complete coverage of the landfill. The present system comprises approximately 180 individual gas collection wells that feed gas into the gas-to-energy facility.<sup>172</sup>

At the hearing, Dr. Shari Libicki, BFI's air emissions and odor expert, testified that the Odor Management Plan includes a requirement for implementation of a GCCS and provisions for daily monitoring of landfill odors, the principal features to control odors at the facility. She further testified that the GCCS at Sunset Farms is effective in controlling gas-related odors and will continue to be effective in connection with the vertical expansion. She also testified that the Odor Control Plan in the SOP satisfies the rules and is effective in controlling odor from landfill gas and other sources.<sup>173</sup>

TJFA's witness, Chandler conceded that the areal coverage of the gas extraction wells will control landfill gas, landfill gas migration, and surface emissions; hence, it will control odors.<sup>174</sup> However, Mr. Chandler did offer two criticisms.<sup>175</sup> First, he asserted that gas wells

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<sup>169</sup> BFI Ex. MS-1, pp. 18-19, and Ex. MS-5.

<sup>170</sup> BFI Ex. MS-1, pp. 17-18.

<sup>171</sup> BFI Ex. SL-1 at pp. 23-24; BFI Exs. SL-8, SL-9 & SL-10.

<sup>172</sup> BFI Ex. MS-1, pp. 18-19.

<sup>173</sup> BFI Ex. SL-1, pp. 24, 31, and 35-37.

<sup>174</sup> TJFA Ex. PC-1, pp. 103-105; Tr. 1543-44.

would have to be decommissioned when new waste is placed over previously filled areas where gas extraction wells already exist. Second, he claimed that some of the proposed gas-monitoring probes appear to be in areas with high groundwater levels. Neither criticism was correct.

Mr. Chandler's experience with landfill gas systems is limited. He has only designed (and did not oversee the construction of) one gas collection system in his career. That system is at the TDSL landfill. It consists of six gas extraction wells, and the well system did not need to allow for the vertical expansion of a waste disposal unit.<sup>176</sup> BFI's Mr. Stutz is far more experienced. Mr. Stutz has designed and overseen complex gas collection systems at dozens of MSW facilities in addition to the 180-well system at Sunset Farms.<sup>177</sup> The ALJ found Mr. Stutz far more persuasive.

Mr. Chandler's claim that the gas wells will need to be decommissioned when new waste is placed over previously filled areas is incorrect. Mr. Stutz testified that extending an extraction well casing up into the air and then filling around it is a simple matter that is common at landfills. Once an area is filled with new waste, Mr. Stutz testified, a new well is placed into the overlying new waste.<sup>178</sup> Gas collection from the pre-existing waste never ceases and the new waste receives an extraction well in time for the waste to mature and begin generating gas.

Chandler's second criticism, concerning high groundwater levels interfering with gas monitoring probes in the past, was not persuasive either. First, there is no evidence that any gas extraction well has ever been in an area at the BFI Facility where groundwater is within five feet of the surface. Second, Mr. Stutz explained that methane does not travel through water. Therefore, if seasonally high groundwater is high enough to be near the land surface, that water

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<sup>175</sup> Tr. 1546.

<sup>176</sup> Tr. 1544-45.

<sup>177</sup> BFI Ex. MS-1, pp. 3-4, and Ex. MS-2; Tr. 1545-46.

<sup>178</sup> Tr. 899-902.

would acts a barrier to methane gas migration. If the groundwater table were high enough to be close to the surface, any methane migrating above that water would seek the preferred path of least resistance and vent to the surface, ceasing its subsurface migration.<sup>179</sup>

The ALJ concludes that the Application includes adequate provisions to manage landfill gas, in compliance with agency rules, including 30 TAC §§ 330.56(n) and 330.130.

**F. Whether The Application Includes Adequate Provisions For Proper Slope Stability, In Compliance With Agency Rules, Including 30 TAC §§ 330.55(b)(8) and 330.56(l).**

Only TJFA argues that BFI failed to offer sufficient evidence on this issue. The ALJ finds that BFI carried its burden of proof.

**1. Applicable Rules**

One of the rules cited in the referral order, 30 TAC § 330.55(b)(8), concerns final cover design and states:

The Site Development Plan of the Application shall contain sufficient information to document compliance with the following. . . .

(8) The final cover design shall provide effective long-term erosional stability to the top dome surfaces and embankment side slopes in accordance with the following.

(A) Estimated peak velocities for top surfaces and embankment slopes should be less than the permissible non-erodible velocities under similar conditions.

(B) The top surfaces and embankment slopes of MSWLF units shall be designed to minimize erosion and soil loss through the use of appropriate side slopes, vegetation, and other structural and non-structural controls, as necessary. Soil erosion loss (Tons/Acre) for the top surfaces and embankment slopes may be

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<sup>179</sup> Tr. 846-48 & 862-64.

calculated using the Soil Conservation Service of US Department of Agriculture's Universal Soil Loss Equation, in which case the potential soil loss should not exceed the permissible soil loss for comparable soil-slope lengths and soil cover conditions.

(C) Details for final cover shall be depicted on fill cross-sections and provided along with other information in accordance with § 330.56(b) of this title (relating to Attachments to the Site Development Plan).

(D) The final cover design shall be in accordance with the final closure plan.

The other rule cited in the referral order regarding the slope stability issue is 30 TAC § 330.56(l). It does not specifically address slope stability, but it does require an applicant to prepare a final closure plan in accordance with 30 TAC §§ 330.250 - 330.256 to be attached to the Site Development Plan. Among those adopted-by-reference rules, only section 330.251(c) concerns slopes, but it only applies to landfill units that stopped receiving water prior to October 9, 1991.

## **2. The Unstable Area Rule is Not Applicable**

Although the referral order did not mention it, TJFA claims that another rule concerning unstable areas, 30 TAC § 330.305, must be considered to determine if BFI's Application adequately provides for proper slope stability. Because BFI did not analyze the stability of its proposed slopes in an unstable area, TJFA claims that BFI has failed to carry its burden of proof on the slope stability issue. No other party agrees with that argument. Neither does that ALJ.

The path is long and winding, but TJFA correctly argues that section 330.305 *could* apply to BFI's Application. TJFA notes that section 330.56(l) requires a final closure plan prepared in accordance with 30 TAC §§ 330.250 - 330.256. Within that range of referred to and adopted rules is section 330.250(b), which in turn requires an owner or operator to certify compliance with 30 TAC § 330.305, concerning Unstable Areas. Section 330.305 states:

For the purposes of this section, an unstable area is defined to be a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components responsible for preventing releases from the landfill; unstable areas can include poor foundation

conditions, areas susceptible to mass movement, and karst terrains. Owners or operators of new municipal solid waste landfill (MSWLF) units, existing MSWLF units, and lateral expansions located in an unstable area shall demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator shall submit the demonstration with a permit application, a permit amendment application, or a permit transfer. The demonstration must become part of the operating record once approved. The owner or operator shall consider the following factors, at a minimum, when determining whether an area is unstable:

- (1) on-site or local soil conditions that may result in significant differential settling;
- (2) on-site or local geologic or geomorphologic features; and
- (3) on-site or local human-made features or events (both surface and subsurface).

Starting with the specifically enumerated unstable areas, BFI's geotechnical expert, Greg Adams testified that no part of the BFI site is susceptible to mass movement, located over Karst Terrain formations, or over an area with poor foundation conditions.<sup>180</sup> TJFA does not claim that the BFI site is over Karst terrain, which is developed principally as the result of dissolution of soluble rock, or an area susceptible to mass movement, such as landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.<sup>181</sup>

Nor does TJFA argue that the foundation conditions from the soil down are poor, though its witness, Mr. Chandler, claims that the Application lacks any high quality soil strength data, which leaves that question open. This argument is considered and rejected below where the ALJ discusses the proper factor of safety for the slope stability calculations.

Instead, according to Mr. Chandler and TJFA, BFI's proposed vertical expansion over an existing waste mass renders the BFI site an unstable area.<sup>182</sup> They note that section 330.305

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<sup>180</sup> BFI Ex. GA-1, p. 19.

<sup>181</sup> 30 TAC § 330.2(7) and (62).

<sup>182</sup> TJFA Ex. PC-1, pp. 17 and 48.

defines an unstable area to include “a location that is susceptible to . . . human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components responsible for preventing releases from the landfill.” Mr. Chandler testified that the existing landfill is an unstable area to the extent that it serves as a foundation for the new waste that would be put on top of it.<sup>183</sup>

No other testifying expert agreed with Mr. Chandler that an existing waste mass was an unstable area. TJFA claims Mr. Adams agreed, but that is incorrect. Mr. Adams did agree that an expansion would be human-induced, but he did not consider it to be an event capable of impairing the integrity of some components of the landfill.<sup>184</sup>

To support his unstable-area argument, Mr. Chandler refers to a few scholarly sources, especially one by Xuede Qian and others, which he testified are relied on by geotechnical engineers and which urge caution when a vertical waste expansion is being considered.<sup>185</sup> The key concerns are summarized by Qian:

The additional waste fill from a vertical expansion will cause settlement of the existing landfill and result in liner system and slope stability problems for both the existing and expanded landfills. A gas collection system in the existing landfill may also be of concern due to the large deformation of solid waste surrounding gas collection pipes. A liner and leachate collection system constructed on an existing landfill may experience large differential settlements. The long-term performance of these systems is thus a major design consideration.<sup>186</sup>

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<sup>183</sup> BFI Ex. PC-1, p. 17.

<sup>184</sup> Tr. 580-581.

<sup>185</sup> TJFA Exs. PC-1, p. 17 *et seq.*; PC-4; and PC-6.

<sup>186</sup> TJFA Ex. PC-4, p. 545.

The Qian article and one by Robert M. Koerner<sup>187</sup> suggest several design steps and considerations for planned vertical expansions.<sup>188</sup> Those other steps, as BFI contends, concern design scenarios in which a separatory liner is to be placed over existing waste.<sup>189</sup> The differential settlement issues pertaining to a separatory over-liner and a leachate collection system over such a liner that were discussed by Qian and Koerner will not exist at Sunset Farms because there is no such over-liner and none is required.<sup>190</sup>

Mr. Chandler also cites an EPA technical manual concerning solid waste disposal criteria. At one point it gives examples of human-induced unstable areas, which include:

**A closed landfill** as for foundation for a new landfill (“piggy-backing”) **may be** unstable unless the closed landfill has undergone complete settlement of the underlying waste.<sup>191</sup> (Emphasis added.)

But as Mr. Chandler conceded, the BFI facility is not a closed landfill.<sup>192</sup> Even if it were closed, the EPA manual only states that a closed landfill “may be” unstable, not that it will be. Something more is needed to prove that BFI’s existing waste mass is unstable, yet there is no proof.

Further, there is no evidence that the Commission has ever considered an existing waste mass to be an unstable area. Mr. Chandler could not cite a single occasion when the TCEQ took the position that waste inside an existing landfill should be considered as an unstable area and

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<sup>187</sup> TJFA Ex. PC-8, pp. 558 – 559

<sup>188</sup> TJFA Ex. PC-4, p. 546.

<sup>189</sup> See, e.g., Figure 14.2 on page 545 of TJFA Ex. PC-4 (showing separatory overliner) and accompanying text; see also Koerner, TJFA Ex. PC-8, p. 558 (citing Qian).

<sup>190</sup> Tr. 561 and 1547.

<sup>191</sup> TJFA Ex. PC-5, p. 48.

<sup>192</sup> Tr. 1484-85.

evaluated under section 330.305. Nor could he point to any TCEQ technical guidance documents that took that position.<sup>193</sup> Instead, a staff witness, Mr. Udenenwu, testified:

BFI addresses the requirements of 30 TAC §330.305 by evaluating the foundation soils and the groundwater conditions at the site and determined that the facility is not located in an unstable area as defined by the above-referenced rule. . . .

The Executive Director's opinion is that "foundation" as envisioned in the rule, for vertical expansions with no separate liner system, is the geologic formation beneath the entire waste mass. Placement of "new" waste over existing waste mass is a daily practice in all landfills. Therefore, BFI's proposal to place "new" waste over existing waste mass at the Sunset Farms facility will not result in the site becoming an unstable area.<sup>194</sup>

The ALJ agrees with Mr. Udenenwu . He concludes that the BFI site is not an unstable area governed by 30 TAC § 330.305. That does not mean that BFI did not need to show that its slopes would be stable. As discussed below, it examined that issue and proved that they will be.

### **3. BFI's Slope Stability Analysis and Conclusions**

BFI's witness Greg Adams testified that the Commission's rules and guidance do not list specific criteria that should be used to analyze slope stability or even require that a slope-stability analysis be performed. Nevertheless, BFI included both global and infinite-slope stability analyses in the Application, and Mr. Adams testified that he performed many additional slope-stability analyses and calculations that were not included in the Application.<sup>195</sup> All of these analyses demonstrated that the final (long-term) and interim (short-term) conditions will be stable and well within the accepted factors of safety.<sup>196</sup>

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<sup>193</sup> Tr. 1482-83.

<sup>194</sup> ED Ex. MU-1, pp. 41-42.

<sup>195</sup> Tr. 664-671.

<sup>196</sup> BFI Ex. GA-1, p. 36, and Ex. RS-11, p. APP 000451.

BFI provided stability analyses in its Application for four different landfill features: the excavation slope, the lined excavation slope, the final condition waste slope, and an “infinite slope” analysis of the liner and cover systems.<sup>197</sup> Mr. Adams described each type of slope at the landfill. There are below grade or excavated slopes. If they are lined, they may be referred to as sidewall slopes. There are also waste slopes, which are referred to as interim slopes until final configuration is reached and as final waste slopes when they reach final grade. An example of an interim slope would be at a working face.<sup>198</sup>

For the slopes, Mr. Adams considered potential rotational (a/k/a circular or global), block (a/k/a translational or wedge), and infinite (a/k/a veneer) types of failures.<sup>199</sup> He looked at both intermediate and final conditions. He considered total (short-term) and effective (long-term) stresses.<sup>200</sup> He considered both peak and residual material strengths.<sup>201</sup> He investigated differential settlement.<sup>202</sup> He used an industry-recognized computer program, PCSTABL6, to analyze potential rotational and block failures, and a spreadsheet algorithm to analyze potential infinite slope failures.<sup>203</sup> He looked for and identified critical case scenarios in the proposed design.<sup>204</sup> He ran many hundreds of iterations of calculations using conservative inputs based on site-specific information and his substantial professional experience working in and with the Taylor clays.<sup>205</sup> Using his computer, he “forced” slope failures to convince himself that the

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<sup>197</sup> TJFA Ex. PC-1, p. 55; Tr. 660-61; BFI Ex. RS-11, Attachment 4, Appendix 4G, pp. APP 000751 – APP 000817.

<sup>198</sup> Tr. 660 *et seq.*

<sup>199</sup> Tr. 662-66.

<sup>200</sup> Tr. 684.

<sup>201</sup> Tr. 685. The court reporter erroneously transcribed the word "peak" as "Peach."

<sup>202</sup> BFI Ex. GA-1 at pp. 20-21; *see* BFI Ex. RS-11, pp. APP 000825-53.

<sup>203</sup> Tr. 666-69 & 671.

<sup>204</sup> Tr. 671-73.

<sup>205</sup> Tr. 670.

proposed design would provide acceptable factors of safety greater than 1.5.<sup>206</sup> He included detailed information regarding the critical case scenarios in the Application, including computer inputs and outputs, and described his work in detail in his pre-filed testimony and at the hearing on the merits.<sup>207</sup>

After reviewing Mr. Adams' analysis, the ED's witness, Mr. Udenenwu, testified that BFI had demonstrated that the landfill slopes would be stable at the different landfill stages and configurations.<sup>208</sup> On the other hand, TJFA's Mr. Chandler evaluated each of BFI's slope stability analyses and testified that each of them was problematic and did not meet the standard of practice for slope stability analyses.<sup>209</sup> TJFA contends that the slope stability analysis in BFI's Application is technically deficient and bad science and does not reflect an adequate demonstration of stability as required by the TCEQ's MSW regulations.

While disagreeing with Mr. Chandler's critique, Mr. Adams agreed that slope stability calculations, whether manual or by computer, are totally dependent on the accuracy of the inputs. He agreed that that any assumptions should be conservative, the interfaces of the various materials can be considered as critical structures, the strength of the waste materials needs to be critically evaluated, and the materials used to construct a landfill vary in strengths and permeability. Another chief consideration is the long-term conditions after all waste has been disposed and the landfill is closed.<sup>210</sup>

Calculating slope stability is definitely a subject for experts. The ALJ has no direct way of determining whether a slope stability analysis was preformed properly. Instead, the ALJ must

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<sup>206</sup> Tr. 671-72 & 674-77.

<sup>207</sup> BFI Ex. RS-11, pp. APP 000449-55, APP 000512-624 & APP 000725-853.

<sup>208</sup> ED Ex. MU-1, p. 21.

<sup>209</sup> TJFA Ex. PC-1, p. 54.

<sup>210</sup> Tr. 601-608.

rely on the expertise of the credible expert witnesses. Thus, the ALJ focuses below on indicators of Mr. Adams' and Mr. Chandler's credibility on these slope-stability issues.

The ALJ found Mr. Adams competent and credible and his analysis appeared careful and thorough, at least to the ALJ's layman eyes and ears. On several key points, Mr. Adams's analysis relied on or confirmed generally accepted standards and practices in Texas concerning landfill slope stability. However, Mr. Chandler repeatedly deviated from those practices, and his explanations for this made no sense to the ALJ. Ultimately, the ALJ could not find that Mr. Chandler was a credible witness on slope-stability issues.

#### **4. The Industry Standards Are 4-To-1 Side Slopes And 3-To-1 Excavation Slopes**

BFI proposes what 30 TAC § 330.251(c) once required for the final-cover slopes: 25% grade, 4-to-1 side slopes for the vertical expansion with slopes ranging between two and five percent across the cap of the landfill.<sup>211</sup> The existing 3-to-1 excavation slopes will not be altered, since no additional excavation will occur.<sup>212</sup> BFI contends those side slopes are standard in the landfill industry.

That appears to be correct. Every witness at this hearing who was asked (including Mr. Adams, Mr. Chandler, Dr. Kier, and Mr. Udenenwu) agreed that 4-to-1 side slopes and 3-to-1 excavation slopes are the convention and standard for MSW landfills in Texas.<sup>213</sup>

Mr. Chandler even testified that he had designed landfills in Texas with 4-to-1 slopes for sides and 3-to-1 slopes for excavations.<sup>214</sup> He even agreed at one point that a 4-to-1 side slope

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<sup>211</sup> BFI Ex. RS-1, p. 19, and Ex. RS-5.

<sup>212</sup> BFI Ex. JS-1, p. 47, and Ex. RS-11, p. APP 000401.

<sup>213</sup> Tr. 689, 1433, 1435, 1461-63, 1486, 1776, and 2281.

was fine for the BFI landfill.<sup>215</sup> Yet Mr. Chandler contradictorily claimed that each of BFI's slope stability analyses was problematic and did not meet the standard of practice for slope stability analyses. That strained Mr. Chandler's credibility.

## 5. Factor Of Safety And Soil Strength

A factor of safety is calculated by dividing the forces that resist movement by the forces that would cause movement. If they were equal, the factor of safety would be 1.0.<sup>216</sup> Mr. Adams analysis found no long-term slope for which the factor of safety would be less than 1.5.<sup>217</sup>

Every expert who was asked, including Mr. Adams, Dr. Kier and even Mr. Chandler, agreed that a long-term factor of safety of 1.5 is the industry standard in Texas. Mr. Adams has always used a 1.5 factor of safety.<sup>218</sup> Mr. Chandler has used a 1.5 factor of safety in his own work for another landfill in Texas in an area with soils similar to those at the BFI site. In fact, Mr. Chandler, with over 30 years experience in the solid waste arena and after working on over 100 solid waste projects, could not think of any facility in Texas for which a 2.0 factor of safety was used.<sup>219</sup> Yet stunningly, Mr. Chandler believes that a 2.0 factor of safety should be used for BFI's Landfill.

EPA recommends minimum factors of safety for slope-stability analyses. For most situations, the recommendation is 1.5 or less. However, when there is uncertainty about the strength of the underlying soils *and* when there would be an imminent danger to human life or

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<sup>214</sup> Tr. 1462.

<sup>215</sup> Tr. 1435.

<sup>216</sup> Tr. 624.

<sup>217</sup> Tr. 685; BFI Ex. RS-11, p. APP 000451.

<sup>218</sup> Tr. 675.

<sup>219</sup> TJFA Ex. PC-1, p. 2; Tr. 1506-07 & 1777.

major environmental impact if the slope failed, EPA recommends a 2.0 or greater factor of safety. Absent either of those risks, EPA recommends a 1.5 factor of safety.<sup>220</sup>

There is no evidence that a slope failure at the BFI site would endanger human life. There would certainly be an environmental impact, but there is no evidence that it would be major. Even assuming one of those risks was present, there would still need to be uncertainty about the strength of the underlying soils to trigger an EPA recommendation for a 2.0 factor of safety. According to Mr. Chandler, the Application lacks any high quality soil strength data, thus its strength is uncertain and the lowest published strength values should be used.<sup>221</sup> That is disingenuous.

As discussed above concerning groundwater protection, the subsurface at the BFI site has been thoroughly explored with borings since the early 1980s and the soils have been thoroughly analyzed. BFI's landfill is situated in a geologic formation known as the Taylor Group. The local geology at the site consists of an upper section of weathered marl (clay) overlying a thick section of unweathered marl. The Taylor Group extends approximately 400 feet below the site. The weathered Taylor ranges from approximately 30 to 60 feet thick from the ground surface.<sup>222</sup> The geology and hydrogeology at the Sunset Farms site is uniform, simple and straightforward.<sup>223</sup> The landfill is located within the general outcrop area of the Taylor Group, which is comprised of highly impermeable clays/shales.<sup>224</sup>

Mr. Adams, who has substantial experience working with and in the Taylor clays, testified that he had more than enough soil samples (314 from the weathered Taylor and 115

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<sup>220</sup> TJFA Ex. PC-5, p. 55.

<sup>221</sup> PC-16; Tr. 1571.

<sup>222</sup> BFI Ex. RS-11, Attachment 4, p. APP 000431.

<sup>223</sup> Tr. 1457-58, 1508-09 & Tr. 1715-16.

<sup>224</sup> BFI Ex. JS-1, pp. 16-17.

from the unweathered) and soil strength characteristics from those samples for geotechnical purposes.<sup>225</sup> He described the soils at Sunset Farms as “uniform and homogeneous,” and he testified that the soils are not complex and that there is a “consistent, complete and logical picture of the [soil] strength characteristics at this site.”<sup>226</sup>

All witnesses who were asked, including Mr. Chandler and Dr. Kier, agreed that the Taylor is one of the best formations in the state in which to locate landfills.<sup>227</sup> Indeed, a significant number of landfills have been permitted and constructed in the Taylor – including the TDS Landfill in southern Travis County that is owned and operated by TJFA’s limited partner and corporate affiliates.<sup>228</sup> Dr. Kier testified that the soils at the TDS site, which are virtually identical to those at Sunset Farms, are “remarkably uniform, homogeneous and isotropic.”<sup>229</sup>

The ALJ finds that Mr. Chandler was not credible when he testified that there was a lack of soil-strength data and a 2.0 factor of safety was appropriate for the BFI Facility.

## 6. Slope Failures Elsewhere

It is true that two of the most widely recognized landfill slope failures in Texas took place at the Skyline landfill in Dallas and Ellis Counties and at the City of Irving landfill. The Skyline landfill is situated in the Taylor. The City of Irving landfill is located in a similar geologic

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<sup>225</sup> BFI Ex. GA-1, pp. 17-18, and Ex. RS-11, p. APP 000727; Tr. 616-18, 620, 695 & 700.

<sup>226</sup> Tr. 678-79 & 695.

<sup>227</sup> Tr. 415, 1461 & 1717-18.

<sup>228</sup> Tr. 1458.

<sup>229</sup> Tr. 1508-09.

setting in a shale formation.<sup>230</sup> Mr. Adams was familiar with both of these landfill slope failures and that they occurred in similar geology.<sup>231</sup>

No party denies that slope failures can occur, but there no evidence suggesting that a failure would likely occur at BFI that would be similar to those at Skyline and Irving. In fact, failures exactly like those could not occur. Both involved failures of excavation slopes.<sup>232</sup> The excavation slopes at Sunset Farms have all already been constructed and lined, and waste placement has occurred in the last cell – with no failures.<sup>233</sup> No further excavations will occur. .

TJFA suggests there was also a slope failure in 1999 at Waste Management’s Austin Community Landfill, which is adjacent to BFI’s Facility. However, there is no evidence that a failure even occurred at that facility. Certainly, TJFA offered no evidence to show that it did, and Mr. Adams was not aware of a failure at that location.<sup>234</sup>

Mr. Lesniak, works on landfill issues for Austin. He testified that he has witnessed small intermediate cover slope failures of a few feet at the BFI facility, though he attributed those to poor revegetation.<sup>235</sup> The risk of erosion is addressed by BFI’s agreement with Austin and discussed below in the PFD, where the ALJ finds that erosion is not a threat.

TJFA notes that Mr. Adams’ employer, Biggs & Mathews, documented in 2007 that an excavation slope at the BFI landfill was not stable due to cracks and fissures, was at risk of

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<sup>230</sup> TJFA Ex. PC-1, pp. 72 and 74; PC-17.

<sup>231</sup> Tr. 595.

<sup>232</sup> TJFA Ex. PC-1, p. 62.

<sup>233</sup> BFI Ex. GA-1, p. 28; Tr. 597-98 & 1486.

<sup>234</sup> Tr. 595.

<sup>235</sup> Austin Ex. 7, pp. 2-3; Tr. 2164-2166.

failing, and needed attention.<sup>236</sup> However, there is no evidence that any excavation slope at BFI actually failed, and no new excavation slopes are proposed. Moreover, the slope of concern in 2007 was a 2-to-1 or steeper slope, which is far steeper than the interim and final slopes that BFI proposes.

## 7. Geosynthetic Interface Review

Geosyntec is a firm that BFI used for certain liner reviews in the Application. In an August 30, 2006 email, Geosyntec noted that slope stability analyses that consider potential slip surfaces through the liner system during waste placement (an interim condition) and with the landfill at final grades were not conducted by EMCON. Geosyntec also stated that these cases may be the most critical for slope stability and strongly recommended that both of these cases be evaluated.<sup>237</sup>

In a responsive email on August 30, 2006, Mr. Adams' agreed that the potential for slip surfaces through the liner system during the waste placement should be considered and can be critical. However, he stated that his firm did evaluate the potential slip surface through the liner system for the final waste heights and found it was not the critical surface. For that reason, it was not included in the Application. At the hearing, Mr. Adams testified that his firm did not keep a copy of that evaluation.<sup>238</sup>

According to TJFA, this evidence shows that BFI's peer review group established that a liner system slip surface was the most critical during both the interim and final grades for purposes of slope stability. But that is incorrect. Geosyntec indicated that it might be the most

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<sup>236</sup> TJFA Ex. PC-18.

<sup>237</sup> TJFA Ex. 15, p. 4.

<sup>238</sup> TJFA Ex. 15, p. 2; Tr. p. 639 *et seq.*

critical, not that it was. Moreover, Mr. Adams indicated that his firm performed the analysis and it was not the most critical surface.

Because the analysis was not kept, TJFA speculates that the analysis may not have been performed or did not support the Application. There is, however, no evidence to contradict Mr. Adams' testimony that it was performed and was not the most critical. Nor did the ALJ detect anything in Mr. Adams testimony or demeanor to make the ALJ doubt Mr. Adams veracity. Additionally, TJFA claims that not keeping the analysis was a violation of a Commission rule that requires a permittee to keep, throughout the term of the permit, all records of data used to complete the final application and any supplemental information. This is not an enforcement case, but the ALJ cannot readily see how a preliminary, non-critical analysis was used to complete or supplement the Application or why BFI had a duty to keep a copy of that analysis.

## **8. Infinite Slope Analyses**

BFI included both global and infinite slope stability analyses in the Application. The infinite slope analyses were used to show that anchor trenches were not needed in the liner design and to show that the liner and final cover sections would be stable.<sup>239</sup> Mr. Adams testified that he performed any number of additional slope stability analyses and calculations that were not included in the application.<sup>240</sup> All of these analyses demonstrated that the final (long-term) and interim (short-term) conditions would be stable and all were well within the accepted factors of safety.<sup>241</sup>

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<sup>239</sup> BFI Ex. RS-11, pp. APP 000813-817.

<sup>240</sup> Tr. 664-671.

<sup>241</sup> BFI Ex. GA-1, p. 36.

The shear strength of a soil is estimated to determine the resistance to movement.<sup>242</sup> Mr. Chandler claimed that Mr. Adams used very high, unconservative, and atypical interface shear strengths for his infinite slope analysis. Mr. Chandler claimed that BFI should have used the values from a technical reference instead.<sup>243</sup>

Beyond alleging that BFI's analysis was inadequate, Mr. Chandler performed his own infinite slope analyses using a simplistic method. He used what he claimed were more realistic inputs drawn from the technical reference that he criticized Mr. Adams for not using. From his analysis, Mr. Chandler determined that the factor of safety was less than one, which, if correct, would indicate that sliding is probable and that the Landfill would be unstable.<sup>244</sup>

BFI asked Mr. Chandler to calculate a slope by applying his criticisms of Mr. Adams' infinite slope analysis. Mr. Chandler calculated that the slope would be 11.43-to-1. That is far flatter than the 4-to-1 slopes that all witnesses, including Mr. Chandler recognized as an industry standard.<sup>245</sup> In fact, it is so flat that it reinforces the ALJ conclusion that Mr. Chandler's criticisms were not reasonable or credible.

## 9. Slope Stability Summary

The ALJ concludes that BFI's Application includes adequate provisions for proper slope stability, in compliance with agency rules, including 30 TAC §§ 330.55(b)(8) and 330.56(l).

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<sup>242</sup> BFI Ex. GA-1, p. 36.

<sup>243</sup> TJFA Exs. PC-1, p. 59 *et seq.*, and PC-16; BFI Ex. RS-11; pp. APP 000813 – APP 000817.

<sup>244</sup> TJFA Ex. PC-1, pp. 78-79.

<sup>245</sup> Tr. 1502-04; BFI Ex. 6.

**G. Whether The Application Includes Adequate Provisions To Control Spilled And Windblown Waste And Cleanup Spilled Waste, In Compliance With Agency Rules, Including 30 TAC §§ 330.117, 330.120, 330.123, and 330.127.**

30 TAC §330.117 regulates the unloading of waste, but does not contain any express requirements regarding control of spilled and windblown waste or cleanup of spilled waste. 30 TAC §330.120 requires the facility to operate the working face in a manner to control windblown waste, to collect and manage windblown waste, and to specify the procedures for complying with these requirements in the SOP.

30 TAC §330.123 requires the owner or operator to take steps to encourage vehicles hauling waste to effectively secure loads to prevent the escape of any part of the load by blowing or spilling, and to perform at least once per day cleanup of waste materials spilled along and within the right of way of public access roads serving the facility for a distance of two miles in either direction from entrances to the facility. 30 TAC §330.127(c) requires the facility to maintain all onsite and other access roadways in a clean and safe condition and to pick up litter and any other debris at least daily.

NNC contends that windblown waste is a problem at the BFI Facility, making it incompatible with and a nuisance to the other land users in the area. BFI denies that and argues that it carried its burden of proof on this issue. The ED agrees with BFI. TJFA does not concede this issue, but it offered no argument concerning this issue either. No other party contends that BFI did not prove its case on this issue.

The SOP includes detailed provisions regarding control of windblown trash – including the placement and use of temporary and permanent litter fencing and netting, waste placement and compacting techniques designed to minimize windblown trash, tarping requirements for

vehicles accessing the facility, daily on-site litter patrols, and routine litter pick-up of area roadways within two miles of the facility.<sup>246</sup>

Ray Shull, the lead project engineer, prepared and sponsored the SOP and explained that BFI places portable panels that are at least ten feet high downwind from the landfill's working face. Additionally, temporary litter fencing at least four feet high will be installed even further downwind from the portable panels. Permanent 20-foot litter netting (five feet taller than called for in the current SOP) has been installed along Blue Goose Road (slightly inside the six-foot chain-link fence) to catch windblown trash.<sup>247</sup>

The size of the working face is minimized to limit the potential for windblown trash, and daily cover is used to cover the waste.<sup>248</sup> Shull also testified that BFI requires that all waste haul vehicles that are using the facility (BFI and third party operated vehicles alike) to tarp their loads.<sup>249</sup> Litter patrol crews police both area roadways within two miles of the facility and the site itself to pick up any spilled or windblown waste.<sup>250</sup> BFI notes that it has never received an NOV citing it for spilled or windblown waste.

NNC witness Delmar Rogers testified that she noticed plastic bags blown from the landfill on at least one occasion. Joyce Best also took pictures showing bags hanging in trees and on a fence in 2005. Ms. Remmert found plastic bags on her property in 2006.<sup>251</sup>

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<sup>246</sup> BFI Ex. RS-11, pp. APP 001746-49

<sup>247</sup> BFI Ex. RS-1, p. 67; Ex. BD-1, p. 31; and Ex. RS-11, p. APP 001746-47; NNC Ex. ER-1, p.5.

<sup>248</sup> BFI Ex. RS-11, p. APP 001742 & 61; BFI Ex. RS-1, pp. 64-66; BFI Ex. BD-1, p. 31.

<sup>249</sup> Tr. 126-27; BFI Ex. BD-1, p. 31; BFI Ex. RS-11, pp. APP 001745-46, 1748 & 1752.

<sup>250</sup> BFI Ex. RS-1, p. 63; BFI Ex. BD-1, p. 31; see BFI Ex. RS-11, pp. APP 001749 & 52.

<sup>251</sup> NNC Ex. ER-7; Tr. 1671 *et seq.*, 1677, 1967-70 & 1993; NNC Ex. DR-3, p. DDR000014.

In response, BFI correctly notes that most of these pictures showed waste only on the landfill site itself that had been captured by the portable and permanent fencing, which demonstrates that these measures work on high-wind days.<sup>252</sup> No picture showed more than a few pieces of trash off the landfill property.<sup>253</sup> Most if not all of the photos that NNC offered to prove other points, such as alleged traffic or dust problems, do not reflect a spilled or windblown waste problem.<sup>254</sup>

None of NNC's witnesses concerning wind-blown waste could testify what the wind speeds or weather conditions were when the photos were taken, how long the trash had been there, or how long it took BFI to collect any of the trash depicted after the photos were taken. Moreover, the NNC witnesses did not attempt to systematically document any alleged spilled or windblown waste problems at or around the facility by taking photos of the same view at the same time each day for a period of time.<sup>255</sup>

Several of the pictures taken by NNC's witnesses show BFI crews actively picking up litter.<sup>256</sup> Mr. Rogers and Ms. Remmert, both admitted that BFI promptly picks up litter and trash from rights of way.<sup>257</sup> Mr. Williams also admitted that BFI promptly picks up any windblown waste on his property.<sup>258</sup>

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<sup>252</sup> Tr. 1671-74 & NNC Exs. DR-3 (DDR-4 & DDR 14), ER-4 (photos 3162, 3218, 3231 & 3247) & BEST-9 (third photo).

<sup>253</sup> E.g., Tr. 1674 & 1995-96.

<sup>254</sup> E.g., NNC Exs. DR-3 (DDR-12, DDR-16 & DDR-18) and ER-5 (all photos).

<sup>255</sup> Tr. 1969-70.

<sup>256</sup> NNC Exs. DR-3, pp. DD 000004 and DDR 000010; ER-4, p. 3162.

<sup>257</sup> Tr. 1671, 1674, 1993 & 1995; NNC Ex. DDR-1 at p. 5.

<sup>258</sup> Tr. 2021, *et seq.*

BFI contends that the provisions of its SOP plainly comply with the agency rules and serve to control windblown trash. The ALJ agrees. Additionally, the ALJ finds that BFI's past conduct shows that it has complied with those provisions. The ALJ concludes that BFI's Application includes adequate provisions to control spilled and windblown waste and cleanup spilled waste, in compliance with agency rules, including 30 TAC §§ 330.117, 330.120, 330.123, and 330.127.

**H. Whether The Application Includes Adequate Provisions For Groundwater Monitoring, In Compliance With Agency Rules, Including 30 TAC §§ 330.230-.233.**

Only TJFA argues that BFI failed to offer sufficient evidence on this issue. TJFA and its expert, Dr. Kier, advance two principal lines of criticism of BFI's Application:

- The Application reflects a technically minimal groundwater monitoring system with little or no regard to abundant site-specific conditions which mandate far greater investigation of actual site conditions and justifications for the spacing and location of the proposed groundwater monitoring wells; and
- The Application does not identify the required upgradient background well or wells for the proposed groundwater monitoring system, and the Application further provides no demonstrations or explanation for the omission of this essential feature.

The ALJ disagrees with TJFA and Dr. Kier on both points. He finds that BFI proved its case concerning groundwater monitoring.

**1. Applicable Rules**

Of the applicable groundwater monitoring rules, TJFA especially points to a few that relate to its arguments and evidence. It notes that the term uppermost aquifer is defined by 30 TAC § 330.2(158) as, "The geologic formation nearest the natural ground surface that is an

aquifer; includes lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary." Additionally, 30 TAC § 330.231 provides, in part:

(a) A groundwater monitoring system must be installed that consists of a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer as defined in § 330.2 of this title (relating to Definitions).

(1) Background wells shall be installed to allow determination of the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area if hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient or if sampling at other wells will provide a better indication of background groundwater quality than is possible from the upgradient wells.

(2) The downgradient monitoring system must include monitoring wells installed to allow determination of the quality of groundwater passing the relevant point of compliance as defined in § 330.2 of this title.

(e) . . .

(1) The design of a monitoring system shall be based on site-specific technical information that must include a thorough characterization of: aquifer thickness; groundwater flow rate; groundwater flow direction including seasonal and temporal fluctuations in flow; . . .

(2) Groundwater modeling may be used to supplement the determination of spacing of monitoring wells or other sampling points and shall consider site specific characteristics of groundwater flow as well as dispersion and diffusion of possible contaminants in the materials of the uppermost aquifer . . .

(3) The owner or operator of an MSWLF unit or facility shall promptly notify the executive director in writing of changes in site construction or operations or changes in adjacent property that affect or are likely to affect the direction and rate of groundwater flow and the potential for detecting groundwater contamination from an MSWLF unit and that may require the installation of additional monitoring wells or sampling points . . .

(Emphasis added by TJFA).

TJFA also cites 30 TAC § 330.233(e), which states:

The owner or operator shall establish background groundwater quality in hydraulically upgradient wells or in background wells for each of the monitoring parameters of constituents required in groundwater monitoring program for an MSWLF unit . . .

(Emphasis added by TJFA).

Relatedly, TJFA contends that that BFI's Application fails to address the general prohibitions contained in § 330.5 or to provide the information required by §§ 330.51(b)(2) and (b)(3).

## **2. The Existing and Proposed Groundwater Monitoring Systems**

The existing groundwater monitoring system consists of seventeen wells located around the perimeter of the facility and screened at the interface between the weathered and unweathered Taylor Marl.<sup>259</sup> All expert witnesses agreed that the weathered Taylor is the uppermost aquifer for regulatory groundwater monitoring purposes.<sup>260</sup>

The proposed groundwater monitoring system will consist of fifteen of the existing wells and seventeen additional wells spaced approximately 600 feet apart to completely surround the perimeter of the waste disposal area.<sup>261</sup> No well would be spaced more than 600 feet from the adjacent well, and the average distance between adjacent wells would be less than 500 feet.<sup>262</sup>

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<sup>259</sup> BFI Ex. JS-1, p. 40.

<sup>260</sup> BFI Ex. JS-1, pp. 41.42; Tr. 1460.

<sup>261</sup> BFI Exs. JS-1, p. 41; JS-10; and RS-11, Figure 5A.1, p. APP 000874.

<sup>262</sup> BFI Ex. JS-1, pp. 41-42; Tr. 413 &1755-56.

The wells will be screened to monitor groundwater at and above the weathered/unweathered interface.<sup>263</sup> BFI will regularly test groundwater samples for Appendix I constituents according to a Groundwater Sampling and Analysis Plan (GSWAP) that complies with all applicable rules.<sup>264</sup> BFI has chosen to designate all 32 wells in the monitoring system as downgradient, point of compliance wells because that designation provides an enhanced layer of environmental protection.<sup>265</sup>

TJFA argues that BFI could have proposed to install even more wells or added to the number of constituents it proposed to monitor.<sup>266</sup> But there is no evidence and TJFA presents no cogent argument that the Commission's rules require that.

In 2006, the Commission adopted a new rule concerning the spacing of groundwater monitoring wells.<sup>267</sup> Those new rules do not apply to BFI's Application because it was filed in January 2006, before those new rules were adopted. Nevertheless, BFI proposes to space its wells as specified by the new rule. The existing groundwater monitoring system consists of wells spaced at greater than the new rule's requirements.<sup>268</sup> Mr. Snyder, BFI's groundwater expert, testified that two existing wells will be plugged and seventeen new ones will be added in order to create the same 600-foot spacing required by the new rules.<sup>269</sup>

On several occasions, TJFA's expert, Dr. Kier, seemed to agree that BFI's proposed monitoring system met all applicable requirements. He stated:

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<sup>263</sup> BFI Ex. JS-1, p. 41.

<sup>264</sup> BFI Ex. JS-1, pp. 44-45; BFI Ex. KC-1, pp. 7-9.

<sup>265</sup> BFI Ex. JS-1, pp. 53-54.

<sup>266</sup> Tr. 355, 356, and 363.

<sup>267</sup> 30 TAC 330.403(a)(2) (eff. March 27, 2006).

<sup>268</sup> Tr. 357-358.

<sup>269</sup> Tr. 360-362.

... although the groundwater monitoring system and sampling and analysis procedures may meet the technical requirements of the regulations . . . ;

... although the monitoring well spacing proposed by the applicant may minimally meet the current regulations found at §330.403(a)(2) . . . ;

... the GWSAP for the BFI landfill should not be allowed to simply meet the minimum requirements of the regulations specified in 30 TAC §330.63(f) and Subchapter J;

... although the applicant has proposed to meet the minimum groundwater monitoring and analysis requirements . . . ; and

In terms of the constituents that they plan to have analyzed for, it probably meets the rules.

He also agreed that his opinion is that “the groundwater monitoring system and the GWSAP, meaning the groundwater sampling and analysis plan, may meet the technical requirements of the rules but perhaps not their intent.”<sup>270</sup>

Despite all of those concessions, Dr. Kier and TJFA claim that the monitoring system is insufficient. That claim makes no sense.

### **3. Justification for the Groundwater Monitoring Plan and Site Specific Conditions**

TJFA contends that BFI’s proposed well-spacing plan is deficient because it is not based on site-specific conditions. 30 TAC § 330.231 (e)(1). Dr. Kier claimed that the Application is silent as to the justification for the location and spacing of the wells in the system.<sup>271</sup> Mr. Snyder acknowledged that the new rule requires that wells be spaced at a distance not greater than 600 feet, while the old rules applicable to BFI’s Application require the well spacing be tied to site-

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<sup>270</sup> TJFA Ex. BK-1 at pp. 7, 20, 21; Tr. 1625 and 1720-1721.

<sup>271</sup> TJFA Ex. BK-1, p. 21; Tr. 1624 *et seq.*

specific conditions.<sup>272</sup> TJFA claims that the only justification offered for the well spacing and locations was meeting the 600-foot spacing standard of the new rule. TJFA notes that applicable rule 330.231(e)(2) permits an applicant to conduct groundwater modeling to justify the determination of well spacing, and TJFA criticizes BFI for not doing that.

Is greater justification required for BFI's groundwater monitoring plan? Usually an entity's compliance with new, more specific, and more demanding rules that are not applicable to it is seen as a step forward in environmental protection. The ALJ concludes that "we chose to get on board early" is certainly some justification, and the ALJ would conclude that it is sufficient unless there are site-specific conditions that necessitate a different groundwater-monitoring plan. TJFA argues that those conditions exist, but the ALJ cannot agree.

**a. Proximity of Austin Community Landfill.**

There is an active municipal solid waste landfill immediately adjacent to BFI's facility. ACL has been operated at that location for approximately ten years longer than BFI.<sup>273</sup> According to Dr. Kier, ACL has a history of disposing industrial wastes in unlined trenches and pits and in the pre-Subtitle D portion of the landfill. Today, according to Dr. Kier, that industrial waste would likely be classified as hazardous wastes.<sup>274</sup> A water well survey contained in BFI's Application includes maps designating the industrial disposal areas on the Waste Management Property.<sup>275</sup>

Potentiometric maps produced by the Carel Corporation show that groundwater flows from the ACL facility onto the BFI landfill and from the BFI facility onto the ACL facility,

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<sup>272</sup> Tr. 357.

<sup>273</sup> TJFA Ex. BK-1, p. 13.

<sup>274</sup> TJFA Ex. BK-1, p 13; Tr. 344-345; TJFA Ex. 12.

<sup>275</sup> Tr. 264-265; TJFA Ex. 5; BFI Ex. RS-11, pp. APP 000490, 491, 496, and 497.

suggesting an exchange of groundwater between the two landfills.<sup>276</sup> Additional maps created by the Carel Corporation show that groundwater moves from its highest elevation at the west end of the BFI landfill onto ACL before heading toward several unnamed tributaries of Walnut Creek. The maps show a groundwater high trending to the south and southeast onto ACL's property. This particular groundwater high would pass through the alleged location of the industrial waste disposal at the ACL.<sup>277</sup>

Dr. Kier goes into great detail about the alleged problems associated with the former disposal of waste materials at the ACL.<sup>278</sup> But Dr. Kier does not suggest and TJFA does not argue that that BFI is the source of the groundwater contamination present at either ACL or nearby property. Instead, they argue that BFI's property has been adversely affected by groundwater leaving the ACL facility. TJFA claims that the alleged contamination at ACL compels BFI to design more than a minimally appropriate groundwater monitoring system.

The ALJ cannot find that the alleged contamination on neighboring property means that BFI's proposed groundwater monitoring system fails to comply with the Commissions rules. In fact, TJFA never argues that it does. Instead, TJFA loosely claims that more should be required of BFI. The ALJ does not agree.

Moreover, the ALJ sees no need to find facts concerning the alleged groundwater contamination due to alleged activities at the ACL facility. This case does not concern ACL. The obvious target of TJFA's attack on ACL is Waste Management, which has an application

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<sup>276</sup> TJFA Ex. BK-4.

<sup>277</sup> TJFA Ex. BK-5 and BK-6.

<sup>278</sup> TJFA Ex. BK-8.

pending for a permit amendment for the ACL facility. TJFA is a party in that case.<sup>279</sup> Waste Management is not a party in this case and has not had an opportunity to defend itself in this case. Those who are parties in this case would not necessarily have the ability or incentive to provide that defense. There is also reason to doubt that the evidence that TJFA and Dr. Kier put forward concerning ACL is objective and reliable. TJFA is an affiliate of TDSL and TDS, which are economic competitors of Waste Management and could benefit financially if Waste Management's reputation is tarnished or its pending application is denied.

**b. BFI Currently Is In Assessment Monitoring in MW-30**

Assessment monitoring is required whenever a statistically significant change has been detected in one of the routinely monitored groundwater constituents. During assessment monitoring, the owner or operator must continue to sample for the standard list of monitored constituents and also a significant additional lists of constituents. 30 TAC § 330.235.

MW-30, on BFI's southern boundary with the ACL, has been placed into assessment monitoring due to the presence of 1-1 DCA, a volatile organic compound. PCE, a chemical associated with dry cleaner solvents, has also been detected in MW-30. A prior monitoring well (MW-9) located near the present location of MW-30 along the BFI/ACL property line has also had statistically significant hits of Appendix 1 compounds in the past.<sup>280</sup> Based on this evidence, Dr. Kier concluded that the groundwater is contaminated at the location of MW-30 at BFI's landfill.<sup>281</sup>

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<sup>279</sup> *In The Matter Of The Application Of Waste Management Of Texas, Inc., For A Municipal Solid Waste Permit Amendment Permit No. MSW 249D*, SOAH Docket No. 582-08-2186, TCEQ Docket No. 2006-0612-MSW, Order No. 1.

<sup>280</sup> Tr. 348-350.

<sup>281</sup> TR. 1588.

Due to the assessment monitoring of that one well, TJFA once again criticizes BFI for proposing only a “bare-bones minimal groundwater monitoring system” and suggests that it is more than coincidental that another waste disposal facility, ACL, is on the adjacent property. The ALJ does not agree.

TJFA does not explain how the current assessment monitoring shows that BFI’s proposed groundwater monitoring plan fails to meet the standards in the Commission’s rules. BFI claims that the detections in MW-30 demonstrate that BFI’s existing groundwater monitoring system works according to plan: when listed constituents were detected in a point-of-compliance well at the facility, the well was placed in assessment monitoring for an expanded suite of 213 Appendix II constituents.<sup>282</sup> According to BFI, the proposed system, with almost twice as many wells, will provide enhanced environmental protections. The ALJ agrees with BFI.

**c. Alleged Contamination of Groundwater at Applied Materials’ Facility across Giles Road.**

TJFA and Dr. Kier claim BFI’s proposed groundwater monitoring system is somehow deficient because contamination was detected in 2002 in groundwater monitoring wells at an Applied Materials facility across Giles Road to the east of the BFI Facility.<sup>283</sup> BFI does not agree, and no other party makes that argument. The ALJ does not agree with TJFA.

The monitoring wells at the Applied Materials site are thoroughly discussed above under the groundwater protection issue and the ALJ will not repeat all of that here. Dr. Kier agreed that four of the wells at Applied Materials were not downgradient from BFI, which means any contamination in them could not have come from BFI. Additionally, the evidence conclusively shows that any contaminants in the fourth well at Applied Materials, which is downgradient of

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<sup>282</sup> BFI Ex. KC-1, pp. 16-17.

<sup>283</sup> TJFA Exs. BK-1, p. 16, *et seq.* and BK-7

BFI, could not have come from BFI due to the rate of groundwater flow and the time since the BFI facility was built.

The ALJ cannot conclude that the alleged contamination in wells at the Applied Materials site has anything to do with the BFI facility, much less suggests that BFI's proposed groundwater monitoring system fails to comply with the Commission's rules.

#### **4. Establishing Background Groundwater Quality**

According to TJFA, BFI has failed to either designate an upgradient background well or prove that one of two conditions exist to allow the use of other methods to determine background groundwater quality as required by the Commission's rules. No other party makes that argument. BFI rejects TJFA's interpretation of the rules and argues that its proposed enhanced groundwater monitoring system is eminently reasonable and well within both the letter and spirit of the rules pertaining to background monitoring. The ED agrees with BFI. So does the ALJ.

BFI has proposed what it correctly characterizes as an aggressive monitoring system that defines the "entire perimeter" of the landfill site as its regulatory point of compliance.<sup>284</sup> TJFA does not quarrel with BFI's choosing to designate the entire site perimeter as its point of compliance. However, TJFA claims that designation amounts to an admission that the entire groundwater monitoring system is downgradient and there is no upgradient well. BFI does not disagree with that point.

Instead, the disagreement concerns the requirements for determining background groundwater quality, which can be compared in the future to the quality of the groundwater in

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<sup>284</sup> BFI Ex. RS-11, Figure 5A.1., p. APP 000874; BFI Ex. JS-1, p. 42; Tr. 777.

the point-of-compliance wells to help determine if there is a leak from the landfill into the groundwater. As TJFA notes, 30 TAC § 330.233(e) states, in pertinent part:

The owner or operator shall establish background groundwater quality in **upgradient wells or in background wells** for each of the monitoring parameters or constituents required in the groundwater monitoring program for a MSWLF unit, **as determined under § 330.234(a)** of this title (relating to Detection Monitoring Program) **or § 330.235(a)** of this title (relating to Assessment Monitoring Program) **and pursuant to § 330.231(a)(1)** of this title (relating to Groundwater Monitoring Systems). . . . (Emphasis added.)

As TJFA reads that rule, it requires either upgradient wells or other background monitoring wells that satisfy the requirements of sections 330.234, 330.235, and 330.231(a)(1). But of the three rules, TJFA focus only on section 330.231(a)(1), which provides:

Background wells shall be installed to allow determination of the quality of background groundwater that has not been affected by leakage from a unit. **A determination of background quality may include sampling of wells that are not hydraulically upgradient** of the waste management area **if** hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient or **if** sampling at other wells will provide a better indication of background groundwater quality than is possible from upgradient wells. (Emphasis added.)

TJFA focuses on the two “ifs” in the above rule and claims that BFI has not established that either exception to the requirement for a background well exists; hence, according to TJFA, BFI’s proposed groundwater monitoring system is deficient.

In response, BFI focuses less on parsing the rules and more on substance: it already knows the quality of the groundwater in the area. BFI has collected and included in its Application a substantial amount of background groundwater quality data from its seventeen

existing wells.<sup>285</sup> It will also develop background data for each of the fifteen new wells that it is planning to install. BFI will use intra-well comparisons and other statistical methods allowed by TCEQ to ensure that any potential releases from the landfill are detected.<sup>286</sup>

The ALJ finds that is ample evidence of compliance with the two most important requirements of 330.231(a)(1) and 30 TAC § 330.233(e):

Background wells shall be installed to allow determination of the quality of background groundwater that has not been affected by leakage from a unit. . . .

The owner or operator shall establish background ground water quality in upgradient wells or in background wells for each of the monitoring parameters or constituents required in the groundwater monitoring program for a MSWLF unit . . .

That leaves TJFA's argument about process. As BFI notes, there is no absolute requirement for an upgradient background well, but TJFA never argues that there is. Instead, TJFA is contending that BFI must prove, under section 330.231(a)(1), that one of two exceptions exists before BFI may rely on samples of its non-upgradient wells to determine background quality. TJFA argues that there is no such proof, but the ALJ finds that there is.

One of the exceptions is if hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient. The BFI site sits on a topographic high, and groundwater in the regulatory aquifer flows in all directions from the site.<sup>287</sup> As discussed in the groundwater protection standard, that topographic high has been excavated and sealed with a clay liner. Installing an upgradient well would be extremely difficult, if not impossible. It could

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<sup>285</sup> BFI Ex. RS-11, pp. APP 000877-920.

<sup>286</sup> BFI Ex. KC-1, pp. 12-15, and Ex. RS-11, pp. APP 001341-1401.

<sup>287</sup> BFI Ex. JS-1, pp. 33-34 & 42.

not be put in the middle of the landfill because the liner is in place to prevent groundwater from infiltrating the landfill. One perimeter well may have a higher groundwater elevation than the others, but groundwater would generally flow away from the excavated peak and not toward the other wells. It may not be impossible to determine which well is upgradient, but it certainly would be difficult.

That leads to the other exception. Sampling at the existing perimeter wells and the new ones to be installed is likely to provide a better indication of background groundwater quality than from one that was upgradient, because it would be difficult or impossible to install one upgradient.

The ALJ finds that BFI properly focused on substance to establishing background groundwater quality in accordance with 30 TAC §§ 330.231(a)(1), 330.233(e), 330.234(a), and 330.235(a).

**I. Whether The Application Includes Adequate Provisions Calculating The Estimated Rate Of Solid Waste Deposition And Operating Life Of The Site, In Compliance With Agency Rules, Including 30 TAC § 330.55(a)(4).**

No party argues that BFI failed to offer sufficient evidence on this issue. The ALJ concludes that BFI's Application includes adequate provisions calculating the estimated rate of solid waste deposition and operating life of the site, in compliance with agency rules, including 30 TAC § 330.55(a)(4).

**J. Whether The Application Includes Adequate Provisions For Closure And Post-Closure, In Compliance With Agency Rules, Including 30 TAC §§ 330.56(l) and (m).**

No party argues that BFI failed to carry its burden of proof on this issue. The ALJ concludes that BFI's Application includes adequate provisions for closure and post-closure, in compliance with agency rules, including 30 TAC §§ 330.56(l) and (m).

**K. Whether The Application Includes Adequate Provisions To Manage And Dispose Of Special Waste, In Compliance With Agency Rules, Including 30 TAC § 330.136.**

No party argues that BFI failed to carry its burden of proof on this issue. The ALJ concludes that BFI's Application includes adequate provisions to manage and dispose of special waste, in compliance with agency rules, including 30 TAC § 330.136.

**L. Whether The Application Includes Adequate Provisions Designating The Owner, Operator, Responsible Parties, And Qualified Personnel, In Compliance With Agency Rules, Including 30 TAC §§330.52(a)(1), 330.52(b)(7-10), and 330.114(1).**

No party argues that BFI failed to carry its burden of proof on this issue. The ALJ concludes that BFI's Application includes adequate provisions designating the owner, operator, responsible parties, and qualified personnel, in compliance with agency rules, including 30 TAC §§ 330.52(a)(1), 330.52(b)(7-10), and 330.114(1).

**M. Whether The Application Includes Adequate Provisions To Prevent Unauthorized Wastes From Being Disposed In The Landfill, In Compliance With Agency Rules, Including 30 TAC § 330.114(5).**

No party argues that BFI failed to carry its burden of proof on this issue. The ALJ concludes that BFI's Application includes adequate provisions to prevent unauthorized wastes from being disposed in the landfill, in compliance with agency rules, including 30 TAC § 330.114(5).

**N. Whether The Application Provides Adequate Information Related To Transportation, As Required By Agency Rules, Including 30 TAC § 330.53(b)(9).**

No party argues that BFI failed to carry its burden of proof on this issue. The ALJ concludes that BFI's Application provides adequate information related to transportation, as required by agency rules, including 30 TAC § 330.53(b)(9).

**O. Whether The Application Includes Adequate Provisions For Dust Control And Maintenance Of Site Access Roads, In Compliance With Agency Rules, Including 30 TAC § 330.127.**

BFI claims that its Application contains the required provisions for dust control and maintenance of site access roads. NNC contends that the truck traffic to the Facility has contributed to dust and the deterioration of public roads near the Facility. The other Parties do not address this issue.

Section 330.127 concerns Site Access Roads and provides:

(a) All-weather roads must be provided from the facility to access public roads and within the facility to the unloading area(s) designated for wet-weather operation. Tracked mud and associated debris at the access to the facility on the public roadway must be removed at least once per day on days when mud and associated debris are being tracked onto the public roadway. The methods for controlling mud and associated debris tracked onto public roadways must be specified in the site operating plan. Provisions for controlling the tracking of mud and associated debris on public roadways are listed in § 330.55(a)(2) of this title (relating to Site Development Plan).

(b) Dust from on-site and other access roadways must not become a nuisance to surrounding areas. A water source and necessary equipment or other means of dust control approved by the executive director must be provided.

(c) All on-site and other access roadways must be maintained in a clean and safe condition. Litter and any other debris must be picked up at least daily and taken to the working face. Access roadways must be regraded to minimize depressions, ruts, and potholes. The frequency of regrading must be specified in the site operating plan.

Section 17 of the BFI's SOP contains detailed provisions for dust control. These include requiring that:

- the main access road be paved and swept;
- other site access roads be amended with gravel or ground woody wastes;
- unpaved roads be periodically wetted during dry conditions;

- a wheel wash be provided for and used by trucks exiting the facility to keep mud from leaving the site; and
- the roadways in the vicinity of the landfill be regularly swept.<sup>288</sup>

That same section also contains detailed provisions pertaining to maintenance of site access roads. Among other things, the main site access road is paved, and unpaved roads are amended with gravel or ground woody wastes. The SOP requires weekly inspections of unpaved roads, which must be re-graded if any problems are identified. A wheel wash is provided, and excessive mud must be immediately removed by washing and/or sweeping.<sup>289</sup>

As BFI notes, NNC's witnesses did not criticize the SOP provisions pertaining to maintenance of site access roads. Instead, NNC witness Robert G. Andrews, who lives in Harris Branch, contends that trucks, which he appears to mean those going to and from the BFI Landfill, have caused deterioration of the major roadway in that subdivision. That road is more than a mile from the Facility, and Mr. Andrews admits the truck traffic has declined in recent years.<sup>290</sup> He also complained about slippery mud left by trucks on Blue Goose Road near the Facility entrance after it rains.<sup>291</sup> But another NNC witness, Roger Andrews, agreed that in recent years road conditions have gotten better, there is less mud on the roads, and the street sweeping programs are effective.<sup>292</sup>

The site-operating plan includes detailed provisions for controlling dust. Among other things, it provides for a paved site access road to the entrance facility/gatehouse; routine (weekly) inspections of all access roads; routine maintenance of on-site and other access roads;

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<sup>288</sup> BFI Ex. RS-11, pp. APP 001756-58; BFI Ex. RS-1, pp. 76-79; and BFI Ex. BD-1, pp. 43-44.

<sup>289</sup> BFI Ex. RS-11, pp. APP 001756-58.

<sup>290</sup> NNC Ex. RGA-1, p. 1; Tr. 1652 *et seq.*

<sup>291</sup> Tr. 1655 *et seq.*

<sup>292</sup> Tr. 1657-58.

wetting of unpaved roads to reduce dust; use of a wheel wash during wet-weather conditions; daily inspections of access roads during wet weather conditions; and routine sweeping or washing of area roadways.<sup>293</sup> BFI maintains that these and other provisions in the Application comply with the agency rules and will serve to control dust.

However, NNC's Ms. Remmert took several pictures showing dust trail behind trucks driven on the Landfill property.<sup>294</sup> So did Mr. Rogers.<sup>295</sup> Barbara Winchell, who lives slightly less than a mile from the site, complained of dust in her home.<sup>296</sup>

BFI argues NNC's evidence concerning dust is anecdotal. It notes that no evidence was offered of an NOV citing BFI for past dust-related violations. BFI claims it has never been cited for a dust violation in its 25-plus years of operation. BFI also correctly argues that there is no evidence tracing the alleged dust in Ms. Winchell's home to either the BFI landfill or its operations. BFI also notes that the pictures of the trucks do not show dust leaving the site; instead, they show small trails of dust that appear to be settling within a few dozen feet of the vehicles on the site.<sup>297</sup>

While there is some evidence to the contrary, the ALJ concludes that the greater weight of the evidence shows that BFI's Application includes adequate provisions for dust control and maintenance of site access roads, in compliance with agency rules, including 30 TAC § 330.127.

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<sup>293</sup> BFI Ex. RS-1, pp. 76-79, and Ex. RS-11, p. APP 001756-58.

<sup>294</sup> NNC Exs. ER 1, p. 5 *et seq.* and ER-5.

<sup>295</sup> NNC Ex. DR-3, photos DDR-12 & DDR-22.

<sup>296</sup> NNC Ex. BW-1, p. 2.

<sup>297</sup> NNC Exs. ER-5 & DDR-12.

**P. Whether The Application Includes Adequate Provisions To Protect Endangered Or Threatened Species, In Compliance With Agency Rules, Including 30 TAC §§ 330.53(b)(13) and 330.129.**

No party contests this issue. BFI produced sufficient evidence on this issue as indicated in the proposed findings of fact and conclusions of law.

**Q. Whether The Application Includes Adequate Provisions For Cover, In Compliance With Agency Rules, Including 30 TAC § 330.133.**

All parties stipulated that BFI's closure costs were not in dispute.<sup>298</sup> Yet TJFA argues that BFI failed to offer sufficient evidence on another aspect of the referred issue. According to TJFA, without a firm commitment for a supply of soil that it will need to provide cover, BFI failed to prove that it can meet the requirements in 30 TAC § 330.133 regarding cover.

BFI contends that it has carried its burden on this issue and that the premise of TJFA's argument is incorrect. According to BFI, there is no requirement that it have a firm commitment for cover soil. Even if there were, BFI argues that the evidence shows that it has access to sufficient soil to provide cover. The ALJ agrees with BFI.

TJFA claims that BFI is short over 2.7 million cubic yards of soil that it will need for daily, intermediate, and final cover.<sup>299</sup> TJFA notes that BFI's Mr. Dugas testified that the only remaining excavation on site, which would generate soil to use for cover, would be for the detention water quality pond in two to three years.<sup>300</sup> However, Mr. Dugas also testified that BFI has a contract with Waste Management for 1.5 million cubic yards of soil at \$1.50 per cubic yard; soil is periodically brought in for free by construction contractors; soil can readily be

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<sup>298</sup> Tr. 804-06.

<sup>299</sup> BFI Ex. RS-11, p. APP 000392.

<sup>300</sup> Tr. 1307.

purchased on the open market; and BFI has always had enough soil to provide cover at Sunset Farms.<sup>301</sup>

TJFA notes that Mr. Dugas also testified that BFI has no firm commitment from any source other than Waste Management to provide soil. Additionally, the contract with Waste Management provides that Waste Management must first satisfy its own needs for soil before providing soil to BFI, and that it can terminate the contract with BFI upon thirty days notice.<sup>302</sup>

BFI is correct that no rule requires an MSW applicant or permittee to show that it will have sufficient soil to provide cover. It is true, as TJFA argues, that 30 TAC § 330.133 includes requirements for daily, intermediate, and final cover for a landfill, but it never requires an applicant to show in advance that it has a committed supply of the soil that it will need to provide cover. Despite that, the ALJ agrees that BFI has shown that it has adequate access to soil to provide cover and that it has proven that it has made adequate provision for cover in compliance with the Commission's rules.

**R. Whether The Application Should Be Denied Based On The Applicant's Compliance History, In Accordance With State Laws And Agency Rules, Including Tex. Health & Safety Code § 361.089, 30 TAC § 305.66, and 30 TAC Chapter 60.**

Health and Safety Code<sup>303</sup> § 361.089(a) states that the commission “may, for good cause, deny or amend a permit it issues or has authority to issue for reasons pertaining to public health, air or water pollution, or land use, or for having a compliance history that is in the lowest classification. . . .” Water Code<sup>304</sup> § 5.754(i) requires the commission to consider compliance history when determining whether to grant an application. Commission rule 30 TAC § 305.66

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<sup>301</sup> BFI Ex. BD-1, pp. 44-46 and Ex. BD-5; Tr. 1310, 1311, and 1358.

<sup>302</sup> Tr. 1309-1311.

<sup>303</sup> TEX. HEALTH AND SAFETY CODE ANN. (West 2009).

<sup>304</sup> TEX. WATER CODE ANN. (West 2009).

states that the commission has the authority to deny, suspend or revoke a permit based on the applicant's record of violations over the last five years. The rules in Chapter 60 explain the applicability, method of calculation, and use of Compliance History.

After reviewing Compliance History reports for the Applicant, its affiliates, and Giles for the compliance period September 1, 2001, through August 31, 2006, the ED rated the Applicant's compliance history as 2.59, which is average. The Regulated Entity, the landfill, had a rating of 17.77, which is also average. The affiliated companies and a property owner also had average ratings.<sup>305</sup>

Based on that, the ED contends the compliance history and evidence do not warrant denying or requiring changes to the Application. No Party argues otherwise. The ALJ finds that the Application should not be denied based on the Applicant's compliance history.

**S. Whether The Application Includes Adequate Provisions For Fire Protection, In Accordance With Agency Rules, Including 30 TAC § 330.115.**

No party contests this issue. BFI produced sufficient evidence on this issue as indicated in the proposed findings of fact and conclusions of law.

**T. Whether The Applicant Has Complied With Financial Assurance Requirements, In Accordance With Agency Rules, Including 30 TAC §§ 330.52(b)(11) and 330.281.**

No party argues that BFI failed to carry its burden of proof on this issue. The ALJ concludes that BFI has complied with financial assurance requirements.

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<sup>305</sup> ED Ex. AA-5.

**U. Whether The Proposed Expansion Is Compatible With Land Use In The Surrounding Area.**

BFI contends that its proposed expansion is compatible with the surrounding land uses. NNC, TJFA, and the OPIC argue that the evidence does not show that the proposed expansion is compatible. The ED agrees with BFI, and the remaining Parties do not address the issue. The ALJ finds that the proposed expansion is compatible with land uses in the surrounding area.

**1. Applicable Law**

Both Health and Safety Code § 361.089 and 30 TAC § 305.66(c) provide that the Commission “may, for good cause, deny . . .” a “permit it . . . has authority to issue . . . for reasons pertaining to . . . land use.” Other provisions focus on the compatibility of the landfill with other land uses. 30 TAC § 330.53(a)(1) states, “the application must provide information relating to land use compatibility under the provisions of Texas Health and Safety Code, § 361.069,” which states:

The commission in its discretion may, in processing a permit application, make a separate determination on the question of land use compatibility, and, if the site location is acceptable, may at another time consider other technical matters concerning the application. . . . In making a determination on the question of land use compatibility, the commission shall not consider the position of a state or federal agency unless the position is fully supported by credible evidence from that agency during the public hearing.

30 TAC § 330.53(b)(7) requires the application to include a land-use map

showing the boundary of the property and any existing zoning on or surrounding the property and actual uses (*e.g.*, agricultural, industrial, residential, *etc.*) both within the site and within one mile of the site. The applicant shall make every effort to show the location of residences, commercial establishments, schools, licensed child care facilities, churches, cemeteries, ponds or lakes, and recreational areas within one mile of the site boundary. Drainage, pipeline, and

utility easements within the site shall be shown. Access roads serving the site shall also be shown.

30 TAC § 330.53(b)(8) also applies and provides the best framework for analyzing land-use compatibility. It states:

(8) Land use. A primary concern is that the use of any land for an MSW site not adversely impact human health or the environment. The impact of the site upon a city, community, group of property owners, or individuals must be considered in terms of compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest. To assist the executive director in evaluating the impact of the site on the surrounding area, the applicant shall provide the following:

(A) zoning at the site and in the vicinity. If the site requires approval as a nonconforming use or a special permit from the local government having jurisdiction, a copy of such approval shall be submitted;

(B) character of surrounding land uses within one mile of the proposed facility;

(C) growth trends of the nearest community with directions of major development;

(D) proximity to residences and other uses (*e.g.*, schools, churches, cemeteries, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, *etc.*). Give the approximate number of residences and business establishments within one mile of the proposed facility including the distances and directions to the nearest residences and businesses; and

(E) description and discussion of all known wells within 500 feet of the proposed site.

The above statutes and rules require the Commission to focus on certain things and physical relationships in determining whether a landfill is compatible with other land uses in the area. They do not include, however, a specific standard by which to determine compatibility. Nor do they define compatibility or related words.

As previously noted, words and phrases used in codified statutes and rules adopted under them must be construed according to the technical or particular meaning that they have acquired, whether by legislative definition or otherwise. They must also be read in context and construed according to the rules of grammar and common usage. Gov't Code §§ 311.002 and 311.011(a) and (b).

There is no evidence that compatibility has acquired a specific technical meaning. As commonly used, however, compatible means capable of existing together in harmony.<sup>306</sup> Harmony has several meanings. Leaving aside musical meanings, the general idea is that things are in harmony if they go together.<sup>307</sup>

## **2. Zoning At The Site And In The Vicinity**

Sunset Farms is located outside of Austin's city limits, but within its extraterritorial jurisdiction. Approximately 96% of the Landfill itself is unzoned. The unzoned portion, includes the limits of fill where all landfill operations will occur. The 200-foot-wide strip along the eastern portion of the site is zoned "DR," which is an interim zoning designation that does not prohibit or limit the expansion in any way.<sup>308</sup>

Approximately 70% of the land within one mile of the facility is unzoned.<sup>309</sup> The vast majority of the land zoned by the City of Austin within one mile of the landfill is zoned planned unit development.<sup>310</sup> The heavily populated Harris Branch Subdivision is a planned unit

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<sup>306</sup> "compatible." Merriam-Webster Online Dictionary. 2009. Merriam-Webster Online. 28 April 2009 <<http://www.merriam-webster.com/dictionary/compatible>>.

<sup>307</sup> "harmony." Merriam-Webster Online Dictionary. 2009. Merriam-Webster Online. 28 April 2009 <<http://www.merriam-webster.com/dictionary/harmony>>.

<sup>308</sup> BFI Ex. JW-1, p. 15.

<sup>309</sup> BFI Ex. JW-1, p. 15.

<sup>310</sup> Tr. 1139-1140.

development.<sup>311</sup> While a planned unit development zoning characterization is a flexible zoning category, it can be developed residentially.<sup>312</sup>

BFI's land use expert, John Worrall, testified that Austin's zoning ordinances and designations do not preclude or limit the proposed expansion of the BFI landfill and the expansion is compatible with all applicable zoning ordinances.<sup>313</sup> No Party argues otherwise.

The BFI site is located within Austin's desired development zone.<sup>314</sup> That does not preclude BFI's expansion either. Gregory Guernsey is Director of the City of Austin's Neighborhood Planning and Zoning Department. He was designated by the City to testify regarding his assessment of the BFI Landfill's compatibility with surrounding land uses.<sup>315</sup> Mr. Guernsey said that the City's Smart Growth Initiative, which sets forth the concept of the desired development zone, is a long-term development guide and is not enforceable in the way zoning ordinances are.<sup>316</sup>

The ALJ concludes that the proposed expansion of the BFI landfill is not precluded by zoning at or in the vicinity of the Facility.

### **3. Character of Surrounding Land Uses Within One Mile**

BFI's principal land-use expert was Mr. John Worrall. He has prepared land use analyses for over 20 proposed or operational MSW landfills in Texas. He has also provided expert

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<sup>311</sup> Austin Ex.-1, p. 4.

<sup>312</sup> Tr. 1143.

<sup>313</sup> BFI Ex. JW-1, pp. 16-17.

<sup>314</sup> BFI Ex. JW-1, p. 22; Tr. 1145.

<sup>315</sup> Austin Ex. 1, p. 2.

<sup>316</sup> Tr. 2055-56 & 2111.

testimony concerning land use in approximately twelve contested case hearings on landfill permit applications, including BFI's ECD landfill in Ennis and its Tessman Road landfill expansion in San Antonio.<sup>317</sup> Mr. Worrall has never testified that a landfill would be an incompatible land use.<sup>318</sup>

Mr. Worrall prepared a Land Use Analysis Report that was included in BFI's permit Application.<sup>319</sup> Because almost four years had passed since that report was prepared, Mr. Worrall also provided an updated report with his pre-filed testimony.<sup>320</sup>

According to Mr. Worrall, the character of land uses within one mile of the site is mixed and dynamic, being at the fringe of a rapidly growing city. Within that radius, there are approximately 49 business establishments, one school, and one licensed day care center. The school and the day care center did not protest BFI's Application.<sup>321</sup> In addition, the Barr Mansion, a historic structure, is within one mile of the Sunset Farms permit boundary.<sup>322</sup>

Sixty-two percent of the land within one mile of the permit boundary is open. That includes agricultural property, vacant property, and existing rights-of-way. The next largest land use within one mile is industrial, which occupies 21 percent of the land. Of that 21 percent, 18 percent has been used for landfills, dating back to the 1950s. That includes the two active landfills (Sunset Farms and ACL). The remaining three percent of the land used for industry

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<sup>317</sup> BFI Ex. JW-2 and Ex. RS-11, pp. APP 000107 – APP 000109.

<sup>318</sup> Tr. 1127.

<sup>319</sup> BFI Ex. RS-11, pp. APP 000145-65.

<sup>320</sup> BFI Ex. JW-4.

<sup>321</sup> BFI Ex. JW-1, pp. 24 *et seq.*

<sup>322</sup> BFI Ex. JW-4, pp. 3 *et seq.*

includes the Applied Materials manufacturing facility across the street from the landfills and other smaller industrial uses.<sup>323</sup>

Within the one-mile radius, eleven percent of the land is used for residential purposes. Virtually all of that residential use is single-family. As of July 30, 2008, there were approximately 1,387 residential units built within one mile of the Landfill, the majority of which are in the Harris Branch Subdivision east of Sunset Farms. All other land uses—such as commercial, recreational, water and institutional—cover only six percent of the land area within one mile of the BFI permit boundary.<sup>324</sup>

#### **4. Proximity To Residences And Other Uses**

The nearest residence is located approximately 1,045 feet east of the permit boundary and 1,830 feet east of the limit of fill. The only school within one mile is located 2,035 feet north of the permit boundary and almost one-half mile from the limit of fill. The day care center is located 660 feet east of the permit boundary and 1,450 feet east of the limit of fill.<sup>325</sup>

#### **5. Wells Within 500 Feet**

There is one water well within 500 feet of the permit boundary. It is located to the north-northwest of BFI's Facility.<sup>326</sup> As discussed above concerning groundwater protection, the evidence and the Application demonstrate that there are adequate provisions to protect groundwater in compliance with the Commission's rules.

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<sup>323</sup> BFI Ex. JW-1, pp. 17-18.

<sup>324</sup> BFI Ex. JW-1, p. 18 and Ex. JW-4, p. 4.

<sup>325</sup> BFI Ex. JW-1, p. 26.

<sup>326</sup> BFI Ex. JW-4, pp. 7 and 10.

## 6. Growth Trends of The Nearest Community and Directions of Major Development

No party disputes that Austin is the community closest to Sunset Farms. Mr. Worrall and Charles Heimsath each analyzed the growth trends of Austin.<sup>327</sup> Mr. Heimsath is an extremely experienced real estate consultant in the Austin area with a B.A. in economics and an M.S. in community and regional planning from the University of Texas.<sup>328</sup>

Sunset Farms is within Austin Planning Area 22 (PA 22). From 1990 to 2000, PA 22 was the most rapidly growing sector of the Austin Metropolitan Area. PA 22 grew by 133 percent from 1990 to 2000, increasing from 40,528 to 94,522 persons. In both absolute and relative terms, PA 22 was the fastest growing of the 26 planning areas in Austin. The area within one mile of the landfill has grown even faster than PA 22 has grown as a whole.<sup>329</sup>

Both Mr. Worrall and Mr. Heimsath concluded that the area in which the Landfill is located is the fastest growing sector in Austin.<sup>330</sup> Mr. Heimsath testified that both residential and commercial development growth has continued over the last few years and is likely to continue irrespective of the presence of the landfill expansion.<sup>331</sup>

Mr. Worrall and Mr. Heimsath cited extensive statistics and analyses they had performed and noted that residential growth within both one mile and five miles of the permit boundary has been very robust in recent years.<sup>332</sup> The vast majority of these residences were constructed well

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<sup>327</sup> BFI Exs. JW-1, pp. 19-24; CH-1; and Exs. CH-3–CH-6; Tr. 1193.

<sup>328</sup> BFI Ex. CH-1, p. 1 *et seq.*

<sup>329</sup> BFI Ex. JW-4, pp. 5-6.

<sup>330</sup> BFI Ex. JW-1, p. 20 and Ex. CH-1, p. 12 *et seq.*

<sup>331</sup> Tr. 1209.

<sup>332</sup> BFI Ex. JW-1, p. 20.

after BFI obtained its original permit in 1982.<sup>333</sup> Most prominently, the Harris Branch subdivision was platted around 1990 and began building out thereafter.<sup>334</sup> The residential growth increase was 133.2 percent from 1990 to 2000 within one mile of the Sunset Farm's permit boundary. More than 500 new residential units were built within one mile of the landfill between 2004 and 2008.<sup>335</sup> More new homes are likely on the way. Mr. Heimsath testified to plans for over 6,500 new residential lots within five miles of the BFI landfill.<sup>336</sup>

Despite the rapid development in the area of BFI's landfill, NNC's Mr. Williams testified that he has tried to find users for the Williams, Ltd. tract, but has not been successful. He claimed this was due to the landfill and that granting the Application, which would allow BFI to expand and continue operating the landfill until November 1, 2015, would continue his inability to develop the property.<sup>337</sup> However, Mr. Heimsath's opinion was that the lack of the development of the Williams tract was more likely due to the lack of infrastructure (water, wastewater, and roads) than to incompatibility.<sup>338</sup>

Gregory Guernsey is Director of the City of Austin's Neighborhood Planning and Zoning Department. He was designated by the City to testify regarding his assessment of the BFI Landfill's compatibility with surrounding land uses.<sup>339</sup> When asked, Mr. Guernsey did not dispute Mr. Heimsath's opinion that some property in the area, including the Williams tract,

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<sup>333</sup> The ED attached to his reply brief what purports to be the rules of the Texas Board of Health that became effective on November 19, 1980. Section E – Permit Procedures and Design Criteria, E-2.3e(6)(c) states: "Natural drainage patterns shall not be significantly altered." **The ALJ takes official notice of this rule adopted by the TCEQ's predecessor agency. Any objection to that notice should be filed as an exception to this PFD.**

<sup>334</sup> Tr. 2126-27.

<sup>335</sup> Tr. 1144 *et seq.*

<sup>336</sup> Tr. 1198.

<sup>337</sup> NNC Ex. EW-1, p. 4.

<sup>338</sup> BFI Ex. CH-1, p. 15.

<sup>339</sup> Austin Ex. 1, p. 2.

could not be developed for large scale residential purposes due to lack of infrastructure. He also agreed that the topography in the area would make it difficult to develop the property.<sup>340</sup>

Additionally, on the opposite side of BFI's landfill from the Williams property is the Applied Material site, which is extensively developed for industrial purposes.<sup>341</sup> While the Applied Materials facility is not a residential development, it clearly illustrates that intense development of the Williams property is not precluded simply due to its proximity to the BFI Landfill.

Both Mr. Worrall and Mr. Heimsath opined that the robust growth within one mile and five miles of the Landfill demonstrates that it has not been incompatible with surrounding land uses – including residential development – and that the proposed expansion will not affect such growth through 2015. According to them, the fact that development in the area has consistently thrived over the past 10-20 years proves that the landfill is not incompatible with surrounding land uses.<sup>342</sup> Mr. Guernsey disagreed with the proposition that thriving residential development near the BFI landfill was indicative of land use compatibility.<sup>343</sup>

## **7. Other public interest factors**

### **a. Visual Impact**

Mr. Worrall prepared visual simulations that demonstrated that the landfill, when expanded, would be invisible to potential receptors from a number of locations and a relatively insignificant land mass from others. As Worrall noted, landfill operations will appear to visually

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<sup>340</sup> Tr. 2105-2106.

<sup>341</sup> BFI Ex. CH-6, p. 1 and Ex. JW-4, p. 10.

<sup>342</sup> BFI Ex. JW-1, pp. 23-24 and Ex. CH-1, p. 44.

<sup>343</sup> Tr. 2071-2072.

recede from nearby residents because the expansion would only be vertical and away from Harris Branch and toward the adjacent Waste Management facility.<sup>344</sup>

BFI witness Donna Carter is president of a design firm and holds a B.A. from Yale University and a Master of Architecture degree from the University of California.<sup>345</sup> The subject matter of Ms. Carter's testimony was visual, aesthetic design of the landfill at final closure. She acknowledged that her opinion on land use compatibility was not based on legal requirements and that her assessment of visual compatibility would not apply while the landfill is being operated.<sup>346</sup>

Both Mr. Worrall and Ms. Carter explained from a design perspective how the two-tiered design of the Landfill would soften any visual impact of the vertical expansion to potential receptors and the plan to "paint" the landfill with native grasses and wildflowers upon closure would provide long-term aesthetic benefits.<sup>347</sup>

#### **b. Buzzards**

Several NNC witnesses complained about a large flock of buzzards that roosts on power lines near the Landfill. They attributed the presence of the buzzards to the Landfill.<sup>348</sup> However, the more persuasive evidence from an expert witness indicates that the buzzards are not in the vicinity due to the Landfill.

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<sup>344</sup> BFI Ex. JW-1, p. 26 *et seq.*

<sup>345</sup> BFI Ex. DC-1, pp. 1-2.

<sup>346</sup> Tr. 1215, 1218, and 1226.

<sup>347</sup> BFI Ex. JW-1, p. 29, and Ex. DC-1, pp. 10-13.

<sup>348</sup> NNC Ex. JB-1, p. 3; NNC Ex. JWE-1; NNC Ex. MCU-1; NNC Ex. MCO-1; NNC Ex. DR-1, p. 3; NNC Ex. DR-3, p. DDR 000029.

William Southern is an avian ecologist who has served as a consultant since 1974. He holds a B.S. in biology, an M.A. in zoology (with emphasis in ornithology), and a Ph.D. majoring in avian ethology with minors in animal ecology and wildlife management. He was a professor of biological sciences at Northern Illinois University from 1959 until he retired in 1990. Dr. Southern developed BFI's bird control plan.<sup>349</sup>

Dr. Southern was the only expert witness regarding buzzards and other birds. He testified that vultures eat carrion (dead animals) and are drawn to the area primarily because of the power lines to the west of BFI's Facility, upon which they roost, and not the landfill. He added that vultures roam forty or more miles per day in search of food, and they are very unlikely to spread disease. Dr. Southern also explained that BFI's bird control plan has prevented vultures from feeding at and frequenting the landfill.<sup>350</sup>

No party presented any evidence to rebut Dr. Southern's findings or opinions. The ALJ concludes that the buzzards are not in the area due to BFI's Landfill.

**c. Travis County and CAPCOG's Compatibility Findings**

On August 23, 2006, the Solid Waste Advisory Council of the CAPCOG endorsed the comments of Travis County, indicating that the expansion of the BFI Landfill would not conform to then current and future land uses in the area. Nevertheless, CAPCOG determined that the expansion would conform if all waste handling, including disposal and operation of a transfer station ended by November 1, 2015, and BFI met other conditions.<sup>351</sup> BFI has now agreed with

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<sup>349</sup> BFI Ex. WS-1, pp. 1-2.

<sup>350</sup> BFI Ex. WS-1, pp. 10, 21, and 26; Tr. 1251-52 & 1260.

<sup>351</sup> BFI Ex. RS-32 and TJFA Ex. 24.

Austin and others that all waste handling will end on November 1, 2015. Travis County does not oppose BFI's Application as long as the permit contains that fixed date for closure.

Nevertheless, TJFA notes that Travis County earlier told CAPCOG that BFI's proposed expanded Facility would not conform to the requirement for general compatibility with surrounding land uses because:

The facility is within the community's preferred growth corridor, known as a Desired Development, and is adjacent to numerous homes, schools, historic sites, and other sensitive receptors. Specifically, there are almost a thousand residences within one mile of the site. Many residences, commercial buildings, and employment sites have been and in the near future will be constructed near this site. The application acknowledges that this is the fastest growing section of the Austin Metropolitan Area. The land use pattern that will prevail for the foreseeable future in the vicinity of the site is incompatible with ongoing waste disposal activities. . . .<sup>352</sup>

The Desired Development Zone and the other land uses noted in this Travis County statement have been discussed elsewhere in the PFD. Beyond that, the statement reflects what once was, and perhaps still is, Travis County's opinion. The ALJ does not see that as providing a basis for finding that BFI's Landfill is incompatible with surrounding land uses.

It is worth noting that Health and Safety Code § 361.062 states:

(a) Before the commission issues a permit to construct, operate, or maintain a solid waste facility to process, store, or dispose of solid waste in a county that has a local solid waste management plan approved by the commission under Chapter 363 (Comprehensive Municipal Solid Waste Management, Resource Recovery, and Conservation Act), the commission must consider whether the solid waste facility and the proposed site for the facility are compatible with the county's approved local solid waste management plan.

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<sup>352</sup> TJFA Ex. 24.

(b) Until a local solid waste management plan is approved by the commission and adopted by rule, the commission may not consider the plan and its contents in the review of an application for a solid waste facility permit.

There is no evidence that Travis County has a solid waste management plan, much less that the BFI Application is incompatible with it. If the Commission cannot even consider a county's solid waste management plan until it has been approved by the Commission and adopted by rule, the ALJ can see no basis for finding that the Landfill is incompatible with surrounding land uses based on Travis County's opinion to that effect, which apparently never made it into the county's solid waste management plan and which the county no longer presses.

**d. Odor, Windblown Trash, Mud on Roads, and Other Concerns**

Elsewhere in the PFD, the ALJ concludes that BFI's Application includes adequate provisions to control odors, dust, and spilled and windblown waste; clean spilled waste; and maintain site access roads, in compliance with the Commission's rules. Yet, as NNC notes, concerns about these and other concerns about the compatibility of BFI's Landfill and other land uses have not been reduced to zero.

Even if BFI complies with the minimum standards established by the state of Texas, Mr. Guernsey testified that would not mitigate all odor, traffic, litter, or noise or lessen the visual impact of the landfill on adjacent land uses.<sup>353</sup> The Agreement with Austin may mitigate some of his concerns, but Mr. Guernsey still believes that the BFI landfill is incompatible with residential development in the vicinity.<sup>354</sup> He testified that landfill operations would negatively impact residential neighborhoods. That is largely due to truck traffic and noise, odors, and

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<sup>353</sup> Austin Ex. 1, p. 4.

<sup>354</sup> Tr. 2096 and 2125.

lighting.<sup>355</sup> Along those lines, NNC's Ms. Remmert complained about noises from the backup horns on trucks at the Facility, especially late at night.<sup>356</sup> According to Mr. Guernsey, the Application does not address the continuing negative effects created by the current landfill operation on the existing and proposed residential and civic land uses in the adjacent area.<sup>357</sup> If the permit it nevertheless approved, Mr. Guernsey urges that the operations of the landfill be limited to daylight hours.<sup>358</sup>

Joe Word holds a B.S. in civil engineering, is a licensed professional engineer, and managed Austin's Solid Waste Services Department from 1983 until he retired in 2001. He currently works part time for that same department. Mr. Word testified that he, too, has lingering concerns regarding the BFI landfill's compatibility with other land uses in the surrounding areas. He testified that large buffer areas are the most effective means of mitigating the impacts of landfill operations, even with state of the art operating practices.<sup>359</sup> Mr. Word testified the Agreement between BFI, Giles and the City would not address impacts from litter, noise, or lighting at night and may not have an impact on odors. He concluded that the BFI landfill could still have adverse impacts on the surrounding neighborhood.<sup>360</sup>

BFI does not contend that no one will ever notice odor, windblown trash, noise, or light from its Facility. Instead, it contends that it has provided for reasonable control of odors and windblown trash and that there is no evidence that it has ever been cited for a noise violation. There is no evidence of that BFI has violated a legal standard concerning light, or even that there is such a standard applicable to it.

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<sup>355</sup> Tr. 2070 *et seq.*, 2088, 2096, 2125.

<sup>356</sup> Tr. 1981.

<sup>357</sup> Austin Ex. 1, p. 4.

<sup>358</sup> Tr. 2077; Austin Ex. 1, p. 3.

<sup>359</sup> Austin Ex.-4, pp. 7 and 8.

<sup>360</sup> Tr. 2139.

## 8. ALJ's Analysis of Compatibility

The BFI landfill and the surrounding land uses are clearly capable of existing together. The Facility is not prohibited by any zoning, so it is legally capable of existing with the other uses in the area. Nor is it out of character in the area. Waste disposal facilities have existed in the area for almost 60 years, and BFI's landfill has been there for 27 years. Another landfill is the largest adjacent land use, and 18 percent of the land within a one-mile radius is used for landfills. Within that radius, the majority of the land is open, and the next largest category of use is industrial. There is no evidence or even argument that open or industrial uses are incompatible with the Landfill. The area is developing more rapidly than any other part of Austin and has a wide variety of uses. To the extent that some land is not being developed, other factors, including poor topography and lack of infrastructure, account for at least a portion of that.

There is also no doubt that land in the area can be used for both residences and the Landfill. That is because the vast majority of the residences in the area were built and occupied eight or more years after the BFI began operating its Landfill and nearly 40 years after waste disposal began in the area. Moreover, the rate of residential development has been high, and that is projected to continue.

That does not mean that the Landfill goes together perfectly with residences in the area or the Barr Mansion. As Mr. Guernsey and Mr. Word testified, offensive noise, odor, *etc.* cannot be completely eliminated. The ALJ cannot conclude, however, that a landfill is incompatible with a nearby residential area or business if it will ever be heard, smelled, seen, or noticed. If that were the standard, the Legislature or the Commission surely would have been clearer on the point. Moreover, as found elsewhere in the PFD, BFI has provided for reasonable control of each of the undesirable characteristics that the Commission has chosen to specifically regulate by rule, including odor, wind blown trash, visibility through buffering and screening, *etc.*

The ALJ fully recognizes that many users of land near the BFI Landfill do not want it near them. That desire is not, however, a legal basis for denying BFI's Application. Instead, the legal standard is compatibility. Based on the evidence, the ALJ concludes that BFI has shown that the proposed expansion is compatible with land use in the surrounding area.

**V. Whether The Provisions Proposed For Buffer Zones And Landscape Screening Comply With Agency Rules, Including 30 TAC §§ 330.121(b) and 330.138.**

Mr. Worrall provided testimony regarding both the buffer zones and screening. He explained that the proposed design satisfies the 50-foot regulatory buffer requirement of 30 TAC § 330.121(b) and that the large open area in the northeast corner of the site that will never be used for landfilling provides substantial (up to 760 feet) additional buffer for potential receptors north and east of the landfill. He also discussed the landscape enhancements that have been installed at Sunset Farms to provide screening where possible and serve to improve the overall appearance of the landfill.<sup>361</sup>

No Party argues that BFI has failed to offer sufficient evidence on this issue. The ALJ concludes that the provisions proposed for buffer zones and landscaping screening comply with agency rules.

**W. Whether the Application Proposes Sufficient Provisions to Protect the Health of the Requesters and their Families and Avoid Causing a Nuisance, in Violation of the Commission Rules, Including 30 TAC § 330.5(a)(2).**

NNC contends that BFI has failed to show that it will not cause nuisance conditions. In fact, NNC argues that the evidence concerning odors, spilled and windblown waste, dust control, and buzzards proves that BFI has created a nuisance. TJFA does not offer an independent argument, but supports NNC on these points.

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<sup>361</sup> BFI Ex. JW-1, pp. 30-31 and 34-35.

BFI claims that it has proven its case on this issue. The remaining Parties either agree or do not dispute BFI's position.

Section 330.5(a)(2) of the Commission's rules provides:

(a) In addition to the requirements of §330.4 of this title (relating to Permit Required), a person may not cause, suffer, allow, or permit the collection, storage, transportation, processing, or disposal of municipal solid waste, or the use or operation of a solid waste facility to store, process, or dispose of solid waste, or to extract materials under the Texas Solid Waste Disposal Act, §361.092, in violation of the Texas Solid Waste Disposal Act, or any regulations, rules, permit, license, order of the commission or in such a manner so as to cause:

...  
(2) the creation and maintenance of a nuisance . . .

For purposes of chapter 330 of the Commission's rules, section 330.2(86) defines nuisance as:

Municipal solid waste that is stored, processed, or disposed of in a manner that causes the pollution of the surrounding land, the contamination of groundwater or surface water, the breeding of insects or rodents, or the creation of odors adverse to human health, safety, or welfare.

As discussed elsewhere in the PFD, the ALJ finds that BFI has shown that its proposed expansion would be protective of surface water and groundwater and that its Application includes adequate provisions to control disease vectors and odors. Additionally, as discussed under the section of the PFD concerning odors, a Commission Strike Force intensely monitored odors in December 2002, when odor complaints were high, and found no Category 5 nuisance odors causing health effects. Odor complaints have declined to low levels since then.

The ALJ concludes that the Application proposes sufficient provisions to protect the health of the requesters and their families and to avoid causing a nuisance in violation of the Commission rules.

**X. Whether the Landfill's Operational Hours are Appropriate.**

BFI is currently authorized to operate its Landfill 24 hours a day, seven days a week. The Application and the Updated Revised Draft Permit would not change that.<sup>362</sup>

OPIC claims that BFI did not carry its burden of proving that its current schedule is appropriate. OPIC suggests limiting operation of the Landfill to daylight hours. No other party makes that argument. BFI has not agreed to that change.

As applicable to BFI, section 330.118(a) of the Commission's rules states:

... The waste acceptance hours of a municipal solid waste facility may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless otherwise approved in the authorization for the facility. ...

The currently authorized operating hours are consistent with other operating landfills in Travis County and are consistent with industry practices. Despite its broader authorization, the Facility is closed from 3:00 p.m. on Saturday until 12:00 a.m. on Monday. It is open for 24 hours all other days.<sup>363</sup>

To lessen the impact on the existing and proposed residential uses and adjacent civic uses, Mr. Guernsey suggested that the operations of the landfill should be limited to daylight hours.<sup>364</sup> Without a specific review, Dr. Libicki generally agreed that most of the odor complaints concerning the BFI facility were for the evening hours. She noted that pattern of odor complaints is typical. She explained that more people are at home at night to notice and

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<sup>362</sup> ED Ex. 1, p. 4.

<sup>363</sup> BFI Ex. RS-1, pp. 108-110.

<sup>364</sup> Austin Ex. 1, p. 3; Tr. 2077.

complain about odors and winds tend to be slower at night, presumably meaning that odors are not dissipated as well at night as during the day.<sup>365</sup>

BFI has studied the distribution of vehicles entering the Facility during the peak hours, between 7:00 a.m. and 5:00 p.m., but has not analyzed the patterns of evening trips.<sup>366</sup> That suggests, but does not prove, that there are too few entrants in the evening to make any difference to BFI. If true, closing at night would have little operational impact on BFI, but it might also mean that closing at night would not significantly reduce odor.

The only evidence that supports BFI's deviation from the 7-to-7 standard for waste acceptance hours is the fact that the industry standard is 24-7, which applies to other permitted landfills in Travis County. The ALJ does not find that very persuasive.

The ALJ agrees that the Commission should generally avoid treating similarly situated regulated entities differently. However, if the Commission has determined through its rules that accepting waste from 7:00 a.m. to 7:00 p.m. should be the norm, yet all of the permits for Travis County authorize round-the-clock waste acceptance, when can the Commission move toward the norm except when a permit is up for amendment? The ALJ finds that the time is ripe to move to the standard set by the rule.

Moreover, if BFI's waste acceptance hours were limited to the hours from 7:00 a.m. to 7:00 p.m. from Monday through Friday, BFI could be open in the evening and on Saturday to accept waste due to special circumstances. It could also conduct non-waste acceptance activities outside the 7-to-7 time frame. Current rule 30 TAC § 330.135<sup>367</sup> states:

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<sup>365</sup> Tr. 530 *et seq.*

<sup>366</sup> Tr. 1102-1103.

<sup>367</sup> While BFI's Application remains governed by the prior rules, its future operations would be governed by the current rules.

(a) A site operating plan must specify the waste acceptance hours and the facility operating hours when materials will be transported on or off site, and the hours when heavy equipment may operate. The waste acceptance hours of a municipal solid waste facility may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless otherwise approved in the authorization for the facility. Waste acceptance hours within the 7:00 a.m. to 7:00 p.m. weekday span do not require other specific approval. Transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m., unless otherwise approved in the authorization for the facility. Operating hours for other activities do not require specific approval.

(b) In addition to the requirements of subsection (a) of this section, the permit may include alternative operating hours of up to five days in a calendar-year period to accommodate special occasions, special purpose events, holidays, or other special occurrences.

(c) The commission's regional offices may allow additional temporary waste acceptance or operating hours to address disasters, other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area.

(d) A facility must record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.

The ALJ cannot find that BFI has shown that it is appropriate to operate its Landfill 24 hours a day, seven days a week. If it otherwise approves the Application, the ALJ recommends that the Commission, in accordance with current rule 30 TAC § 330.118(a), make the following change on page 4 of the Updated Revised Draft Permit:

A. Days and Hours of Operation

~~The facility is authorized to operate and accept waste 24 hours per day, seven days per week.~~ The waste acceptance hours of the facility may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. Waste acceptance hours within the 7:00 a.m. to 7:00 p.m. weekday span do not require other specific approval. Transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m. Operating hours for other activities do not require specific approval. The Commission's regional offices may

allow additional temporary waste acceptance or operating hours to address disasters, other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area. The facility must record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.

**Y. Whether The Erosion Control Methods Identified In The Application And Draft Permit Are Sufficient.**

Only TJFA argues that BFI failed to offer sufficient evidence on this issue to carry its burden of proof. TJFA claims that the erosion control methods in the Application are not sufficient to prevent a discharge of excessive sediment during rainfall events. The ALJ disagrees.

**1. Description of Erosion Controls**

The existing controls at the BFI Facility include:

- Temporary erosion control berms on the side slopes which slow down and redirect surface runoff;
- Temporary downchutes placed at locations where runoff was being concentrated on the landfill top deck so that these areas of flow are precluded from eroding the side slopes;
- Silt fences at the toe of all side slopes without vegetative cover and around the pond in the northeast corner;
- Rock berms, sedimentation pools and vegetation designed to slow down flow and capture sediment in the wide, shallow channel improvement project already constructed (Ditch K);
- A detention pond that was added as part of the 2002 permit modification which captures runoff from the northeastern portion of the site that drains to Outfall 1;
- A grass-lined swale on the eastern portion of the site (Ditch A);

- Two sediment traps on the southern boundary of the site that correspond to Outfalls 2 and 3 that capture the first half inch of runoff; and
- Two sediment basins and extensive rock gabions on the western boundary of the site that correspond to Outfalls 4 and 5 and are designed to capture the first half inch of runoff. These basins were also part of a 2002 drainage modification that was implemented in part to address the one and only offsite erosion problem documented at this landfill.<sup>368</sup>

## **2. Performance of Existing Erosion Controls**

With the one exception that prompted the 2002 drainage modification, there has been no other time when offsite sedimentation was a documented problem. The one exception was due to an extreme rainfall event shortly after intermediate cover soil had been placed on the western slope.<sup>369</sup>

Austin and TCEQ Staff conducted investigations in response to four separate complaints by Joyce Best that extensive offsite erosion had occurred. Every time, the Austin and TCEQ investigators concluded the landfill's erosion controls had functioned effectively and no violations had occurred.<sup>370</sup> One of the storms was extremely powerful, including a rainfall rate reported by the TCEQ to be at a rate of 20.57 inches per hour.<sup>371</sup>

Stephen Stecher, P.E. testified on behalf of TJFA with respect to surface water protection and erosion control. Mr. Stecher has a Masters Degree in civil engineering with a specialization

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<sup>368</sup> BFI Exs. RS-1, pp. 50-51 & Ex. AM-1, pp. 39-41.

<sup>369</sup> BFI Ex. RS-1, p. 51.

<sup>370</sup> Tr. 1959-66.

<sup>371</sup> BFI Ex. 29.

in water resources and over 30 years experience related to drainage control, storm water management, and erosion control.<sup>372</sup>

Neither Mr. Stecher nor Mr. Chandler could identify any time when any sediment was discharged from any outfall at the BFI Facility in violation of any permit or regulation. In his stream study, Mr. Stecher could not identify any water quality problems in the receiving waters that were caused by the landfill.<sup>373</sup>

Finally, in the stormwater samples that have been taken from the discharge outfalls pursuant to the requirements of BFI's Stormwater Pollution Prevention Plan (SWPPP) there has only been one exceedence of the total suspended solids (TSS) benchmark of 100 mg/l.<sup>374</sup> The 100 mg/l benchmark is just a guideline to identify whether further control measures may be necessary. An exceedence of this benchmark does not mean there has actually been a violation of any discharge limit.<sup>375</sup>

### 3. Proposed Controls

In its Application BFI proposes to continue most of the existing erosion and sedimentation control features (*i.e.*, the channel improvement features, Ditch K; grassy swale, Ditch A; silt fences at toe of slopes and surrounding the pond in northeast corner and all existing sedimentation traps and basins and associated gabions). It also proposes various additional measures. These include:

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<sup>372</sup> TJFA Ex. SS-1, pp. 3-5.

<sup>373</sup> Tr. 1843-44.

<sup>374</sup> Tr. 117.

<sup>375</sup> Tr. 1054.

- A new, larger sedimentation/water quality/detention pond to be constructed in place of the existing detention pond in the northern portion of the site. This pond will provide for sedimentation capture for runoff that is discharged to Outfall 1.<sup>376</sup> This pond's capacity is significantly larger by volume than required and will provide an extremely efficient sediment removal system;<sup>377</sup>
- Approximately 20 miles of permanent erosion control berms on the side slopes.<sup>378</sup> These berms are designed with approximately fourteen feet of erosion control matting on the upgradient side of each berm;<sup>379</sup> and
- Six permanent rock-lined downchutes to direct runoff from the top deck and side slopes.<sup>380</sup>

Additionally, the Settlement Agreement with Austin largely concerns erosion and sedimentation control at the landfill.<sup>381</sup> The agreement's provisions, hence Special Provisions in the Updated Revised Draft Permit, include:

- The placement of intermediate cover and vegetative seeding/cover faster than required by the TCEQ rules (within 60 days for side slopes and 120 days for the top deck rather than the 180 days for placement of intermediate cover and no time requirement for vegetation establishment prescribed by the rules);
- The use of a hydromulch seeding technique to apply the vegetative cover;
- The installation of an irrigation system to ensure germination and plant growth;
- The placement of a silt fence or mulch berm filter strip of buffalo grass sod at the inlet of each downchute designed to filter the runoff before it reaches each downchute;

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<sup>376</sup> BFI Ex. AM-1, pp. 23-24.

<sup>377</sup> Tr. 1901.

<sup>378</sup> TJFA Ex. SS-1, p. 20.

<sup>379</sup> BFI Ex. RS-11, p. APP 000998.

<sup>380</sup> BFI Ex. RS-11, p. APP 000968; Tr. 1873.

<sup>381</sup> BFI Ex. RS-42; Austin Ex. 3.

- Consistent with BFI's initial proposal to "paint" the landfill, the Agreement requires the use of a specific native seed mix on approximately 15% of the eastern and northern slope areas;
- Soil stockpiles must have silt fences, hay bales, or mulch tubes in place prior to establishment of a soil stockpile. In addition, if a soil stockpile has a slope length greater than 20 feet, mid slope temporary stabilization controls such as seeding, tarping, or placement of silt fences or mulch berms are required;
- Silt fences or mulch berms must also be installed within fourteen days of completion of intermediate cover at the base of all side slope and top deck areas until adequate vegetation is achieved;
- The placement of silt fences or mulch berms at the top and bottom of the downchutes; and
- Routing all storm flows from Drainage Area 2 through the proposed water quality pond as soon as waste reaches final grades in that area, and requiring certain construction, inspection and maintenance activities with respect to the pond.<sup>382</sup>

Every expert who testified regarding this issue, including TJFA's experts Mr. Stecher and Mr. Chandler, agreed that the Agreement with Austin resulted in substantively positive enhancements to the existing and proposed erosion and sedimentation controls.<sup>383</sup>

#### **4. The ED's and Austin's Experts Have No Criticism of BFI's Proposed Erosion Controls**

Mr. Udenenwu for the ED agreed that the BFI Application adequately presents a plan to control erosion and sedimentation.<sup>384</sup> Similarly, Mr. Kelly for Austin testified that the Agreement with Austin satisfied his concerns regarding drainage from the BFI's Facility.<sup>385</sup>

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<sup>382</sup> BFI Ex. RS-42.

<sup>383</sup> Tr. 939, 1852 & 1529.

Chuck Lesniak holds a B.A. in aquatic biology and is Austin's lead staff member on abandoned landfills and also works on issues concerning existing landfills. He has worked for Austin on watershed protection and development review issues for eighteen years. In this case, he focused on the portions of BFI's Application concerning stormwater and drainage management and erosion and sedimentation control. Mr. Lesniak testified that the Agreement with Austin has addressed his concerns regarding erosion and sedimentation control at the BFI Facility as proposed.<sup>386</sup>

Only TJFA's Mr. Stecher testified that the Application does not demonstrate that the surface water protection measures are functioning properly or that their proposed implementation will be effective to protect surface water.<sup>387</sup>

## 5. Sedimentation Ponds

Mr. Stecher offered a variety of criticisms about the size, design, and cleanout practices for the sedimentation ponds at Outfalls 4 and 5 and the sedimentation traps at Outfalls 2 and 3. However, as Mr. Udenenwu noted, and even TJFA agrees, there is no TCEQ requirement that a sedimentation pond be constructed.<sup>388</sup> Many erosion and sedimentation control practices other than sedimentation ponds can be employed. TJFA correctly claims, however, that it is BFI's burden to establish that its sediment controls, including sedimentation ponds if included, will ensure surface water protection.

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<sup>384</sup> Tr. 2281.

<sup>385</sup> Austin Ex. 8, p. 6.

<sup>386</sup> Austin Ex. 6, pp. 1 and 2; Tr. 2157.

<sup>387</sup> TJFA Ex. SS-1, p. 7.

<sup>388</sup> Tr. 2282.

There is more than enough evidence to conclude that the sediment ponds will control erosion. Austin's Land Development Code requires a sediment pond to capture the first half inch of runoff.<sup>389</sup> The ponds by Outfalls 4 and 5 were designed to this standard, and the Application requires that the ponds (or traps) by Outfalls 2 and 3 also be maintained to the same standard.<sup>390</sup> The City reviewed BFI's Application for the sedimentation ponds at Outfalls 4 and 5 and issued a City permit.<sup>391</sup>

Mr. Kelly did not personally crosscheck the calculations the City reviewed, but the ALJ fails to see that as significant. Other Austin staff members did. Moreover, Austin's issuance of the permit to BFI is proof that its ponds will comply with Austin's first-half-inch-of-runoff standard.<sup>392</sup>

Mr. Stecher was previously a senior engineer and section manager for Austin's Water Research and Evaluation Section.<sup>393</sup> He testified that Austin's one-half-inch capture rule was not intended to apply to a landfill of the height proposed by BFI.<sup>394</sup> He never explained why that was so. TJFA argues that Mr. Kelly acknowledged that Austin sediment-pond standard does not apply to landfills. That is not misleading. Mr. Kelly said, "It applies to the construction phrase of any land development project."<sup>395</sup> The ALJ concludes that Mr. Kelly, who currently works for Austin's Watershed Protection and Development Review Department, is more credible on that point, especially since Austin has actually issued a permit to BFI. The ALJ concludes that the Sediment Ponds at Outlet 4 and 5 comply with Austin's standard for sediment ponds.

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<sup>389</sup> Tr. 964.

<sup>390</sup> Tr. 1052.

<sup>391</sup> Tr. 2203-04.

<sup>392</sup> Tr. 2200-2204.

<sup>393</sup> Tr. 1932.

<sup>394</sup> Tr. 1933.

<sup>395</sup> Tr. 2204.

TJFA complains that BFI does not plan to increase the size of the sedimentation ponds despite the fact that the landfill will increase in height if the Application is approved. But TJFA cites no evidence to support its suggestion that the volume of runoff will increase from a rainfall event just because the landfill is higher. Where would the additional water come from?

Mr. Stecher contends that the sedimentation ponds at Outfalls 2 through 5 are undersized. Mr. Stecher testified that the outlet designs and configuration of the sedimentation ponds would result in low pollutant removal efficiencies for TSS and other pollutants due to the short retention time. Mr. Stecher stated that there will not be enough time for sediment to settle.<sup>396</sup>

As to the Austin standard, Mr. Stecher testified that the one-half inch capture volume of the sedimentation ponds is not adequate for the landfill facility. According to Mr. Stecher, approximately 1.3 inches of rainfall will result in one-half inch of runoff volume. The capture volume of the sedimentation ponds is only approximately 7.5% of the 25-year/24-hour storm runoff volume. Mr. Stecher concluded that significant runoff in sediment loads would bypass or otherwise be ineffectively treated for numerous rainfall events, which would lead to excessive discharges of sediment and TSS.<sup>397</sup> The ALJ cannot agree.

If a 1.3-inch rainfall generates 7.5% of the runoff volume of a 25-year/24-hour storm, then the runoff volume of a 25-year/24-hour storm would be 17.33 inches. At least two of the sediment ponds controlled sedimentation during a significantly larger 20.57-inch-per-hour rainfall on March 25 and 26, 2005. Following a complaint, TCEQ Investigators visited the BFI Facility on April 14, 2005, and concluded:

BFI Outfalls 004 and 005 discharge offsite and to the west. During this investigation it was noted that both outfalls had been modified to improve storm

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<sup>396</sup> TJFA Ex. SS-1, pp. 8 and 9.

<sup>397</sup> TJFA Ex. SS-1, pp. 9 and 10.

water prior to discharge. Both outfalls consist of a series of settling areas and filters prior to discharge. Previous treatment consisted of a larger holding area with rock and filter fabric prior to discharge. **No evidence was apparent during this investigation that sediment or waste had discharged from any outfall.** Vegetation on the other side of the outfalls did not appear covered or choked with silt or waste. **No evidence of silt sediment, trails of deposition soil or debris were noted.** Vegetation was noted to be dense and vigorous for the season at and below the outfalls. **No ravines or arroyos were noted below the outfalls. . . .** No violations were alleged and the complained investigation was terminated.<sup>398</sup>

(Emphasis added)

The results of that investigation strongly indicates that the existing sediment ponds not only meet but already exceed both Austin's standard and the standard that Mr. Stecher argues should apply. Moreover, the additional provisions in the Agreement with Austin that are designed to control erosion will further minimize the potential for erosion from and sedimentation being deposited in waters in the state due to the proposed expansion of the BFI Facility.

## 6. Downchutes

Stecher testified that the downchutes at the BFI Landfill should have been designed for the 100-year storm and that some of the downchutes do not have full freeboard.<sup>399</sup> But the Commission's rules require drainage features capable of conveying the 25-year, 24-hour peak flow, not the 100-year. See 30 TAC § 330.55(b)(3). As to freeboard, it is not required on any drainage features except flood control levees. See 30 TAC § 330.55(b)(7)(B).

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<sup>398</sup> BFI Ex. 29, p. 3.

<sup>399</sup> Tr. 1925.

Putting aside the lack of any legal requirement for downchute freeboard, the Application contains full flow analysis for the downchutes.<sup>400</sup> It shows that each of the two styles of downchute, referred to as A and B, can carry much more than the flow from the 100-year rainfall event with more than adequate freeboard. "A" style downchutes can carry 735.96 cfs, and "B" style downchutes can carry 1,198.14 cfs. The actual calculated 100-year flow at the landfill for the worst-case "A" style downchute is 386.2 cfs. For the worst-case "B" style downchute, it is 512.0 cfs.<sup>401</sup> The ALJ concludes that the downchutes will be able to carry even the runoff from a 100-year/24-hour rainfall with adequate freeboard.

Mr. Stecher also contended that the rocks used as riprap in the downchutes would be too small. This boils down to a disagreement between Mr. Stecher and Mr. Mehevec over the appropriate roughness coefficient that should be used in the applicable formula. Mehevec used the value of .07 in his calculations, while Stecher said he would have selected a value of .05. However, Mr. Stecher agreed that both values fell within an acceptable range, and he could not confirm that the rocks would be dislodged.<sup>402</sup>

The ALJ concludes that the proposed downchutes would be adequate.

## **7. Ditch K and Drainage Areas 1 and 3**

Drainage Area 1 drains into Ditch K on the way to Outfall 1, and Drainage Area 3 also drains to Outfall 1.<sup>403</sup> Mr. Stecher testified that Drainage Areas 1 and 3 are not effectively treated for sediment control.<sup>404</sup>

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<sup>400</sup> BFI Ex. RS-11, pp. APP 001026-30.

<sup>401</sup> BFI Ex. RS-11, p. APP 000968.

<sup>402</sup> Tr. 1881-84.

<sup>403</sup> BFI Ex. RS-11, p. APP 000968.

<sup>404</sup> TJFA Ex. SS-1, pp. 15-16 and Ex. SS-1, p. 18; BFI Ex. RS-11, p. APP 000968.

Sedimentation can be controlled by using various kinds of design features. BFI has included establishing vegetation on the landfill areas to reduce erodible areas; use of temporary diversion and permanent berms to reduce stormwater velocities; silt removal by vegetation in the channel; and silt fences at the toe of the landfill side slopes.<sup>405</sup> Drainage Areas 1 and 3 do not drain into a sedimentation pond prior to being discharged, but a pond is not required by the Commission's rules.<sup>406</sup>

Mr. Stecher testified that the erosion controls related to Ditch K and Outfall 1 will be inadequate to control erosion. He claimed that the wetland pools in Ditch K are ineffective for such a large drainage area and the rock berms would not be useful for any kind of major detention or retention.<sup>407</sup> No other expert took this view.

BFI contends that, despite its name, Ditch K is not just a ditch. The channel is up to 100 feet wide to help keep velocities low during the first half-inch of runoff.<sup>408</sup> Further, there are multiple sediment traps and rock berms across the channel to remove sediment.<sup>409</sup> Ditch K currently exists and was authorized by the TCEQ in 2002, by Travis County, and by the City in its permit.<sup>410</sup> Moreover, Ditch K has performed well, as found during the April 14, 2005 investigation by the TCEQ Staff that is discussed above.

The ALJ concludes that Drainage Areas 1 and 3 are effectively treated by Ditch K to control sediment.

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<sup>405</sup> Tr. 1869-70.

<sup>406</sup> Tr. 2282.

<sup>407</sup> Tr. 1922-1924.

<sup>408</sup> BFI Ex. RS-11, p. APP 000974.

<sup>409</sup> BFI Ex. 7, p. 13.

<sup>410</sup> Tr. 1942 and 2282; BFI Ex. AM-33.

## 8. Silt Fences

The primary method of erosion control with regard to Ditch L is silt fences. Mr. Stecher testified these silt fences will not be effective with regard to erosion control.<sup>411</sup> No other expert expressed this concern; hence, the ALJ concludes that silt fences are effective.

## 9. Stormwater Sampling

TJFA notes that the only water quality data from landfill discharges in the record are from the storm water sampling on June 20, 2007.<sup>412</sup> Despite five rainfall events of over one inch between January 2007 and June 2008, BFI only managed to take one sample.<sup>413</sup> BFI responds that there is no evidence that it missed taking a required sample. Mr. Stecher acknowledged that it is difficult to gather a stormwater sample, presumably because one would have to gather them during an intense rain.<sup>414</sup>

The June 20, 2007 sampling results from Outfall 5, which is located on the western boundary of the landfill, was 240 milligrams per liter TSS.<sup>415</sup> The benchmark value for TSS in the BFI storm water permit is 100.<sup>416</sup> This exceedence was observed after a rainfall event of 1.34 inches, which TJFA claims was not a significant rainfall.<sup>417</sup>

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<sup>411</sup> SS-1, pp. 25-26.

<sup>412</sup> BFI Ex. RS-36.

<sup>413</sup> Tr. 111 and 117.

<sup>414</sup> Tr. 1896.

<sup>415</sup> Tr. 116 and 117; BFI Ex. RS-36, p. 303.

<sup>416</sup> Tr. 117.

<sup>417</sup> Tr. 113.

BFI responds that exceeding a benchmark in the Stormwater Pollution Prevention Plan (SWPPP) does not mean that BFI has violated any permit limit. If the benchmark were consistently exceeded, the BFI would need to reconsider and revise relevant aspects of its SWPPP (which could include raising the benchmark).<sup>418</sup>

The ALJ also notes that despite that one exceedence in 2007, the Comprehensive investigation on April 14, 2005 by the TCEQ Staff found no evidence of sediment discharge at Outfall 5. Moreover, BFI now proposes even more aggressive erosion, hence sediment, control measures. The ALJ cannot conclude that a single exceedence, on June 20, 2007, indicates that BFI's erosion controls are inadequate.

#### **10. ALJ's Erosion Control Conclusion**

The ALJ concludes that the erosion control methods identified in the Application and Updated Revised Draft Permit are sufficient.

#### **Z. Whether The Storage, Treatment, And Disposal Of Contaminated Water Is Adequately Addressed In The Application And Draft Permit.**

No party contests this issue. BFI produced sufficient evidence on this issue as indicated in the proposed findings of fact and conclusions of law.

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<sup>418</sup> Tr. 1054.

### VIII. TRANSCRIPT COSTS

The Commission's rules provide that the Commission will not assess transcript costs against the ED or the OPIC<sup>419</sup> and that it will consider the following relevant factors in allocating reporting and transcription costs among the other parties<sup>420</sup>:

- the party who requested the transcript;
- the financial ability of the party to pay the costs;
- the extent to which the party participated in the hearing;
- the relative benefits to the various parties of having a transcript;
- the budgetary constraints of a state or federal administrative agency participating in the proceeding;
- in rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses; and
- any other factor which is relevant to a just and reasonable assessment of costs.

Because the hearing was scheduled for more than one day, the ALJ ordered the Applicant to arrange for and pay a court reporter to record and transcribe the hearing on the merits and deliver the original transcript to the ALJ and two copies to the TCEQ's Chief Clerk within two weeks after the end of the hearing. The delivered transcript was required to include electronic copies on disc in text format. When he ordered the Applicant to pay for the transcript, the ALJ indicated that the Commission, when it made a final decision in this case, would allocate the costs in accordance with its rules.

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<sup>419</sup> 30 TAC § 80.23 (d)(2).

<sup>420</sup> 30 TAC § 80.23 (d)(1).

NNC and TJFA argue that BFI should pay the full cost of the transcript because it clearly has the resource to pay for and will benefit the most from it if its permit is granted. BFI does not dispute that it can pay or that it will benefit if its Application is approved. BFI does not ask that NNC be ordered to pay any portion of the transcript cost. However, it argues this case is not typical and suggests that TJFA should be required to pay the full cost. In the alternative, BFI argues that it should pay half of the transcript cost and TJFA should pay the remaining half. The other parties do not address this issue.

NNC notes that its participation was full but it presented only lay witnesses. BFI acknowledges that NNC did not present any experts and was very time conscious in its cross-examinations.

TJFA contends that BFI's Application made the hearing necessary and BFI clearly has sufficient financial resources to pay for the transcript because it proposes to construct, operate, close, and provide post-closure care to the proposed vertically expanded facility. TJFA also argues that the other parties have borne an extraordinary expense to contest the Application, which they have no way to recover. For BFI, TJFA claims that the cost of the hearing and transcript are just ordinary and expected costs of business that it will recover if the Application is granted and it continues accepting waste at the Facility.

BFI correctly notes that, directly and indirectly, TJFA, is 100 percent owned by Bob Gregory and that he and his companies, TDS and TDSL, are aggressive competitors of BFI in both the waste hauling and landfill disposal businesses. BFI also claims that Mr. Gregory "came looking for a fight by buying, through TJFA, a tract of land near Sunset Farms in November 2004 so he could be sure to engage in a proceeding he well knows can be both difficult and expensive." BFI also notes that this is but one of four proceedings that TJFA has elected to participate in during the past four years by purchasing property near a landfill that is seeking an expansion permit.

Additionally, BFI correctly notes that the experts for TJFA have worked for Mr. Gregory, TDS, and TDSL for two decades and have been paid several hundred thousand dollars for their services in this proceeding. BFI argues that Mr. Gregory knew that BFI had the burden of proof and could not afford to ignore issues; hence, he and TJFA used the "throw spaghetti at the wall" technique of protesting, making many arguments, some frivolous, and hoping something would stick.

BFI claims Mr. Gregory did this hoping to profit handsomely if BFI's permit were denied and TDS and TDSL's largest competitor in the region was eliminated. BFI argues that Mr. Gregory would not have spent the hundreds of thousands of dollars necessary to engage in this process unless he had determined that he would profit handsomely from the closing of BFI's Facility. BFI contends that there is no other plausible rationale for TJFA to have spent several hundreds of thousands of dollars on lawyers and experts to protect a piece of property appraised at \$90,000. BFI suggests that the ALJ and Commission could legitimately assess all the costs against TJFA to, in part, send a message that environmental permit hearings before SOAH and the TCEQ are not the proper venues for hardball business tactics.

The ALJ recommends that the Commission order TJFA to pay 50 percent of the transcript cost and BFI to pay the other half. The ALJ fully agrees with BFI that TJFA is an affiliate of its competitors, TDS and TDSL. He also finds that TJFA's participation in this case was a transparent attempt by Mr. Gregory to delay, complicate, increase the cost of, and with luck defeat BFI's Application so as to gain a business edge on BFI. Under these circumstances, it is just and reasonable for TJFA to pay for one half of the cost of the court reporting and transcript.

## IX. SUMMARY

As set out above, the ALJ concludes that BFI had prevailed on all of the referred issues except the issue concerning the appropriateness of the operational hours. The ALJ recommends

that the Commission adopt the attached Proposed Order, approve BFI's Application in part, and issue the attached Updated Revised Draft Permit with the change in operational hours described above in the PFD.

In addition to addressing the issues referred by the Commission, the Proposed Order also includes a conclusion of law and an ordering provision stating the terms of the permit and the Executive Director's review of the Application comply with all applicable federal and state requirements. These items are included as a convenience to the Commission in order to allow it to more easily issue a single decision on the Application in accordance with 30 TAC § 50.117(g). The ALJ makes no recommendation regarding issues not referred for hearing.

**SIGNED May 8, 2009.**



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**WILLIAM G. NEWCHURCH  
ADMINISTRATIVE LAW JUDGE  
STATE OFFICE OF ADMINISTRATIVE HEARINGS**

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**



**AN ORDER  
GRANTING IN PART THE APPLICATION OF BFI WASTE SYSTEMS OF NORTH  
AMERICA, LLC, FOR TYPE I MSW PERMIT NO. 1447A  
SOAH DOCKET NO. 582-08-2178  
TCEQ DOCKET NO. 2007-1774-MSW**

On \_\_\_\_\_, the Texas Commission on Environmental Quality (TCEQ of Commission) considered the application (Application) of BFI Waste Systems of North America, LLC (BFI) for Type I Municipal Solid Waste Permit No. MSW-1447A. A Proposal for Decision (PFD) was presented by William G. Newchurch, an Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH), who conducted a hearing in this case from January 20 through January 30, 2009, in Austin, Texas.

After considering the ALJ's PFD, the Commission adopts the following Findings of Fact and Conclusions of Law:

**I. FINDINGS OF FACT**

***General Findings***

1. The applicant is BFI Waste Systems of North America, LLC (BFI). Its business address is 4542 Southeast Loop 410, San Antonio, Texas 78222.
2. The facility is the Sunset Farms Landfill (Sunset Farms, Landfill, or the Facility). The street and mailing address for the Facility is 9912 Giles Lane, Austin, Texas 78754.

3. Sunset Farms is located in Travis County at the intersection of Giles Lane and Blue Goose Road, approximately five miles east of the intersection of U.S. 290 and I.H. 35. The Facility is bounded by Blue Goose Road to the north, Giles Lane to the east, the Austin Community Landfill to the south and southwest, and open land to the west.
4. A portion of the permitted boundary is located within the city limits of Austin, Texas, and the remainder of the site is within the extra-territorial jurisdiction (ETJ) of Austin.
5. Sunset Farms is an existing Type I Municipal Solid Waste (MSW) Landfill operating under TCEQ Permit No. MSW-1447. The original permit for the Facility was issued by the Texas Department of Health in 1981.
6. The Facility is currently authorized to accept municipal solid waste, Class 2 and Class 3 industrial nonhazardous solid waste, Class 1 industrial waste that is Class 1 only because of asbestos content, and certain special wastes.
7. The Facility is approximately 349.4 acres in size. The landfill footprint is approximately 251.5 acres.
8. The maximum elevation of waste allowed under the existing permit is 720 feet above mean sea level (msl).
9. The currently permitted landfill has a total disposal capacity of approximately 27.7 million cubic yards.
10. The land on which the Facility is located is owned by BFI and Giles Holding, L.P. (Giles). BFI owns an approximately 55-acre tract within the permit boundaries; Giles owns three other tracts that together comprise the remaining acreage of the Facility.
11. BFI operates the Facility and is the sole permittee under the existing permit. The relationship between BFI and Giles is one of landlord (Giles) and tenant (BFI) with respect to the three Giles-owned tracts.
12. BFI initially submitted its application to the TCEQ Executive Director (ED) on January 20, 2006.

13. Notice that the Application was deemed administratively complete by the ED was issued on January 31, 2006.
14. Notice of the ED's determination that the Application was technically complete was issued on March 21, 2007.
15. The ED issued a draft permit (proposed Permit No. MSW-1447A) on March 21, 2007. A revised draft permit was issued on October 23, 2007 (Draft Permit). The ED prepared the attached Updated Revised Draft Permit, which was admitted into evidence without objection on February 4, 2009.
16. The Notice of Receipt of Application and Intent to Obtain Municipal Solid Waste Permit Amendment containing the information specified in 30 Tex. Admin. Code (TAC) § 39.11 was published on February 27, 2006 in the *Austin American-Statesman*, and on March 2, 2006 in Spanish in the *El Mundo* newspaper.
17. The *Austin American-Statesman* is the newspaper of largest general circulation that is published in the county in which the facility is located.
18. The *El Mundo* newspaper is a publication of general circulation in the City of Austin and Travis County, and is published primarily in Spanish. The *El Mundo* notice was in Spanish.
19. The Notice of Application and Preliminary Decision containing the information required by 30 TAC § 39.11 was published on April 26, May 3, May 10, and May 17, 2007, in the *Austin American-Statesman* and in Spanish in the *El Mundo* newspaper on the same dates.
20. On February 28, 2008, the Commission issued an interim order granting several hearing requests and referring 26 issues to SOAH for a contested case hearing.
21. The Notice of Hearing on the Application was published on April 7, 2008, in the *Austin American-Statesman*.

22. On April 3, 2008, the TCEQ Chief Clerk mailed the Notice of Hearing on the Application to potentially affected persons identified in the Application, to various state and local agencies and officials, to state legislators for the districts in which the Facility is located, and to other persons specified in 30 TAC § 39.13.
23. The Application was filed prior to amendments to Title 30, Chapter 330 of the Texas Administrative Code (the MSW rules) that were implemented and became effective on March 27, 2006. The Application is subject to the version of the MSW rules in effect at the time it was filed. Unless otherwise noted, all references in this Order to rules in Chapter 330 are to those pre-March 27, 2006 rules.
24. As part of the Application, BFI is requesting an authorization (Permit No. MSW-1447A) to vertically expand the Landfill such that the maximum elevation of waste will be 770 feet msl on its eastern portion and 795 feet msl on the western portion.
25. As part of the Application, BFI is requesting to increase the disposal capacity of the Facility by approximately 10.6 million cubic yards.
26. BFI is not requesting an authorization to laterally expand the landfill or to modify the existing permit boundaries.
27. BFI is seeking to make certain drainage improvements at the Facility as part of the Application for vertical expansion.
28. The preliminary hearing on the Application commenced before ALJ William Newchurch at 10:00 a.m. on May 8, 2008, at the SOAH hearing rooms, William P. Clements Building, 300 West 15th Street, Austin, Texas 78701.
29. The following persons and entities were named as parties to the proceeding: BFI, Giles, the ED, the Office of Public Interest Counsel (OPIC), Travis County, the City of Austin, TFJA, L.P. (TJFA), Northeast Neighbors Coalition (NNC), Mark McAfee, Melanie McAfee, Roger Joseph, Delmer D. Rogers, Williams, Ltd. (Williams), and Pioneer Farms.

### *Settlement and Agreements*

30. Before or during the hearing, BFI reached partial agreements with several of the parties, settling portions of the dispute. These agreements culminated in both stipulations on some issues, requests for special conditions to the permit, and changes to the Application.
31. Pioneer Farms withdrew prior to the Hearing on the Merits as part of a settlement agreement with BFI.
32. In accordance with these agreements, several issues which were referred by the Commission were stipulated to by some of the parties and not objected to by any other party. All of these stipulations were either supported by the evidence at the hearing or were not contradicted by the evidence. Based on these stipulations:
  - a. Identification and/or protection of wetlands has not been referred as an issue.
  - b. BFI has in all respects satisfied any burden pertaining to matters regarding the identification and/or protection of wetlands in this proceeding.
  - c. Referred Issue J, pertaining to whether the application includes adequate provisions for closure and post closure care in accordance with TCEQ rules, is adequately addressed in the Application and Draft Permit and is not in dispute and may be resolved as if BFI had obtained summary disposition in its favor with respect to this issue. The stipulation does not extend to the adequacy of the final cover provisions of the closure plan, which is addressed under other issues.
  - d. Referred Issue S, pertaining to whether the application includes adequate provisions for fire protection in accordance with TCEQ rules, is adequately addressed in the Application and Draft Permit and is not in dispute and may be resolved as if BFI had obtained summary disposition in its favor with respect to this issue.
  - e. Referred Issue Z, pertaining to whether the storage, treatment and disposal of contaminated water, is adequately addressed in the Application and Draft Permit and is not in dispute and may be resolved as if BFI had obtained summary disposition in its favor with respect to this issue.
33. BFI has requested inclusion of several special conditions to the permit. All of these special conditions were supported by the evidence at the hearing or were not contradicted by the evidence. Inclusion of these special conditions will make the permit more

protective than it would have been if issued as originally proposed. These special conditions are:

- a. The permittee shall comply with the conditions specified in a letter from the Capital Area Council of Governments (CAPCOG) to the TCEQ, dated August 23, 2006, and agreed to by the applicant in a letter to CAPCOG dated January 18, 2007, as described in Section I.B (Supplementary Technical Report) of Part I of the Application and documented in Section II.K (Coordination Letters) of Part II of the Application.
- b. All waste receipt shall cease on or before November 1, 2015. The permittee shall restrict the property on which the landfill currently operates from use for transfer station operations on or after November 1, 2015. After the last receipt of wastes, the permittee shall complete installation of the permitted final cover system in accordance with 30 TAC § 330.253. The maximum heights, depths and footprint for the landfill fill area, as approved by the TCEQ under permit No. MSW 1447A, shall not be exceeded by any subsequent modification or amendment of the permit.
- c. Leachate and gas condensate shall not be recirculated.
- d. The permittee shall repair eroded cover within five days of detection unless the Commission's regional office approves otherwise.
- e. Special Provisions E.1 – E.9 identified in the Updated Revised Draft Permit proposed by the Executive Director are incorporated as a result of a Settlement Agreement between BFI, Giles, and the City of Austin, filed with SOAH on October 31, 2008 (Settlement Agreement). They include various requirements to control erosion, which are described in detail in the Findings of Fact below. These enhanced erosion controls include increased vegetative cover, irrigation requirements, permanent erosion control devices on top decks, side slope, and soil stockpiles and maintenance requirements for the water quality detention pond.
- f. BFI will not use alternative material daily cover (ADC) at the Sunset Farms Landfill.

#### ***Sufficiency of the Permit Application and Draft Permit***

34. The Application was prepared by Associated Consulting Engineers, Inc. (ACE) pursuant to a Notice of Engineer's Appointment prepared by BFI. The lead project engineer was Ray Shull, P.E. The lead project geoscientist was John Michael Snyder, P.G., of Biggs &

Mathews Environmental, Inc. Other licensed professional engineers and geoscientists assisted in preparation of various portions of the Application.

35. The seals of Mr. Shull or other engineers licensed in the State of Texas were affixed to all engineering plans and drawings and on the Application cover pages. The seal of Mr. Snyder was affixed to Part III, Attachments 4, 5, and 11 and to various plans and drawings contained within in those sections. The seal of Gregory Adams, P.E., was affixed to the geotechnical report (a portion of Part III, Attachment 4), the Soil and Liner Quality Control Plan (Part III, Attachment 12), and the Final Cover Quality Control Plan (Part III, Attachment 12, Appendix 12A).
36. BFI has coordinated with all appropriate agencies, officials, and authorities that may have a jurisdictional interest in the Application.
37. BFI has provided complete information concerning governmental permits, authorizations, and construction approvals it has received or applied for.
38. The Application contains all information required of applicants under Title 30, Chapter 330 of the Texas Administrative Code and other regulations that govern MSW applications in Texas.
39. The conditions which exist at and near the Facility are favorable for the vertical expansion of an existing MSW landfill that is designed, constructed, and operated in a manner considered standard by engineers and geoscientists specializing in their respective fields and which is embodied in the MSW rules.
40. There are no site-specific conditions that require special design considerations. The site is well suited to the design, construction, operation, and, ultimately, closure and post-closure of an MSW landfill.

***Governmental Coordination, Authorizations, and Permits***

41. BFI (or consultants on its behalf) coordinated the Application with the following governmental agencies:

- a. U.S. Army Corps of Engineers;
  - b. Texas Parks and Wildlife Department;
  - c. U.S. Fish and Wildlife Department;
  - d. Federal Aviation Administration;
  - e. TCEQ Watershed Management Team;
  - f. Texas Historical Commission; and
  - g. Texas Department of Transportation.
42. Each of these federal and state governmental agencies responded that the Application was not problematic with respect to that agency's jurisdictional area. Agency coordination letters were included in Part II, Section II.K of the Application.
43. BFI also provided written information regarding the proposed expansion to the CAPCOG, which is a 10-county regional planning commission. CAPCOG issued its conditional conformance letter on August 23, 2006, in which it made the determination that the proposed vertical expansion conformed to CAPCOG's regional solid waste management plan provided that BFI agreed to conform the project to the conditions set forth in CAPCOG's letter. BFI agreed to the conditions of CAPCOG's conditional conformance letter in a letter it sent to CAPCOG on January 18, 2007.
44. Based on the Special Conditions which satisfy requests of CAPCOG, the requested vertical expansion of the Sunset Farms landfill conforms to CAPCOG's regional solid waste management plan.
45. BFI has obtained development permits from the City of Austin and Travis County for the new sedimentation/water quality pond that is being proposed in the permit application.
46. BFI has applied for a site development permit from Travis County in connection with the proposed vertical expansion.
47. BFI has applied for a site development permit from the City of Austin in connection with the proposed vertical expansion.

48. Based on the Special Provisions which satisfy the Settlement Agreement between BFI and the City of Austin, BFI is in compliance with all development permitting requirements of the City of Austin.
49. BFI operates its storm water controls pursuant to the Texas Pollutant Discharge Elimination System (TPDES) General Multi-Sector Permit.
50. BFI has prepared and implemented a Storm Water Pollution Prevention Plan (SWPPP) in connection with TCEQ's approval of its notice of coverage under the TPDES program.
51. With respect to air quality authorizations (for landfill emissions and gas flares), BFI holds a current General Operating Permit as well as a current Standard Air Permit that have both been approved by TCEQ.

***Transfer of the Permit Application***

52. The application was originally filed – and the draft permit issued – in the name of “BFI Waste Systems of North America, Inc.”
53. In December 2007, BFI changed corporate form from a regular corporation to a limited liability corporation, “BFI Waste Systems of North America, LLC.”
54. BFI mailed a notice of the proposed transfer of the permit amendment Application to potentially affected persons on April 11, 2008.
55. BFI also identified the transfer of the permit amendment Application from the regular corporation to the limited liability corporation in its April 7, 2008 published notice of the jurisdictional hearing in the *Austin American-Statesman*.
56. BFI complied with all notice requirements to effect the transfer of the Application. TCEQ approved the transfer of the MSW permit and Application.
57. The transfer of the permit amendment Application was the result of a mere change in corporate form and nothing more. The change had no (non-tax) effect on the ownership, management, or operation of the Landfill.

58. During the course of the contested case hearing, BFI's parent company, Allied Waste Industries, Inc., merged with Republic Services, Inc. The merger had no effect on the corporate structure of the applicant, BFI Waste Systems of North America, LLC.

***No Significant Alteration of Natural Drainage Patterns***

59. There are six surface water drainage outfalls (Outfalls) from the Facility.
60. For each of the six Outfalls, the Application compares the peak flow rate, the peak flow velocity, and the total volume for the 25-year, 24-hour storm event under the “predevelopment condition” to those for the 25-year, 24-hour storm event for the “postdevelopment condition” to determine whether natural drainage patterns will be significantly altered as a result of the expansion.
61. The “predevelopment condition” is the “existing permitted condition” as it would be constructed under the current permit. It would be the condition that the landfill would ultimately be in when the landfill closes if the newly requested amendment were not granted.
62. The drainage analyses performed by BFI for its original permit application in 1981 and subsequent permit modifications were all reviewed by the TCEQ under the same regulatory requirement – that natural drainage patterns not be significantly altered – and determined to not significantly alter those natural drainage conditions. Therefore, BFI's “existing permitted condition” replicates the drainage patterns that existed at the time of its original application.
63. The TCEQ has provided Technical Guidance Document RG-417 in accordance with its normal practice of publishing regulatory guidance documents.
64. RG-417 defines “natural drainage patterns” to mean “existing permitted conditions.”
65. The “postdevelopment condition” is the condition that the landfill would be in at the time of landfill closure if the amendment were granted.

66. The Application also compares the same parameters for the 100-year, 24-hour storm event under the “predevelopment condition” to the 100-year, 24-hour storm event for the “postdevelopment condition.”
67. For the 25-year, 24-hour storm event, the peak flow rates, the peak velocity, and the total volume are shown in the following table:

| OUTFALL | PEAK FLOWRATE<br>(CFS) |                  | RUN-OFF VOLUME<br>(AC-FT) |                  | DISCHARGE VELOCITY<br>(FT/SEC) |                  |
|---------|------------------------|------------------|---------------------------|------------------|--------------------------------|------------------|
|         | Pre-Development        | Post-Development | Pre-Development           | Post-Development | Pre-Development                | Post-Development |
| 1       | 1045                   | 954              | 236.4                     | 242.9            | 1.4                            | 1.4              |
| 2       | 275                    | 270              | 29.1                      | 26.8             | 3.2                            | 3.2              |
| 3       | 98                     | 89               | 10.1                      | 8.5              | 6.7                            | 6.7              |
| 4       | 66                     | 61               | 6.6                       | 6.4              | 2.3                            | 2.2              |
| 5       | 175                    | 171              | 20.0                      | 17.8             | 2.8                            | 2.8              |
| 6       | 9                      | 9                | 1.5                       | 1.5              | 1.3                            | 1.3              |

68. For the 100-year, 24-hour storm event, the peak flow rates, the peak velocity, and the total volume are shown in the following table:

| OUTFALL | PEAK FLOWRATE<br>(CFS) |                  | RUN-OFF VOLUME<br>(AC-FT) |                  | DISCHARGE VELOCITY<br>(FT/SEC) |                  |
|---------|------------------------|------------------|---------------------------|------------------|--------------------------------|------------------|
|         | Pre-Development        | Post-Development | Pre-Development           | Post-Development | Pre-Development                | Post-Development |
| 1       | 1354                   | 1302             | 321.1                     | 329.8            | 1.5                            | 1.5              |
| 2       | 393                    | 386              | 39.0                      | 35.9             | 3.7                            | 3.7              |

|   |     |     |      |      |     |     |
|---|-----|-----|------|------|-----|-----|
| 3 | 141 | 128 | 13.5 | 11.4 | 6.7 | 6.7 |
| 4 | 94  | 88  | 8.8  | 8.5  | 2.5 | 2.5 |
| 5 | 251 | 245 | 26.8 | 23.8 | 3.1 | 3.1 |
| 6 | 13  | 13  | 2.1  | 2.1  | 1.9 | 1.9 |

69. For both the 25- and 100-year events, the peak flow rates, total volumes, and peak velocities for Outfalls 2, 3, 4, 5 and 6 in the “postdevelopment” condition are equal to or less than in the “predevelopment” condition.
70. A detention/water quality pond will reduce peak flow rates for the 25, and 100-year storm events at Outfall 1. The detention volume for the pond will be approximately 1.2 million cubic feet. The pond includes additional volume for water quality enhancement.
71. For Outfall 1, the peak flow rate and runoff velocity in the “postdevelopment” condition are equal to or less than in the “predevelopment” condition.
72. For Outfall 1, the total volume for the “postdevelopment” condition is approximately 2% higher than for the “predevelopment” condition for both the 25- and 100- year events. However, the additional volume will be released at a slower rate such that it will not adversely affect downstream water bodies or significantly alter natural drainage patterns.
73. The “predevelopment condition” was determined using the landfill’s currently permitted geometry. The currently permitted geometry is that which was approved in a modification request that was approved in 2006 (the 2006 Mod). The geometry of the 2006 Mod was the proper baseline to use for the comparison of predevelopment conditions to postdevelopment conditions for this Application.
74. The predevelopment condition in the 2006 Mod reflects the same landfill design, geometry and runoff conditions as existed in the 2002 drainage modification (2002 Mod) except for the deletion of eleven acres in the northeast corner of the footprint of the landfill and the resultant change in flows through Outfall 1. All other aspects of the

- landfill, including the flows at Outfalls 2 through 6, were unchanged from the 2002 Mod to the 2006 Mod.
75. The “predevelopment condition” was calculated in the Application using updated methodology and more accurate information regarding the drainage areas than was used in the 2002 Mod.
  76. The drainage analysis provided in the 2006 Mod included a topographic map that was based on an aerial survey.
  77. An on-the-ground survey of the northwest corner of the buffer zone showed that the aerial-survey-based topography was incorrect.
  78. The error in the topographic map was in the natural ground within the permitted boundaries but outside of the landfill fill area. It was not part of the landfill design. No construction to modify the topography was proposed or performed prior to the 2006 Mod, as part of the 2006 Mod, or subsequent to the 2006 Mod.
  79. The aerial-survey-based topographic map incorrectly showed that a very small area (approximately 2.5 acres) drained to Outfall 1, when it actually drained to Outfall 5. The on-the-ground survey reflected the correct drainage pattern.
  80. The correct topography was utilized in calculating both the “predevelopment condition” and the “postdevelopment condition” that was used in the Application.
  81. The buffer zones that drain to Outfalls 4 and 5 were not included in the calculations in either the 2002 Mod or 2006 Mod drainage analyses.
  82. The buffer zones were included in the drainage calculations in the Application, in both the “predevelopment condition” and the “postdevelopment condition” that were used in the Application.
  83. After the 2002 Mod was submitted but before the 2006 Application was submitted, the Texas Department of Transportation (TxDOT) Hydraulic Design Manual (rev. March

2004), which the TCEQ requires applicants to use in their drainage analyses, was changed.

84. The new TxDOT drainage formula resulted in a significant increase in the projected (i.e., calculated) flows at all the outfalls even though it had no effect on actual flows on the ground.
85. For the Application, peak flowrates for Outfall 1 (predevelopment and postdevelopment) were computed using HEC-HMS.
86. For the Application, peak flowrates for Outfalls 2, 3, 4, 5, and 6 (predevelopment and postdevelopment) were computed using the TxDOT Rational Method.
87. For the Application, run-off volumes for Outfall 1 (predevelopment and postdevelopment) were computed using HEC-HMS.
88. For the Application, run-off volumes for Outfalls 2, 3, 4, 5, and 6 (predevelopment and postdevelopment) were computed using the NRCS runoff curve number method.
89. For the Application, velocities for Outfall 1 (predevelopment and postdevelopment) were calculated using HEC-RAS.
90. For the Application, velocities for Outfalls 2, 3, 4, 5, and 6 (predevelopment and postdevelopment) were calculated using Flowmaster.
91. All of the methodologies for calculating predevelopment and postdevelopment velocities, volumes, and peak flow rates in the Application were proper and in compliance with the TCEQ regulations.
92. The Application included similar calculations based on the City of Austin's criteria.
93. At all six Outfalls, the peak flowrates for the postdevelopment 25-year and 100-year events were the same or less than for the predevelopment 25-year and 100-year events using the City of Austin criteria.

94. At all six Outfalls, the peak velocities associated with the peak flowrates for both the postdevelopment 25-year and 100-year events were the same or less than for the predevelopment 25-year and 100-year events using the City of Austin criteria.
95. At Outfalls 2-6, the total runoff volumes for both the postdevelopment 25-year and 100-year events were the same or less than for the predevelopment 25-year and 100-year events using the City of Austin criteria.
96. At Outfall 1, using the City of Austin criteria, the total runoff volume is approximately 2% greater for both the postdevelopment 25-year and 100-year events, but the additional volume will be released at a slower rate such that it will not adversely affect downstream water bodies or significantly alter natural drainage patterns.
97. The numerical representations of the projected flows at Outfalls 4 and 5 are different between the analyses performed using the TCEQ criteria reflected in BFI Exhibits 16 and 17 and the analyses performed using the City of Austin criteria as reflected in BFI Exhibits 34 and 35. The different numbers for the projected flows reflect the impact of the different methods used – they do not mean that there are different actual on-the-ground flows at Outfalls 4 and 5.
98. Natural drainage patterns will not be significantly altered as a result of the proposed expansion.

### ***Sufficiency of Erosion Control Methods***

99. The Application includes: (1) structural controls for capturing sediment before it leaves the site in both interim and final configurations, (2) erosion control practices to prevent erosion in the interim and final configurations, and (3) calculations to show that erosion in the final configuration will be below permissible levels.
100. The existing Facility has a number of structural controls that control erosion and sedimentation. Among other structural controls, the existing Facility has:

- a. two existing sedimentation basins that correspond to Outfalls 4 and 5 on the western boundary of the site;
  - b. two sediment traps that correspond to Outfalls 2 and 3 on the southern boundary of the site;
  - c. several rock berm sediment traps and sediment pools that are part of a channel improvement project that was implemented on the northern side of the site and drains to Outfall 1;
  - d. an existing detention pond that drains to Outfall 1;
  - e. silt fences, rock berms and grass lined swales throughout the site; and
  - f. temporary earthen berms and downchutes on the side slopes of the landfill.
101. The City of Austin, BFI, and Giles entered into a Settlement Agreement on October 31, 2008, which required BFI to institute additional erosion control measures and which satisfied all parties' concerns regarding erosion and sedimentation control practices except TJFA's and NNC's.
102. The erosion control measures set forth in the Settlement Agreement were included as Special Provisions in the proposed Draft Permit.
103. All parties agreed to the language in the proposed Special Provisions if a permit is issued. However, TJFA and NNC stated that they opposed permit issuance even including these Special Provisions.
104. The vertically expanded facility will also have:
- a. a new, larger sedimentation/water quality/detention pond to be constructed in place of the existing detention pond on the northern portion of the site. This pond will provide for sediment capture for runoff that is discharged from Outfall 1, the outfall that has the largest contributing watershed area.
  - b. additional silt fences, rock berms, and grass-lined swales throughout the site, including:
    - i. perimeter silt fences, hay bales, mulch tubes or mulch berms at soil stock piles;

- ii. soil stock bales with slope lengths greater than 20 feet will have mid-slope temporary stabilization controls within fourteen days of the initial establishment of the soil stock pile;
  - iii. silt fences or mulch berms at the base of all side slope and top deck area within fourteen days of completion of intermediate cover in those areas, until adequate vegetation growth is achieved; and
  - iv. permanent earthen berms and downchutes on the side slopes of the landfill (these berms and downchutes reduce the erosion that might otherwise flow to all the outfalls).
105. Outfall 1 releases runoff from on-site drainage areas 2, 3, and 9. The runoff from all of these areas is treated by silt fences, rock berms, and grass swales. In addition, the runoff from Drainage Area 2 will be treated by the water quality/detention pond. Drainage Area 2 is approximately 80.5 acres.
106. Outfall 1 also releases runoff from approximately 200 off-site acres which drain through the Facility. That offsite area is generally agricultural in nature. Agricultural land produces a high degree of sediment. Although that area is treated by the water quality pond, there is no requirement to treat runoff from off-site.
107. The runoff to Outfalls 2 and 3 is treated by silt fences, rock berms and grass swales, then by the existing sedimentation basins. These basins were constructed and are maintained to have sufficient volume to capture and treat the first ½ inch of runoff that drains to them.
108. The runoff to Outfalls 4 and 5 is treated by silt fences, rock berms, and grass swales, then by the existing sedimentation basins. These basins were designed as part of the 2006 Mod and have sufficient volume to capture and treat the first ½ inch of runoff from the area that drains to them.
109. No disturbance is proposed in the area that drains to Outfall 6, so no specific erosion controls are necessary in this area.
110. In addition to the structural controls, a number of non-structural practices will be implemented to control and prevent erosion. These include:

- a. irrigation of seeded areas, including intermediate cover, to help establish vegetation more quickly;
  - b. seeding of intermediate cover side slope areas on which waste placement activity has not recommenced within 60 days, except during the months of July and August;
  - c. seeding of intermediate cover on the top deck of the landfill in all areas on which waste placement activity has not recommenced within 120 days except for certain areas that will receive sod;
  - d. placement of buffalo grass sod on areas immediately up gradient of the five constructed temporary drainage downchutes;
  - e. inspections at least weekly of the intermediate cover to verify the integrity of the cover material, and the next operating day after each day that measurable rainfall occurs at the site;
  - f. repair of eroded cover within five days of detection;
  - g. seeding of the topsoil layer immediately following the application of the final cover in order to minimize erosion; and
  - h. routing of the runoff from drainage Area 2 through the existing detention pond or the proposed water quality pond, when that drainage area has reached final grades.
111. The Application includes soil erosion loss calculations for the final configuration of top surfaces and embankment slopes using the US Department of Agriculture's Soil Conservation Service's Revised Universal Soil Loss Equation (RUSLE).
112. RUSLE calculations are required for the final cover configuration but not for the interim configuration, because RUSLE calculations are required to confirm the long term sustainability of the landfill cover, *i.e.*, that in the final configuration, soil will be replenished at least as quickly as it is eroded.
113. Based on the RUSLE calculations, the soil loss from the final cover will be 0.7 tons/acre/year for the top slope, and 2.18 tons/acre/year for the sideslopes.
114. Average soil losses of two to three tons/acre/year are acceptable for landfill cover systems.

115. The soil loss for the final cover will not exceed the permissible soil loss for comparable soil-slope lengths and soil cover conditions.
116. All downchutes are properly designed to safely convey the flow of the 25-year, 24-hour storm.
117. All downchutes are properly designed to safely convey the flow of greater than the 100-year storm.
118. All side slope berms are properly designed to reduce the velocity of runoff on the landfill and the potential for erosion.
119. All side slope berms are constructed with erosion control matting and can be constructed as designed.
120. Sedimentation ponds at Outfalls 4 and 5 were designed to capture the first ½ inch of runoff consistent with City of Austin design requirements.
121. Sedimentation traps at Outfalls 2 and 3 will be maintained so as to be able to capture the first ½ inch of runoff.
122. Inspectors for the TCEQ and the City of Austin found no evidence that eroded sediment had been discharged at any outfalls and found no permit violations during investigations in response to four separate complaints after rainfall events.
123. The erosion control methods identified in the application and Draft Permit are sufficient.

***Adequacy of Storage, Treatment, and Disposal of Contaminated Water***

124. Leachate and gas condensate will not be recirculated.
125. The Application provides for the proper storage, treatment, and disposal of contaminated water.
126. The Application contains a leachate and contaminated water plan.

127. Contaminated water will not be discharged without specific written authorization from TCEQ. Water that has become contaminated by contact with the working face or with leachate will be segregated from uncontaminated surface and groundwater and properly managed.
128. The storage, treatment, and disposal of contaminated water are adequately addressed in the Application and Draft Permit.

***Protection of Surface Water***

129. Ponding of water over waste areas will be minimized and eliminated. Ponding in any portion of the Facility will be eliminated and the area in which the ponding occurred will be filled and regraded within seven days of the occurrence. The Application includes provisions to prevent the ponding of water over waste.
130. The Application properly identifies and provides protection for wetlands.
131. BFI has in all respects satisfied any burden pertaining to matters regarding the identification and/or protection of wetlands in this proceeding.
132. The Facility operates under the TPDES Storm Water Multi-Sector General Permit.
133. BFI has prepared a SWPPP as required by the TPDES General Permit.
134. The Facility has submitted a Notice of Intent (NOI) as required by the TPDES General Permit.
135. The Application includes provisions that will prevent sediment from leaving the site in compliance with the Facility's TPDES permit. These provisions include sedimentation traps and basins, silt fences, vegetative swales, rock berms, and a sedimentation/water quality/detention pond.
136. The Facility will be able to achieve 85% vegetative cover.
137. Sedimentation ponds at the Facility are adequately sized to capture sediment.

138. Drainage downchutes and their component materials are appropriately designed and sized to control surface drainage off the Landfill.
139. The Facility will not cause a discharge of solid wastes or pollutants adjacent to or into the water in the state, including wetlands, that is in violation of the requirements of the Texas Water Code § 26.121.
140. The Facility will not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to section 402, as amended.
141. The Facility will not cause a discharge of dredged or fill material to waters of the United States, including wetlands, that is in violation of the requirements under federal Clean Water Act § 404, as amended.
142. The Facility will not cause a discharge of a nonpoint source pollution of waters of the United States, including wetlands, that violates any requirement of an areawide or statewide water quality management plan that has been approved under the federal Clean Water Act § 208 or § 319, as amended.
143. The Application includes a surface water protection plan and drainage plan which includes the locations, details, and typical sections of the facilities that relate to the protection of surface water, and it shows the adequacy of provisions for safe passage of all internal and externally adjacent floodwaters.
144. The Application proposes adequate protection of surface water.

***Protection of Groundwater***

145. The Landfill site is in central Travis County within the general outcrop area of the Taylor Group of the Cretaceous System.
146. The Taylor Group is composed of impermeable clays/shales and underlies the Facility down to approximately 400 feet below the surface elevation.

147. The soils of this group are divided into the upper weathered Taylor and the lower unweathered Taylor.
148. At the site, the weathered Taylor consists of 30 to 75 feet of stiff-to-hard clay weathered from the marl; the average thickness of the weathered Taylor across the site is approximately 45 feet.
149. The weathered Taylor is the uppermost aquifer for the purposes of groundwater monitoring at the Landfill site.
150. The Austin Group lies immediately beneath the Taylor Group.
151. Beneath the Austin Group lies an alternating sequence of limestone and clay formations that generally comprise the Edwards Aquifer.
152. The unweathered Taylor is of sufficiently low permeability and of lateral areal extent to prevent the downward migration of shallow groundwater from the uppermost aquifer to deeper aquifers.
153. The Application adequately describes the regional geology in the vicinity of the Facility.
154. No active faults are located at or near the Sunset Farms site.
155. The regional geology should not require any limits to be placed on the design, construction, or operation of the Landfill.
156. The Landfill is located in the Blackland Prairie, which consists of rolling hills.
157. There is no unfavorable topography in the area that would limit the Landfill's design, construction, or operation.
158. All of the disposal cells at the Landfill have been excavated and lined. No additional excavations will occur in connection with the vertical expansion of the Landfill.
159. The proposed vertical expansion does not change the already-approved excavation plan, the limits of the liner, or the design of the liner system.

160. Soils at the site are suitable for use as liner material.
161. The Application proposes adequate protection of groundwater.

***Slope Stability***

162. The Application contains a geotechnical report that describes and summarizes the geotechnical properties of the subsurface and discusses the suitability of the soils for the uses for which they are intended.
163. There are two layers that form the sides and bottom of the excavation or are less than 30 feet below the lowest excavation: the weathered Taylor is comprised of hard clays and the unweathered Taylor is comprised of hard clayey shales.
164. The weathered Taylor and the unweathered Taylor have been extensively tested as part of subsurface investigations at the site.
165. In-situ soils at the site possess sufficient characteristics to preclude the possibility of development of a bearing capacity type foundation failure under the anticipated overburden pressure of the Landfill.
166. In-situ soils at the site possess sufficient characteristics to support the 3H:1V excavation slopes and provide for slope stability.
167. In-situ soils at the site are not susceptible to excessive differential settlement that could detrimentally affect the performance of the Landfill's liner.
168. The subsurface soils beneath the facility are suitable for landfill construction.
169. BFI included slope stability analyses in the Application. The analyses were prepared and sealed by a licensed professional geotechnical engineer, Gregory Adams.
170. The slope stability calculations were based on conservative input parameters using site-specific data.

171. Final (long-term) and interim (short-term) conditions will be stable and well within the accepted factors of safety.
172. No areas of the site are susceptible to mass movement.
173. No areas of the site are located over Karst Terrain formations.
174. No portion of the solid waste disposal area is located over an area with poor foundation conditions.
175. The Application contains an Unstable Area Location Restriction Demonstration.
176. The Application includes adequate analysis of and provisions to ensure slope stability.

### ***Groundwater Monitoring***

177. Data compiled from numerous site investigations were used to design the groundwater monitoring network, the purpose of which is to detect any release of contaminants into the groundwater beneath the facility.
178. The existing groundwater monitoring system is comprised of 17 groundwater monitoring wells that are located around the perimeter of the facility. These wells are screened within the saturated portion of the weathered Taylor to monitor the shallow groundwater beneath the site.
179. The groundwater monitoring system will be expanded from 17 to 32 wells in connection with the vertical expansion. Two of the existing wells will be decommissioned and replaced with new wells. The wells in the enhanced system are spaced an average distance of approximately 500 feet apart and no wells are more than 600 feet apart.
180. The wells of the proposed system will continue to be screened within the saturated portion of the weathered Taylor to monitor the shallow groundwater beneath the site and are designed to monitor the interface between the weathered and unweathered Taylor.

181. The 17 new monitoring wells are designed and will be installed to TCEQ-required specifications.
182. The point of compliance was correctly identified as the entire perimeter of the site because most of the facility perimeter is directly downgradient or located such that groundwater flows parallel or obliquely to the site boundary.
183. The Groundwater Sampling and Analysis Plan (GWSAP) contained in the Application provides procedures for collecting representative samples from groundwater monitoring wells and quality assurance/quality control procedures required to ensure valid analytical results. The GWSAP also includes methodology for establishing background water quality in each well and for comparison of the subsequent results to background values in the same well in order that any statistically significant increase may be detected.
184. The Application includes adequate provisions for groundwater monitoring.

***Calculation of the Estimated Rate of Solid Waste Deposition and Operating Life of the Site***

185. All waste receipt will cease on or before November 1, 2015. BFI will restrict the property on which the landfill operates from use for transfer station operations on or after November 1, 2015. After the last receipt of wastes, BFI will complete installation of the permitted final cover system in accordance with 30 TAC § 330.253. The maximum heights, depths and footprint for the landfill fill area, as approved by the TCEQ under Permit No. MSW 1447A, shall not be exceeded by a subsequent modification or amendment of the permit.
186. BFI measures and computes the rate of solid waste deposition both in the tons of waste received at the scale house and by geometric measurements obtained through annual flyovers and topographic mapping efforts.
187. The landfill volume is currently being consumed at a rate of approximately 20,000 cubic yards per month, as computed from the aerial topographic data between March 2003 and March 2004.

188. The site life calculations in the Application reflect the 2015 closure date.
189. The Application includes adequate provisions calculating the estimated rate of solid waste deposition and operating life of the site.

***Provisions for Closure and Post-Closure***

190. The Application contains closure cost estimates, including a “worst case closure cost estimate” and a “post-closure care cost estimate.”
191. The Application includes a Final Closure Plan and a Post-Closure Care Plan.
192. All of the landfill cells will be closed with a final cover system, meeting the criteria for cover over post-Subtitle D liner systems.
193. Within 180 days after the last receipt of waste for the site, installation of the final cover system will be initiated.
194. The site will be closed in an orderly fashion, in compliance with established steps and timelines for implementation.
195. Post-closure care will last for a period of 30 years after final closure of the landfill, unless an alternative period is required or approved by the TCEQ.
196. Post-closure care maintenance will be performed in accordance with regulatory requirements.
197. The Application includes adequate provisions for closure and post-closure care.

***Provisions for Cover***

198. The Application includes two options for the final cover system.
199. Option A consists of the following components (from the intermediate cover layer upwards):

- a. a compacted clay cover consisting of a minimum of 18 inches of earthen material with a coefficient of permeability no greater than  $1.0 \times 10^{-5}$  cm/sec;
  - b. a 40-mil Linear Low Density Polyethylene (LLDPE) geomembrane;
  - c. a drainage layer consisting of a double-sided drainage geocomposite;
  - d. an erosion layer consisting of 12 inches of soil; and
  - e. a topsoil layer consisting of a minimum of six inches of earthen material that is capable of sustaining native plant growth.
200. Option B modifies Option A by replacing the compacted clay layer with a geosynthetic clay liner. It consists of the following components from the intermediate cover upwards:
- a. a geosynthetic clay liner (GCL) comparable to the 18-inch thick compacted clay liner specified in Option A;
  - b. a 40-mil LLDPE geomembrane;
  - c. a drainage layer consisting of a double-sided drainage geocomposite;
  - d. an erosion layer consisting 12 inches of soil; and
  - e. a topsoil layer consisting of a minimum of six inches of earthen material that is capable of sustaining native plant growth.
201. Both Option A and Option B of the final cover designs are in accordance with the site closure plan and satisfy all regulatory requirements for final cover.
202. The final cover top soil layer will be seeded immediately following the application of the final cover in order to minimize erosion.
203. On approximately 15% of the surface area of the eastern and northern slopes of the landfill, seeding will be of a seasonally appropriate 609-S (native seeds) mix as defined in Exhibit 3 of the Special Provisions of the attached permit. On the remainder of the site, seeding will be of a seasonally appropriate mix.

204. Landfill Final cover will be inspected for erosion not later than the next operating day after each day that measurable rainfall occurs at the site.
205. The Application includes soil erosion loss calculations for the top surfaces and embankment slopes using the US Department of Agriculture's Soil Conservation Service's Universal Soil Loss Equation.
206. Based on those calculations, the soil loss from the final cover will be 0.7 tons/acre/year for the top slope, and 2.18 tons/acre/year for the sideslopes.
207. Average soil losses of two to three tons/acre/year are acceptable for landfill cover systems.
208. The soil loss for the final cover will not exceed the regulatory permissible soil loss for comparable soil-slope lengths and soil cover conditions.
209. Erosion of final cover will be repaired within five days of detection, unless approval is obtained from the regional office of the TCEQ.
210. The date of detection of erosion and date of completion of repairs will be documented in the cover inspection record.
211. Inspections of the final cover will be conducted at least monthly during the operating life of the landfill, and will be conducted at least semi-annually during the post-closure care period of the landfill. Any areas requiring maintenance will be promptly restored during the entire operational life and for the post-closure maintenance period of the facility. These cover erosion inspections will be documented on the Monthly Inspection Report.
212. The Facility will keep a cover application record on site.
213. The final cover design will provide effective long-term erosional stability to the top dome surfaces and embankment sideslopes.
214. The Application includes adequate provisions for final cover.

### ***Financial Assurance***

215. BFI has provided financial assurance in the form of a bond for closure under its existing permit. That financial assurance is currently in place.
216. BFI has provided a letter of intent to post financial assurance with the Application.
217. Financial assurance in accordance with the Application is not required unless/until the Application is approved.
218. The Application contains an accurate estimate of the amount of financial assurance required.
219. The Applicant has complied with financial assurance requirements.

### ***Control of Disease Vectors***

220. Vector control will be achieved through the following practices:
  - a. Proper waste compaction and proper application of daily cover.
  - b. A minimum of six inches of daily cover will be used.
  - c. Ponded water will be controlled.
  - d. The size of the working face will be minimized.
  - e. A licensed commercial pesticide applicator will conduct at least semiannual inspections, and if necessary, a pest management program will be developed and implemented.
  - f. A bird abatement program has been and will be implemented using pyrotechnic devices. The bird abatement program will be continued throughout the acceptance of waste at the site and a copy of the plan will be available at the site.
221. The bird abatement plan has significantly reduced the number of buzzards and other birds that visit the site to numbers at or below levels that would be expected if there were no landfill present.

222. Buzzards roost on power lines along Springdale Road. The buzzards are attracted to the area primarily because of the presence of the power lines as a roosting site, not because of the presence of the Landfill.

223. The Application includes adequate provisions to control disease vectors.

### ***Control of Odors***

224. The Landfill uses several operational methods to prevent and control odors. These include:

- a. Wastes are deposited at the working face, spread into layers that can be readily compacted, and covered with a minimum of six inches of soil or other waste material.
- b. The working face is sized to minimize the amount of waste exposed while still providing adequate area for safe and efficient vehicle unloading.
- c. Odiferous wastes are handled so as to minimize odors.
- d. Mister-type equipment may be installed at appropriate locations.
- e. Odor controlling sprays applied directly to the working face may also be used to manage odors as determined by the Site Manager.
- f. Pondered water at the site is controlled to prevent the occurrence of odors.

225. BFI will not accept liquid waste as defined in 30 TAC § 330.2(70) and will not construct or operate a liquid waste stabilization/solidification basin at the Sunset Farms Landfill.

226. BFI will not use alternative material daily cover (ADC) at the Sunset Farms Landfill.

227. The Facility's will control odors through implementation of a Landfill Gas Collection and Control System (GCCS) pursuant to the Landfill Gas Management Plan.

228. The Landfill has successfully controlled odors through the expansion of the GCCS system.

229. Daily odor inspections will be performed at the Facility.
230. The Application includes adequate provisions to control odors.

### ***Management of Landfill Gas***

231. The Application contains a Landfill Gas Management Plan which includes a Landfill Gas Collection and Control System (GCCS) (Part III, Attachment 14 of the Application), which is incorporated into the Site Operating Plan.
232. The GCCS serves the dual purpose of controlling surface emissions and gas-related odors.
233. The GCCS is comprised of 180 extraction wells, an enclosed landfill gas (LFG) flare, and a landfill-gas-to-energy (LFGTE) facility. The LFGTE facility is operated by GRS pursuant to a separate air authorization.
234. BFI will expand the GCCS as the Landfill is vertically expanded.
235. The existing perimeter gas monitoring system at the site consists of fifteen gas probes. Each of these probes has been installed to a depth equal to either the depth of groundwater or the depth of the deepest waste within 1,000 feet of the probe.
236. BFI will add six additional gas probes to the perimeter gas monitoring system in connection with the vertical expansion - one between existing probes GMP-7A and GMP-8 and five along the southern permit boundary between the Sunset Farms Landfill and the Austin Community Landfill.
237. The Landfill Gas Management Plan includes an Exceedance Action Plan, which details the steps to be taken in the event a regulatory exceedance of gas is detected during a regular monitoring event or by a building monitor. A Remediation Plan is also included with the Landfill Gas Management Plan.
238. The Application includes adequate provisions to manage landfill gas.

***Control of Spilled and Windblown Waste and Cleanup of Spilled Waste***

239. BFI will take steps to discourage commercial waste hauling vehicles from utilizing Blue Goose Road as ingress or egress to the Sunset Farms Landfill except for those few vehicles which service businesses and residences in that area. These steps may include reprimanding drivers, posting signs, adding surcharges, or similar measures.
240. BFI will take the necessary steps to ensure that vehicles hauling waste to the site properly secure their loads in order to prevent the escape of any part of the load by blowing or spilling. BFI will, as necessary, post signs at the Landfill entrance requiring loads to be covered or enclosed and the potential consequences for non-compliance – including the assessment of surcharges and the reporting of offenders to law enforcement.
241. The Site Operating Plan provides that the working face will be maintained and operated in a manner to control windblown solid waste.
242. Daily cover and litter fences will be employed to control windblown waste from the working face.
243. BFI will not use alternative material daily cover (ADC) at the Sunset Farms Landfill.
244. The Landfill has installed permanent litter fences up to 20 feet tall to capture windblown waste before it leaves the site.
245. Each day that the landfill is open, public roads used to access the Landfill will be inspected and cleaned of spilled materials and windblown waste for a distance of two miles in either direction from any entrance used for the delivery of waste to the site.
246. The Application includes adequate provisions to control spilled and windblown waste and clean up spilled waste.

### ***Management and Disposal of Special Waste***

247. BFI will not accept liquid waste as defined in 30 TAC § 330.2(70) and will not construct or operate a liquid waste stabilization/solidification basin at the Landfill.
248. The Site Operating Plan provides detailed procedures for handling special wastes that do not require written authorization from the TCEQ.
249. Special wastes that require written authorization will be handled in accordance with the written authorization.
250. The Application includes adequate provisions to manage and dispose of special waste.

### ***Prevention of Disposal of Unauthorized Wastes***

251. Prohibited wastes include regulated hazardous waste (except municipal hazardous waste from conditionally exempt small quantity generators), certain PCB wastes, lead acid storage batteries, do-it-yourself used motor vehicle oil, used oil filters from internal combustion engines, whole used or scrap tires, items containing CFCs, and unauthorized special waste.
252. To prevent the disposal of unauthorized waste at the Facility, BFI will:
  - a. post signs regarding hazardous and other unacceptable wastes,
  - b. screen wastes,
  - c. use video monitoring systems at the site entrance to allow site personnel to visually inspect open-topped waste loads,
  - d. provide personnel training,
  - e. reject haulers carrying unauthorized wastes, and
  - f. perform random inspections on at least one vehicle per day.

253. The working face will be confined to as small an area as practicable. A trained employee will be present at the active disposal area during operating hours to monitor all incoming loads of waste.
254. The Site Operating Plan specifies procedures for random inspections of incoming waste.
255. Access to the Facility will be controlled using a perimeter fence and a gated entrance.
256. The Application includes adequate provisions to prevent unauthorized wastes from being disposed in the landfill.

### ***Dust Control***

257. The Site Operating Plan specifies procedures to minimize the tracking of mud and dirt by vehicles entering or exiting the Facility onto public roadways. Vehicles will traverse all-weather site access roads and paved site entrance roads, allowing for mud to be removed from the vehicle.
258. The main access road to the site is a paved surface road.
259. The access road will be swept at least weekly.
260. Other access roads to the waste fill area are unpaved and will be amended with gravel or ground woody wastes to reduce dust and improve traction. During dry conditions, the unpaved roads will be periodically wetted to reduce dust.
261. BFI has installed a permanent wheel wash near the site entrance for use by exiting vehicles when the disposal area is muddy. The wheel wash is a drive-through unit and provides for direct washing of the wheels of waste hauling vehicles.
262. BFI regularly sweeps the streets near the entrance to the Facility to remove mud.
263. Much of the area around the landfill is used for agriculture. The largest land use within one mile of the permit boundary is classified as open (including vacant, agricultural, or

rights-of-way), comprising approximately 65% of the land area. Agricultural fields produce dust.

264. The Application includes adequate provision for dust control.

#### ***Maintenance of Site Access Roads***

265. All on-site and other access roadways will be maintained on a regular basis. Non-paved access roadways will be regraded as necessary to minimize depressions, ruts, and potholes. These roads will be inspected at least weekly to determine the need for regrading. Non-paved access roads actively used by waste hauling vehicles will be regraded after initial construction at least once every three months.

266. The Application includes adequate provision for maintenance of site access roads.

#### ***Daily and Intermediate Cover***

267. BFI will not use alternative material daily cover (ADC) at the Sunset Farms Landfill.

268. Daily cover will have a total thickness of at least six inches of well-compacted soil not previously mixed with solid waste.

269. Daily cover will be sloped to drain and will promote runoff and minimize infiltration. Care will be exercised to eliminate areas which will pond water in the event of rainfall.

270. Daily cover will be applied during the day as waste placement is in progress and upon completion of daily waste acceptance to assure complete covering of the active face.

271. Intermediate cover will consist of at least twelve inches of compacted, clean earthen material that has not been previously mixed with garbage, rubbish or other solid waste materials. The earthen material will be capable of sustaining native plant growth and may include the previously placed six inches of daily cover material. Twelve inches of compacted, clean soil may also be applied to serve as both daily and intermediate covers.

- 272. The intermediate cover will be graded to prevent ponding of water.
- 273. The Site Operating Plan establishes that inspections of the intermediate cover will be conducted at least weekly to verify the integrity of the cover material, and the next operating day after each day that measurable rainfall occurs at the site.
- 274. Eroded cover will be repaired within five days of detection.
- 275. Intermediate cover will be placed and seeded on all side slope areas on which waste placement activity has not recommenced within 60 days, except during the months of July and August. These seeded areas will be irrigated.
- 276. Intermediate cover will be placed and seeded on the top deck of the landfill in all areas on which waste placement activity has not recommenced within 120 days, except for certain areas that will receive sod.
- 277. Initial seeding will be done by hydromulch and using a seasonally appropriate mix.
- 278. The Application includes adequate provisions for daily and intermediate cover.

***Fire Protection***

- 279. The Site Operating Plan includes detailed provisions for fire protection.
- 280. A minimum of six inches of daily cover will be used in order to reduce the possibility of fire.
- 281. Waste will be compacted to aid in fire protection.
- 282. The Application contains adequate provisions for fire protection.

***Operational Hours***

- 283. The Facility is currently authorized to operate 24 hours per day, seven days per week.
- 284. The Application does not seek to change the operating hours for the Facility.

285. The current operating and waste acceptance hours, as posted at the site entrance, are 24 hours per day Monday through Friday and from 12:00 am to 3:00 pm on Saturdays. No waste is currently accepted on Sundays.
286. The evidence fails to show that it is appropriate for the Landfill's operational hours to be different from those generally prescribed by the Commission's rules. The operational hours for the Landfill should be those generally prescribed by the Commission's rules.

***Designation of Owner and Operator***

287. The Application designates both BFI and Giles as Owners of the Facility.
288. The land on which the Facility is located is owned by BFI and Giles. BFI owns an approximately 55-acre tract within the permit boundaries; Giles owns three other tracts that together comprise the remaining acreage of the Facility.
289. BFI and Giles are co-owners of the Facility.
290. The Application includes a legal description of each piece of property that makes up the Facility.
291. The Application includes a properly executed property owner affidavit.
292. The Application designates BFI as the Operator of the Facility.
293. The Application includes a verification of BFI's legal status.
294. BFI is the sole operator of the Facility, and has operated it (either in the corporation's present corporate form or as a predecessor-in-interest) continuously since the landfill was first permitted in 1981.
295. With respect to the tracts owned by Giles, BFI operates the facility under a landlord-tenant relationship.
296. BFI is the sole "Site Operator."

297. BFI is the sole party responsible for the operation of the Facility.
298. The Application designates BFI as the sole Applicant.
299. The Application includes adequate provisions designating the owner and operator.

***Designation of Responsible Parties and Qualified Personnel***

300. The Application includes evidence of BFI's competency.
301. The Application includes appointments of the person signing the Application and the engineer.
302. The Application is signed by Brad Dugas of BFI.
303. Brad Dugas is a responsible corporate officer who has (and has had) authority to sign the Application documents.
304. Associated Consulting Engineers, Inc. is the duly appointed consulting and design engineers for the Application.
305. Key personnel are described in the Application and are qualified to operate the site.
306. The Application includes adequate provisions designating responsible parties and qualified personnel.

***Transportation Information***

307. The primary access roads to Sunset Farms are U.S. 290, Giles Lane, Johnny Morris Road, Blue Goose Road, and Cameron Road.
308. Vehicles traveling to the Landfill typically approach the Facility from the south by turning north onto Giles Lane from U.S. 290 and then turning westward into the Facility's entrance. Vehicles leaving the landfill typically turn south onto Giles Lane toward U.S. 290.

309. U.S. 290 is a major east-west highway and is the primary road traveled by trucks approaching or leaving the facility. It is a four-lane road with a grass median dividing the two directions of travel.
310. U.S. 290 is signaled at its intersection with Giles Lane. There is a 500-foot left-turn lane for eastbound vehicles (including refuse trucks) turning north onto Giles Lane toward the Facility's entrance. Vehicles traveling westbound, including trucks approaching the landfill from the east, have a separate right-turn lane beginning approximately 200 feet from the intersection.
311. There are no weight restrictions for vehicles traveling on U.S. 290 in the proximity of the landfill other than the statewide vehicular weight limit of 80,000 pounds.
312. TxDOT maintains U.S. 290. It is planning to reconstruct the existing highway in the vicinity of the landfill into a six-lane tolled freeway with three lanes in each direction. Non-tolled frontage roads (three lanes in each direction) are also planned. Construction is scheduled for completion in 2013.
313. Landfill traffic represents only approximately one percent of the peak hour traffic volume on U.S. 290.
314. Sunset Farms' entrance is located on the west side of Giles Lane, which runs in a north/south direction from its intersection with U.S. 290. It is a four-lane divided asphalt-surfaced crush limestone based roadway, consisting of 12-foot travel lanes with a curb-and-gutter section and a grass median.
315. The statewide maximum legal weight limit of 80,000 pounds applies to Giles Lane.
316. The City of Austin maintains Giles Lane and other City roadways in the vicinity of the Facility. The stretch of Giles Lane between U.S. 290 south of the Landfill and Harris Branch Parkway north of the Landfill was reconstructed in 2001.
317. Johnny Morris Road is a continuation of Giles Lane south of U.S. 290. It is a four-lane undivided asphalt-surfaced roadway, consisting of 12-foot travel lanes. The maximum legal weight of vehicles traveling on Johnny Morris Road is also 80,000 pounds.

318. Blue Goose Road is a two-lane roadway that runs east/west along the northern boundary of the Landfill. It intersects with Giles Lane at the northeast corner of the Landfill. Travis County maintains Blue Goose Road west of Giles Lane as part of its Pavement Management System. The standard statewide weight restriction for Blue Goose Road of 80,000 pounds also applies to Blue Goose Road.
319. BFI prohibits its refuse truck drivers from using Blue Goose Road to access the Facility and has entered into a settlement agreement with the City memorializing this restriction.
320. Cameron Road is a two-lane road that runs northeast/southwest between Parmer Lane on the north and intersects Blue Goose Road near the northwest corner of the Landfill. The City of Austin maintains the stretch of Cameron Road between Parmer Lane and Yager Lane. Cameron Road also has the statewide maximum weight limit of 80,000 pounds.
321. The Application provides traffic volumes for area roadways in the vicinity of the Landfill as required by regulation: U.S. 290, Giles Lane, Johnny Morris Road, Blue Goose Road, and the Facility's driveway. These data were updated/confirmed in September 2008 prior to the evidentiary hearing.
322. All of the roadways that may be used to access the site are presently operating well below their capacities.
323. All of these roadways presently have a level of service (LOS) rating of "A" – the highest rating.
324. Non-landfill traffic (i.e., background traffic) on the roadways in the vicinity of the Landfill is estimated to increase annually by five percent. Landfill traffic is estimated to increase annually by one percent until cessation of waste acceptance on or before November 1, 2015.
325. The projected LOS for all of the site access roadways in 2015 remains "A" except for U.S. 290, which would go to a "B" rating (if the highway is upgraded to a tollway as planned) or a "C" rating (if the planned upgrades are not made). LOS ratings of "B" and "C" are still acceptable.

326. The adequacy and design capacities of the site access roadways are sufficient to safely accommodate any additional traffic generated by the Landfill if the permit for the vertical expansion is granted.
327. No public use airport is located within five miles of the Facility's boundaries.
328. The permit boundary is not located within 10,000 feet of the end of an airport servicing turbojet aircraft or within 5,000 feet of the end of a runway serving piston-type aircraft.
329. The Federal Aviation Administration has no objection to the expansion of this landfill from the standpoint of bird hazards to aircraft.
330. The expanded Facility will not constitute a bird hazard to aircraft.
331. The Application provides adequate information related to transportation.

***Protection of Endangered and Threatened Species***

332. BFI filed a motion for partial summary disposition of this issue. No party filed a response to the motion.
333. This is a vertical only expansion over land that was previously disturbed.
334. Associated Consulting Engineers, Inc. corresponded with the U.S. Fish and Wildlife Department and the Texas Parks and Wildlife Department regarding the potential impact of the proposed expansion on endangered and threatened species and their critical habitat. Both agencies determined that there would be no impact.
335. The Application considers and avoids impacts to endangered and threatened species.
336. The Application includes adequate provisions to protect endangered or threatened species.

### ***Compliance History***

337. The Executive Director prepared compliance summaries for BFI, Giles, and the Facility.
338. “BFI Waste Services Austin” is designated as the Regulated Entity for four Customer designations.
339. The four Customer Designations under this Regulated Entity are: Browning-Ferris Industries, Inc.; BFI Waste System of North America, Inc.; Giles Holdings, L.P.; and BFI Waste Services of Texas, LP.
340. The compliance history rating for Browning-Ferris Industries, Inc. is Average/4.84.
341. The compliance history rating for BFI Waste System of North America, Inc. is Average/2.59. At the time the compliance history was prepared, BFI Waste Systems of North America, LLC (the Applicant) was known as BFI Waste Systems of North America, Inc.
342. The compliance history rating for Giles Holdings, L.P. is Average/17.77.
343. The compliance history rating for BFI Waste Services of Texas, LP is Average/3.27.
344. BFI's compliance history does not warrant denial of the Application.

### ***Land Use Compatibility***

345. No portion of the Facility is located within the city limits of any incorporated city except for an approximately 200-foot-wide strip along Giles Lane in the far eastern portion the permit boundaries which was annexed by the City of Austin in 1985.
346. The remainder of the Facility is located within the extraterritorial jurisdiction (ETJ) of the City of Austin.

347. The approximately 200-foot-wide strip along the eastern boundary is zoned “DR” by the City of Austin. No other zoning ordinance or designation applies to the remainder of the Facility.
348. The “DR” designation applicable to the 200-foot-wide strip is an interim zoning designation that does not restrict or prohibit the proposed vertical expansion of the landfill. No zoning ordinance restricts or prohibits the proposed vertical expansion of the landfill.
349. The City of Austin's Smart Growth Initiative does not address or prohibit the proposed vertical expansion. The Smart Growth Initiative is merely a guide to growth and is not enforceable in the manner that zoning ordinances are.
350. The predominant land use (62%) within one mile of the permit boundary is open, which includes agricultural property, vacant property and rights-of-way. The next largest land use (21%) is industrial, which includes two active landfills (Sunset Farms and the Austin Community Landfill), the Applied Materials manufacturing facility, and other industrial uses along U.S. 290 and Johnny Morris Road. The next largest land use (11%) is residential, and the remaining land uses (commercial, recreational, water and institutional) comprise 6% of the land area within one mile of the permit boundary.
351. Solid waste disposal has been a historically and geographically significant land use within one-mile of the Facility since at least 1968. Of the 4,338 acres within one mile of Sunset Farms, approximately 795 acres (18%) have been permitted for waste disposal purposes at one time or another.
352. While substantial residential growth is occurring within one mile of the permit boundaries of Sunset Farms (524 residences constructed between 2004 and 2008), most of this activity is relatively distant from the Landfill.
353. Almost 90% of the residences that are located within one mile of the permit boundary have been built while Sunset Farms and the other landfills have been operating.

354. A school and a day care center are located within one mile of the permit boundary. Both the school and day care center were built while Sunset Farms and the Austin Community Landfill were operating.
355. The City of Austin is the community that is located closest to the Landfill.
356. The bulk of the City of Austin is located to the west of Sunset Farms. However, the City has annexed properties (including the Harris Branch subdivision) immediately to the east of the Facility.
357. From 1990 to 2000, the predominant direction of residential growth for the City of Austin was northerly. Sunset Farms is located within the fastest growing sector of the City from 1990 to 2000.
358. Sunset Farms has not deterred growth in the vicinity of the landfill.
359. The nearest residence is approximately 1,045 feet east of the permit boundary and 1,830 feet from the limit of fill. One school is located 2,035 feet north of the permit boundary and 2,355 feet from the limit of fill. One day care center is located 660 feet east of the permit boundary and 1,450 feet from the limit of fill. Each of these locations is more than one-quarter mile away from the limit of fill.
360. Waste disposal operations will effectively recede from surrounding land uses because the Application proposes a vertical expansion only. In effect, the limit of fill for the vertical expansion area is 600 feet inside the existing limit of fill due to the 4H:1V side slopes.
361. BFI conducted a water well search for wells located within one mile of the permit boundary, including a review of records and maps that are on file at the Texas Water Development Board and TCEQ, a review of previous permitting documents, and a visual survey of properties in the vicinity of the facility.
362. There are twelve identified water wells within one mile of the facility – two of which are located on-site. Of the remaining identified wells, only one is located within 500 feet of the permit boundary.

363. Most or all of the water wells appear to be shallow wells – often hand-dug. None of the identified wells appears to be used for drinking water purposes by the landowners.
364. The weathered Taylor group does not produce adequate amounts of water for domestic use, and the areas in the vicinity of the facility are served by public water suppliers.
365. The TCEQ considered the impact of the site upon the city, community and nearby property owners and individuals in terms of compatibility of land use, zoning, community growth patterns, and other factors associated with the public interest.
366. BFI included sufficient information in the Application pertaining to land use and land use compatibility.
367. The existing Sunset Farms Landfill is compatible with surrounding land uses.
368. The continued use of the land for an MSW site will not adversely impact human health, safety, or welfare.
369. The inclusion of the requested special provisions will improve the compatibility of the Landfill with surrounding land uses, as will the two-tiered design BFI has proposed, its plans to “paint” the Landfill with wildflowers upon closure, and its implementation of landscaping and screening at the site.
370. The proposed expansion is compatible with land use in the surrounding area

### ***Buffer Zones and Landscape Screening***

371. The Facility includes a buffer that is a minimum of 50 feet wide around the perimeter of the Landfill. The approximate 55-acre area in the northeast corner of the Facility that is not used for landfilling activities serves as additional buffer for potential receptors to the north and east.
372. BFI has designed and implemented landscape and aesthetic enhancements at the facility for three purposes: (1) to visually screen where possible; (2) to create a defined edge for a sense of separation; and (3) to refine the visual image of the landfill. Design elements

(1) and (2) have occurred or are in progress at the facility. Design element (3) will occur when the landfill is completed as a result of the two-tiered massing of the landfill and BFI's agreement to "paint" the landfill with wildflowers upon closure.

373. The Site Operating Plan specifically prohibits solid waste unloading, storage, disposal or processing operations from occurring within any easement that crosses the site or within any buffer zone.

374. The provisions proposed for buffer zones and landscape screening comply with agency rules.

### ***Health of Hearing Requesters and Their Families***

375. The Application meets the requirements of the Commission's rules and goes beyond those requirements in many respects.

376. No evidence was presented that any individual has suffered any adverse health effects due to the Landfill.

377. No evidence was presented that any individual will suffer adverse health effects as a result of expansion of the landfill.

378. The Application proposes sufficient provisions to protect groundwater and surface waters.

379. The Application proposes sufficient provisions regarding air emissions, landfill gas management, odor controls, dust controls, vector controls, and other measures that will be protective of human health and the environment.

380. The vertical-only expansion will not increase the likelihood that any individual's health will be adversely affected.

381. The Application proposes sufficient provisions to protect the health of requesters and their families.

## *Nuisance*

382. Nuisance is defined in the Commission's rules as "municipal solid waste that is stored, processed, or disposed of in a manner that causes the pollution of the surrounding land, the contamination of groundwater or surface water, the breeding of insects or rodents, or the creation of odors adverse to human health, safety, or welfare." 30 TAC § 330.2(86).
383. Operation of the expanded landfill as requested in the Application will not result in pollution of the surrounding land.
384. Operation of the expanded landfill as requested in the Application will not result in contamination of groundwater and surface water.
385. Operation of the expanded landfill as requested in the Application will not result in breeding of insects or rodents.
386. Operation of the expanded landfill as requested in the Application will not result in the creation of odors adverse to human health, safety, or welfare.
387. Noise is not a component of the Commission's definition of nuisance.
388. Noise from the Landfill does not and will not rise to a level that would constitute a nuisance.
389. BFI has never been cited for any nuisance-level noise conditions.
390. Municipal solid waste will not be stored, processed, or disposed of at the Facility in a manner that causes the pollution of the surrounding land, the contamination of groundwater or surface water, the breeding of insects or rodents, or the creation of odors adverse to human health, safety, or welfare.
391. The Application proposes sufficient provisions to avoid causing a nuisance.

### ***Reporting and Transcription Costs***

392. Reporting and transcription costs of \$12,612.95 were incurred for the prehearing conference and evidentiary hearing.
393. TJFA is a Texas limited partnership. TJFA was formed in November 2004.
394. Bob Gregory is the sole (99%) limited partner of TJFA.
395. Garra de Aguila, Inc., a Texas corporation, owns the remaining 1% interest in TJFA and serves as the managing general partner of TJFA.
396. Bob Gregory owns 100% of the shares of Garra de Aguila, Inc.
397. Bob Gregory serves as president, chief executive officer, and principal owner of Texas Disposal Systems Landfill, Inc. (TDSL) and Texas Disposal Systems, Inc. (TDS).
398. TDSL owns a municipal solid waste landfill near Creedmoor in southeast Travis County.
399. Neither TJFA nor Garra de Aguila, Inc. has any employees.
400. Dennis Hobbs currently serves as the sole officer and director of Garra de Aguila, Inc.
401. Dennis Hobbs is employed by TDS as its Director of Special Projects.
402. TJFA shares a common business location, telephone number and fax number with TDSL and TDS.
403. TJFA is an affiliate of TDSL, a business competitor of BFI.
404. TJFA purchased a property near the BFI landfill in November 2004. TJFA has purchased properties next to four Central Texas landfills (Sunset Farms and three facilities operated by Waste Management) and participated as a party-protestant in four separate MSW permitting proceedings in the past four years.
405. TJFA spent several hundred thousand dollars in expert witness fees alone in this proceeding.

### ***Other Remaining Issues***

406. With respect to all other contested issues and all unrefuted issues, the Application and the remainder of the evidentiary record contain sufficient factual information regarding the Landfill's design and operation to satisfy all applicable statutory and regulatory requirements.

## **II. CONCLUSIONS OF LAW**

1. The Commission has jurisdiction over the disposal of municipal solid waste and the authority to issue this permit under TEX. HEALTH & SAFETY CODE ANN. § 361.061.
2. Notice was provided in accordance with TEX. HEALTH & SAFETY CODE ANN. § 361.0665, 30 TEX. ADMIN. CODE §§ 39.5 and 39.101, and TEX. GOV. CODE §§ 2003.051 and 2003.052.
3. SOAH has jurisdiction to conduct a hearing and to prepare a Proposal for Decision in contested cases referred by TCEQ under TEX. GOV. CODE § 2003.47.
4. The provisions of 30 TEX. ADMIN. CH. 330 in effect prior to the March 22, 2006 amendments apply to the Application.
5. BFI submitted an administratively and technically complete permit amendment application, as required by TEX. HEALTH & SAFETY CODE ANN. §§ 361.066 and 361.068, that demonstrates that it will comply with all relevant aspects of the Application and design requirements as provided in 30 TEX. ADMIN. CODE §§ 330.4(m) and 330.51(b)(1).
6. The Application was processed and the proceedings described in this Order were conducted in accordance with applicable law and rules of the TCEQ, specifically 30 TEX. ADMIN. CODE § 80.1 *et seq.*, and the State Office of Administrative Hearings,

specifically 1 TEX. ADMIN. CODE § 155.1 *et seq.*, and Subchapter C of TEX. HEALTH & SAFETY CODE ANN. Chapter 361.

7. The burden of proof was on the Applicant, in accordance with 30 TEX. ADMIN. CODE § 80.17(a). BFI met its burden with respect to all referred issues except the proposed hours of operation.
8. The evidence in the record is sufficient to meet the requirements of applicable law for issuance of the Draft Permit, including TEX. HEALTH & SAFETY CODE ANN. Chapter 361 and 30 TEX. ADMIN. CODE Chapter 330.
9. The TCEQ's guidance RG-417, as employed by the Applicant in preparing the Application, is a proper interpretation of the TCEQ's regulation 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(iv), which requires that an applicant provide a "discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development."
10. BFI has demonstrated that natural drainage patterns will not be significantly altered as a result of the proposed Landfill development, as required by 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(iv).
11. The Application includes adequate provisions to control disease vectors as required by 30 TEX. ADMIN. CODE §§ 330.126 and 330.1 33(a);
12. As required by 30 TEX. ADMIN. CODE § 330.51(b)(6), BFI has submitted documentation of coordination with TCEQ for compliance with the federal Clean Water Act, Section 208.
13. The Applicant has submitted wetland determinations required by applicable federal, state, and local laws as required by 30 TEX. ADMIN. CODE §§ 330.51(b)(7) and 330.53(b)(12).

14. The Settlement Agreement between the City of Austin and BFI which was filed with SOAH on October 31, 2008, is enforceable against the parties thereto pursuant to TEX. RULES OF CIV. PROCEDURE, Rule 11.
15. Applicant submitted a subsurface investigation report that complies with 30 TEX. ADMIN. CODE § 330.56(d)(5).
16. BFI's borings were in compliance with the depth requirements contained in 30 TAC § 330.56(d)(5)(A)(ii).
17. BFI has thoroughly investigated for the presence of geologic faults as required by 30 TEX. ADMIN. CODE § 330.56(d)(3)(A).
18. The Application meets the requirements of 30 TEX. ADMIN. CODE §§ 330.55 and 330.200-300.206, concerning groundwater protection.
19. The Application proposes adequate protection of groundwater and surface water, in compliance with agency rules, including 30 TAC §§ 330.55(b)(1), 330.56(f), 330.134, and 330.200-330.206.
20. The Application includes adequate provisions to control odors in compliance with agency rules, including 30 TAC §§ 330.125(b) and 330.133(a).
21. The Landfill gas monitoring system complies with 30 TEX. ADMIN. CODE § 330.130.
22. The Facility is operated in accordance with the federal New Source Performance Standards and under the Commission's Title V General Operating Permit.
23. The Application includes adequate provisions to manage landfill gas, in compliance with agency rules, including 30 TAC §§ 330.56(n) and 330.130.

24. The Application includes adequate provisions for proper slope stability, in compliance with agency rules, including 30 TAC §§ 330.55(b)(8) and 330.56(1).
25. The methods specified in the Site Operating Plan for the control of windblown waste and litter comply with the MSW rules, including 30 TEX. ADMIN. CODE §§ 330.117, 330.120, 330.123, and 330.127.
26. The groundwater sampling and analysis plan meets the requirements set forth in 30 TEX. ADMIN. CODE §§ 330.56(k) and 330.230-330.234.
27. The Application includes adequate provisions calculating the estimated rate of solid waste deposition and operating life of the site, in compliance with agency rules, including 30 TEX. ADMIN. CODE § 330.55(a)(4).
28. BFI has submitted information regarding closure and post-closure that demonstrates compliance with the requirements of 30 TEX. ADMIN. CODE §§ 330.56(1) and (m), 330.253, and 330.254(b).
29. The parties have stipulated that referred Issue J, pertaining to whether the application includes adequate provisions for closure and post closure, in compliance with agency rules, is adequately addressed in the Application and Draft Permit and is not in dispute and may be resolved as if BFI had obtained summary disposition in its favor with respect to this issue. (This stipulated finding does not extend to the sufficiency of final cover, addressed elsewhere herein.)
30. BFI has provided sufficient information concerning its acceptance or disposal of “special waste,” as defined by 30 TEX. ADMIN. CODE § 330.2.
31. BFI has demonstrated compliance with 30 TEX. ADMIN. CODE § 330.136 regarding disposal of special wastes.

32. The Site Operating Plan's special waste acceptance procedures ensure that special waste, as that term is defined in 30 TEX. ADMIN. CODE § 330.2, will not be accepted or disposed of without the prior written authorization from TCEQ, except with respect to certain special wastes the acceptance of which is previously authorized.
33. Under 30 TEX. ADMIN. CODE § 330.62(a), BFI possesses sufficient property rights in the Facility for which the permit will be issued and through the post-closure care period.
34. BFI and Giles Holdings, L.P. are the “owners” of the Facility as defined in 30 TEX. ADMIN. CODE § 330.2(94).
35. BFI is the “site operator” of the Facility as defined in 30 TEX. ADMIN. CODE § 330.2(132).
36. BFI is the “operator” of the Facility as defined in 30 TEX. ADMIN. CODE § 330.2(91).
37. The Application includes adequate provisions to prevent unauthorized wastes from being disposed in the landfill, in compliance with agency rules, including 30 TEX. ADMIN. CODE § 330.114(5).
38. As required by 30 TEX. ADMIN. CODE § 330.51(b)(6), BFI has submitted documentation of coordination with the Federal Aviation Administration for compliance with airport location restrictions.
39. As required by 30 TEX. ADMIN. CODE § 330.51(b)(6), BFI has submitted documentation of coordination with the Texas Department of Transportation for traffic and location restrictions.
40. BFI includes adequate provisions for dust control and maintenance of site access roads, in compliance with agency rules, including 30 TEX. ADMIN. CODE § 330.127.

41. Applicant has submitted Endangered Species Act compliance demonstrations under state and federal laws as required by 30 TEX. ADMIN. CODE §§ 330.51(b)(8), 330.53(b)(13), and 330.55(b)(9).
42. The Application conforms to the applicable requirements of the Engineering Practice Act, TEX. REV. CIV. STAT. ANN. art. § 3271a, as provided in 30 TEX. ADMIN. CODE § 330.51(d) and 22 TEX. ADMIN. CODE § 131.166.
43. BFI submitted a Motion for Partial Summary Disposition requesting resolution in its favor of Issue P, pertaining to the protection of endangered or threatened species. No party responded to BFI's motion. Summary disposition is granted in favor of BFI as to referred Issue P.
44. The Application includes adequate provisions for cover, in compliance with agency rules, including 30 TEX. ADMIN. CODE § 330.133.
45. The Applicant's compliance history was reviewed by the Executive Director and is acceptable under 30 TEX. ADMIN. CODE §§ 305.66, and 361.089 and 30 TEX. ADMIN. CODE Chapter 60.
46. In accordance with 30 TEX. ADMIN. CODE § 330.115, the fire protection plan in the Site Operating Plan includes fire protection standards and site personnel training requirements.
47. The parties have stipulated that referred Issue S, pertaining to whether the application includes adequate provisions for fire protection in accordance with TCEQ rules, is adequately addressed in the Application and Draft Permit and is not in dispute and may be resolved as if BFI had obtained summary disposition in its favor with respect to this issue.

48. BFI has submitted information regarding financial assurance that complies with 30 TEX. ADMIN. CODE §§ 330.52(b)(11) and 330.280-.286.
49. The land use information provided in the Application contains the technical information required under 30 TEX. ADMIN. CODE § 330.53(b).
50. As required by TEX. HEALTH & SAFETY CODE § 361.069, Sunset Farms Landfill is compatible with surrounding land uses.
51. Operation of an MSW Landfill in accordance with the applicable law and regulations is a proper land use of the property described in the Application.
52. The buffer zones established by BFI between the edge of fill and the site boundary are compliant with the MSW rules, including 30 TEX. ADMIN. CODE §§ 330.121(b) and 330.138. The Application satisfies all applicable screening requirements.
53. The vertical expansion of the Landfill, if constructed and operated in accordance with the TEX. HEALTH & SAFETY CODE ANN. Chapter 361, 30 TEX. ADMIN. CODE Chapter 330, the Application, and the Draft Permit, will not adversely affect the health of the requestors or their families.
54. The vertical expansion of the Landfill, if constructed and operated in accordance with the TEX. HEALTH & SAFETY CODE ANN. Chapter 361, 30 TEX. ADMIN. CODE Chapter 330, the Application, and the Draft Permit, will not cause the creation or maintenance of a nuisance in violation of Commission rules, including 30 TAC § 330.5(a)(2).
55. The operating hours proposed in the Application have not been shown appropriate.
56. The erosion control methods identified in the Application and Draft Permit are sufficient.

57. The parties have stipulated that referred Issue Z, pertaining to whether the storage, treatment and disposal of contaminated water is adequately addressed in the Application and Draft Permit and is not in dispute and may be resolved as if BFI had obtained summary disposition in its favor with respect to this issue.
58. The provisions of 30 TEX. ADMIN. CH. 330 apply specifically to “all aspects of municipal solid waste management,” and are based primarily on the stated purpose of TEX. HEALTH & SAFETY CODE ANN. Chapter 361.
59. No site-specific conditions exist at the site that will require special consideration as provided in 30 TEX. ADMIN. CODE §§ 330.51(b)(3) and 330.53(b)(4).
60. The contents of the permit to be issued to the Facility meet the requirements of TEX. HEALTH & SAFETY CODE ANN. §§ 361.086(b) and 361.087.
61. The TCEQ is not prohibited by TEX. HEALTH & SAFETY CODE ANN. § 361.122 from issuing Permit No. MSW-1447A.
62. BFI has submitted documentation of compliance with the National Pollutant Discharge Elimination System (NPDES) program under the federal Clean Water Act Section 402, as amended, as required by 30 TEX. ADMIN. CODE § 330.5 1(b)(5).
63. Part I of the Application meets the technical requirements of 30 TEX. ADMIN. CODE §§ 305.45 and 330.52.
64. Part II of the Application meets the technical requirements of 30 TEX. ADMIN. CODE § 330.53.
65. The Site Development Plan, which supports Parts I and II of the Application, meets the requirements of 30 TEX. ADMIN. CODE §§ 330.54, 330.55, and 330.56.

66. Part IV of the Application, (the Site Operating Plan) meets the requirements of 30 TEX. ADMIN. CODE §§ 330.57 and 330.114.
67. BFI has shown that it will comply with the operational prohibitions and requirements in 30 TEX. ADMIN. CODE §§ 330.5, 330.11 330.139.
68. Pursuant to the authority of, and in accordance with applicable laws and regulations, the attached Permit should be granted with the following change in Section III. A. on page 4:

A. Days and Hours of Operation

~~The facility is authorized to operate and accept waste 24 hours per day, seven days per week.~~ The waste acceptance hours of the facility may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. Waste acceptance hours within the 7:00 a.m. to 7:00 p.m. weekday span do not require other specific approval. Transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m. Operating hours for other activities do not require specific approval. The Commission's regional offices may allow additional temporary waste acceptance or operating hours to address disasters, other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area. The facility must record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.

69. Pursuant to 30 TEX. ADMIN. CODE §§ 80.23(d)(2), the Executive Director and Office of Public Interest Counsel may not be assessed any portion of the transcript and reporting costs.
70. For the reasons set out in the Findings of Fact, the court reporting and transcript costs should be assessed as follows: 50% to BFI and 50% to TJFA.
71. In accordance with 30 TEX. ADMIN. CODE § 50.117, the Commission issues this Order and the attached permit as its single decision on the permit amendment application. Information in the agency record of this matter, which includes evidence admitted at the hearing and part of the evidentiary record, documents the Executive Director's review of the permit amendment application, including that part not subject to a contested case

hearing, and establishes that the terms of the attached permit are appropriate and satisfy all applicable federal and state requirements.

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

1. The attached Type I Municipal Solid Waste Permit no. MSW-1447A. is granted to BFI Waste Systems of North America, LLC with the following change in Section III.A on page 4:

A. Days and Hours of Operation

~~The facility is authorized to operate and accept waste 24 hours per day, seven days per week.~~ The waste acceptance hours of the facility may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. Waste acceptance hours within the 7:00 a.m. to 7:00 p.m. weekday span do not require other specific approval. Transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m. Operating hours for other activities do not require specific approval. The Commission's regional offices may allow additional temporary waste acceptance or operating hours to address disasters, other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area. The facility must record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.

2. The Commission adopts the Executive Director's Response to Public Comment in accordance with 30 TEX. ADMIN. CODE § 50.117. Also in accordance with Section 50.117, the Commission issues this Order and the attached permit as its single decision on the permit amendment application. Information in the agency record of this matter, which includes evidence admitted at the hearing and part of the evidentiary record, documents the Executive Director's review of the permit amendment application, including that part not subject to a contested case hearing, and establishes that the terms of the attached permit are appropriate and satisfy all applicable federal and state requirements.

3. The Applicant shall pay 50% of the court reporting and transcript costs for this case and TFJA, L.P. shall pay the remaining 50%.
4. The Chief Clerk of the Commission shall forward a copy of this Order to all parties and issue the attached permit as changed to conform to this Order.
5. All other motions, requests for specific Findings of Fact or Conclusions of Law, and other requests for general and specific relief, if not expressly granted, are denied for want of merit.
6. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of this Order.
7. The effective date of this Order is the date the Order is final, as provided by 30 TAC § 80.273 and TEX. GOV'T CODE ANN. § 2001.144.

**ISSUED:**

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

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**Buddy Garcia, Chairman**  
**For the Commission**



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT FOR MUNICIPAL  
SOLID WASTE MANAGEMENT FACILITY  
Issued under provisions of Texas  
Health & Safety Code  
Chapter 361

MSW Permit No.: 1447A

Site Operator / Permittee: BFI Waste Systems of North America, LLC  
4542 SE Loop 410  
San Antonio, Texas 78222-3925

Property Owners: BFI Waste Systems of North America, LLC  
4542 SE Loop 410  
San Antonio, Texas 78222-3925

Giles Holdings, L.P.  
1223 Judson Road  
Longview, Texas 75601-3922

Facility Name: BFI Sunset Farms Landfill

Classification of Site: Type I Municipal Solid Waste Management Facility

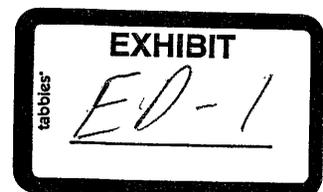
The permittee is authorized to store, process, and dispose of wastes in accordance with the limitations, requirements, and other conditions set forth herein. This amended permit is granted subject to the rules and orders of the Commission and laws of the State of Texas and it replaces any previously issued permit. Nothing in this permit exempts the permittee from compliance with other applicable rules and regulations of the Texas Commission on Environmental Quality. This permit will be valid until canceled, amended, or revoked by the Commission.

APPROVED, ISSUED AND EFFECTIVE in accordance with Title 30 Texas Administrative Code Chapter 330, as in effect before March 27, 2006.

ISSUED DATE:

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For the Commission



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**MSW Permit No. 1447A**  
**Travis County**

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## **PART NO. 1**

### **I. Location and Size of Facility**

- A. The BFI Waste Systems of North America Sunset Farms Landfill is located approximately three quarters of a mile north of the intersection of Giles Road and U.S. Highway 290, in Travis County, Texas. The site is within the city limits and extra-territorial jurisdiction of the City of Austin. The address of the landfill entrance is 9912 Giles Road.
- B. The legal description is contained in Part I of the application, in Attachment A of this permit.
- C. Coordinates and Elevation of Site Permanent Benchmark:
- |            |  |
|------------|--|
| Latitude:  | N 30° 20' 21"                          |
| Longitude: | W 97° 37' 01"                          |
| Elevation: | 613.40 feet above mean sea level (msl) |
- D. The total area within the permit boundary is approximately 349.4 acres, of which approximately 251.5 acres will be used for waste disposal. The final maximum elevation of the waste fill and final cover material will be 795 feet msl.

### **II. Incorporated Application Materials**

This permit is based on and the permittee shall follow Parts I through IV of the permit application dated August 1, 2005, and the revisions dated May 8, 2006, August 22, 2006, November 10, 2006, January 18, 2007, February 12, 2007, March 14, 2007, May 12, 2008, January 16, 2009 and January 29, 2009, which are hereby approved subject to the terms of this permit and any other orders of the Texas Commission on Environmental Quality (TCEQ). These materials are incorporated into this permit by reference in Attachment A as if fully set out herein. Any and all revisions to these application materials shall become conditions of this permit upon the date of approval by the Commission.

Part V of the permit application shall be submitted upon completion of construction of the facility. The permittee shall maintain Parts I through V of the application as described in Title 30 Texas Administrative Code (30 TAC), Chapter 330, Section (§) 330.51(a) at the facility and make them available for inspection by TCEQ personnel. (Chapter 330 rule citations in this document refer to the rules in effect at the time of the application, before the March 27, 2006, revisions.)

### III. Facilities and Operations Authorized

#### A. Days and Hours of Operation

The facility is authorized to operate and accept waste 24 hours per day, seven days per week.

#### B. Wastes Authorized at This Facility

The permittee is authorized to dispose of municipal solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including household garbage, putrescible wastes, rubbish, ashes, brush, street cleanings, dead animals, construction-demolition waste, and yard waste. The facility may also accept, regulated asbestos-containing material from municipal sources, Class 1 industrial nonhazardous solid waste that is considered Class 1 only because of asbestos content (30 TAC §330.136(b) and §330.137(b)), Class 2 industrial nonhazardous solid waste, Class 3 industrial nonhazardous solid waste, and certain special wastes identified in Part IV in Attachment A of this permit. The acceptance of special wastes is contingent upon such waste being handled in accordance with 30 TAC §330.136, and in accordance with the listed and described procedures in Part IV in Attachment A of this permit, subject to the limitations and special provisions provided herein.

#### C. Wastes Prohibited at This Facility

The permittee shall comply with the waste disposal restrictions set forth in 30 TAC §330.5(e). Hazardous wastes (other than municipal hazardous waste from conditionally exempt small quantity generators), radioactive wastes, polychlorinated biphenyl (PCB) wastes, nonhazardous Class 1 industrial wastes (other than that considered Class 1 only because of asbestos content), or any other wastes not identified in Section III.B. of this permit shall not be accepted at this facility.

#### D. Waste Acceptance Rate

Authorized solid waste may be accepted for disposal at this site at the initial rate of approximately 3,150 tons-per-day and increasing over time to a maximum acceptance rate of approximately 5,000 tons-per-day. The actual yearly waste acceptance rate is a rolling quantity based on the sum of the previous four quarters of waste acceptance. Present and future waste acceptance rates are detailed in Part III, Appendix IIIA in Attachment A of this permit.

E. Volume Available for Waste Disposal

The total waste disposal capacity of the landfill is 38,333,735 cubic yards, based on the information contained in Appendix III-A of Part III, in Attachment A of this permit.

F. Facilities Authorized

The permittee is authorized to operate a Type I municipal solid waste landfill that utilizes a combination of area excavation fill and aerial fill of the municipal solid waste landfill, subject to the limitations contained herein. All waste disposal activities subject to permitting are to be confined to the following facilities, which shall include disposal units, structures, appurtenances, or improvements: access roads, dikes, berms and temporary drainage channels, permanent drainage structures, detention ponds, wheel-wash facility, fuel storage tanks, citizen drop-off area, brush storage and grinding area, landfill gas management system, contaminated water management system, final cover, groundwater monitoring system, landfill liner system, and other improvements.

G. Changes, Additions, or Expansions

Any proposed facility changes must be authorized in accordance with the Texas Commission on Environmental Quality (TCEQ) permit amendment or modification rules, 30 TAC Chapters 305 and 330.

**IV. Facility Design, Construction, and Operation**

A. Facility design, construction, and operation and/or maintenance must comply with the provisions of this permit; Commission Rules, including 30 TAC §§330.50 through 330.65, 330.111 through 330.139, 330.150 through 330.159, 330.200 through 330.206, 330.230 through 330.242, 330.250 through 330.256, 330.280 through 330.284, and 330.300 through 330.305; Chapter 37, Subchapter R; special provisions contained in this permit; and Parts I through IV of the application in Attachment A of this permit, and shall be managed in a manner to protect human health and the environment.

B. The entire waste management facility shall be designed, constructed, operated, and maintained to prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance as defined in 30 TAC §330.2 and to prevent inundation or discharge from the areas surrounding the facility components. Each

receiving, storage, processing, and disposal area shall have a containment system that will collect spills and incidental precipitation in such a manner as to:

1. Preclude the release of any contaminated runoff, spills, or precipitation;
  2. Prevent washout of any waste by a 100-year storm; and
  3. Prevent run-on into the disposal areas from off-site areas.
- C. The site shall be designed and operated so as not to cause a violation of:
1. The requirements of §26.121 of the Texas Water Code;
  2. Any requirements of the Federal Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements of §402, as amended, and/or the Texas Pollutant Discharge Elimination System (TPDES), as amended;
  3. The requirements under §404 of the Federal Clean Water Act, as amended; and
  4. Any requirement of an area wide or statewide water quality management plan that has been approved under §208 or §319 of the Federal Clean Water Act, as amended.
- D. Contaminated water shall be handled, stored, treated, disposed of, and managed in accordance with 30 TAC §330.55(b)(6), 30 TAC §330.56(o), and Part III, Attachment 15 in Attachment A of this permit.
- E. Best management practices for temporary erosion and sedimentation control shall remain in place until sufficient vegetative cover has been established to control and mitigate erosion on areas having final cover. Vegetative cover will be monitored and maintained throughout the post-closure care period in accordance with Part III, Attachment 13 in Attachment A of this permit.
- F. Storm water runoff from the active portion of the landfill shall be managed in accordance with 30 TAC §330.55(b)(3) and §330.133(b), and as described in Part III in Attachment A of this permit.
- G. All facility employees and other persons involved in facility operations shall be qualified, trained, educated, and experienced to perform their duties so as to achieve

compliance with this permit. The permittee shall comply with 30 TAC §330.52(b)(9) and as described in Part I in Attachment A of this permit. The permittee shall further ensure that personnel are familiar with safety procedures, contingency plans, the requirements of the Commission's rules and this permit, commensurate with their levels and positions of responsibility, in accordance with Part III and Part IV in Attachment A of this permit. All facility employees and other persons involved in facility operations shall obtain the appropriate level of operator certification as required by recent changes in the statute and applicable regulations.

- H. The facility shall be properly supervised to assure that bird populations will not increase and that appropriate control procedures will be followed. Any increase in bird activity that might be hazardous to safe aircraft operations will require prompt mitigation actions.

**V. Financial Assurance**

- A. Authorization to operate the facility is contingent upon compliance with provisions contained within the permit and maintenance of financial assurance in accordance with 30 TAC Chapter 330, Subchapter K and 30 TAC Chapter 37, Subchapter R.
- B. Within 60 days after the date of issuance of this permit, the permittee shall provide financial assurance instrument(s) for demonstration of closure of the landfill in accordance with 30 TAC §§330.253(d)(6) and 330.281. The closure cost estimate of \$39,099,849 (2004 dollars) is based on estimates as described in Part III, Attachments 8 and 12, in Attachment A of this permit. The financial assurance instrument shall be in an amount that includes the inflation factors for each calendar year following 2004 until the year the permit is issued.
- C. Within 60 days after the date of issuance of this permit, the permittee shall provide financial assurance instrument(s) for demonstration of post-closure care of the landfill in an amount for the entire landfill facility. The post-closure care cost estimate of \$7,984,570 (2005 dollars) is based on estimates as described in Part III, Attachments 8 and 13, in Attachment A of this permit. The financial assurance instrument shall be in an amount that includes the inflation factors for each calendar year following 2005 until the year the permit is issued.
- D. The owner and/or operator shall annually adjust closure and/or post-closure care cost estimates for inflation within 60 days prior to the anniversary date of the establishment of the financial assurance instrument pursuant to 30 TAC §330.281 and §330.283, as applicable.

- E. If the facility closure and/or post-closure care plan is modified in accordance with 30 TAC §305.70, the permittee shall provide new cost estimates in current dollars in accordance with 30 TAC §§330.253(d)(6), 330.254(b)(3)(D), 330.281, and 330.283, as applicable. The amount of the financial assurance mechanism shall be adjusted within 45 days after the modification is approved. Adjustments to the cost estimates and/or the financial assurance instrument to comply with any financial assurance regulation that is adopted by the TCEQ subsequent to the issuance of this permit, shall be initiated as a modification within 30 days after the effective date of the new regulation.

## VI. Facility Closure

Closure of the facility shall commence:

- A. Upon completion of the disposal operations and the site is completely filled or rendered unusable in accordance with Part III, Attachment 7 in Attachment A of this permit. All waste receipt shall cease on or before November 1, 2015. After the last receipt of wastes, the permittee shall complete installation of the permitted final cover system in accordance with 30 TAC §330.253;
- B. Upon direction by the Executive Director of the TCEQ for failure to comply with the terms and conditions of this permit or violation of State or Federal regulations. The Executive Director is authorized to issue emergency orders to the permittee in accordance with §5.501 and §5.512 of the Water Code regarding this matter after considering whether an emergency requiring immediate action to protect the public health and safety exists;
- C. Upon abandonment of the site;
- D. For failure to secure and maintain an adequate bond or other financial assurance as required; or
- E. Upon the permittee's notification to the TCEQ that the landfill will cease to accept waste and no longer operate at any time prior to the site being completely filled to capacity.

## VII. Site Completion and Closure

The landfill shall be completed and closed in accordance with 30 TAC §330.250 and the applicable portions of 30 TAC §§330.253 through 330.256. Upon closure, the permittee shall submit to the Executive Director documentation of closure as set out in 30 TAC

§330.253. Post-closure care and maintenance shall be conducted in accordance with Part III, Attachment 13 found in Attachment A of this permit, for a period of 30 years or as otherwise determined by the Executive Director pursuant to 30 TAC §330.254(b).

#### **VIII. Standard Permit Conditions**

- A. Parts I through IV, as described in 30 TAC §330.51(a), which comprise the Permit Application for MSW Permit No. 1447A are hereby made a part of this permit as Attachment A. The permittee shall maintain Parts I through IV and Part V, as described in 30 TAC §330.51(a), at the facility and make them available for inspection by TCEQ personnel. The contents of Part III of Attachment A of this permit shall be known as the "Approved Site Development Plan," in accordance with 30 TAC §330.54 and §330.55. The contents of Part IV of Attachment A of this permit shall be known as the "Approved Site Operating Plan," in accordance with 30 TAC §330.57 and §330.114.
- B. Attachment B, consisting of minor amendments, modifications, and corrections to this permit, is hereby made a part of this permit.
- C. The permittee shall comply with all conditions of this permit. Failure to comply with any permit condition may constitute a violation of the permit, the rules of the Commission, and the Texas Solid Waste Disposal Act, and is grounds for an enforcement action, revocation, or suspension.
- D. A pre-construction conference shall be held pursuant to 30 TAC §330.64(c) before beginning any construction within the permit boundary to ensure that all aspects of this permit, construction activities, and inspections are met. Additional pre-construction conferences may be held prior to the opening of the facility.
- E. A pre-opening inspection shall be held pursuant to 30 TAC §330.64(d).
- F. The permittee shall monitor sediment accumulations in ditches and culverts on a quarterly basis, and remove sedimentation to re-establish the design flow grades on an annual basis or more frequently if necessary to maintain the design flow.
- G. The tracking of mud off-site onto any public right-of-way shall be minimized.
- H. In accordance with 30 TAC §330.7(a), the permittee shall record in the deed records of Travis County, a metes and bounds description of all portions within the permit boundary on which disposal of solid waste has and/or will take place. A certified

- copy of the recorded document(s) shall be provided to the Executive Director in accordance with 30 TAC §330.7(b).
- I. Daily cover of the waste fill areas shall be performed with clean soil that has not been in contact with waste. Intermediate cover, run-on, and run-off controls shall not be constructed from soil that has been scraped up from prior daily cover or which contains waste.
  - J. During construction and operation of the facility, measures shall be taken to control runoff, erosion, and sedimentation from disturbed areas. Erosion and sedimentation control measures shall be inspected and maintained at least monthly and after each storm event that meets or exceeds the design storm event. Erosion and sedimentation controls shall remain functional until disturbed areas are stabilized with established permanent revegetation. The permittee shall maintain the on-site access road and speed bumps/mud control devices in such a manner as to minimize the buildup of mud on the access road and to maintain a safe road surface.
  - K. In complying with the requirements of 30 TAC §330.123, the permittee shall consult with the local District Office of the Texas Department of Transportation or other authority responsible for road maintenance, as applicable, to determine standards and frequencies for litter and mud cleanup on state, county, or city maintained roads serving the site. Documentation of this consultation shall be submitted within 30 days after the permit has been issued.
  - L. The permittee shall retain the right of entry onto the site until the end of the post-closure care period as required by 30 TAC §330.62(b).
  - M. Inspection and entry onto the site by authorized personnel shall be allowed during the site operating life and until the end of the post-closure care period as required by §361.032 of the Texas Health and Safety Code.
  - N. The provisions of this permit are severable. If any permit provision or the application of any permit provision to any circumstance is held invalid, the remainder of this permit shall not be affected.
  - O. Regardless of the specific design contained in Attachments A and B of this permit, the permittee shall be required to meet all performance standards required by the permit, the regulations, and as required by local, state, and federal laws or ordinances.
  - P. If differences exist between permit provisions, application materials (incorporated as Parts I through IV of Attachment A of this permit) and the rules under 30 TAC Chapter 330, then the permit provisions and the rules shall hold precedence over the

application materials. The Special Provisions contained in Section X of this permit shall hold precedence over any inconsistent provisions in this permit.

- Q. The permittee shall comply with the requirements of the air permit exemption in 30 TAC §106.534, if applicable, and the applicable requirements of 30 TAC Chapters 106 and 116.
- R. All discharge of storm water will be in accordance with the U.S. Environmental Protection Agency NPDES requirements and/or the State of Texas TPDES requirements, as applicable.

**IX. Incorporated Regulatory Requirements**

- A. To the extent applicable, the requirements of 30 TAC Chapters 37, 281, 305, and 330 are adopted by reference and are hereby made provisions and conditions of this permit.
- B. The permittee shall comply with all applicable federal, state, and local regulations and shall obtain any and all other required permits prior to the beginning of any on-site improvements or construction approved by this permit.

**X. Special Provisions**

- A. The permittee shall comply with the conditions specified in a letter from the Capital Area Council of Governments (CAPCOG) to the TCEQ, dated August 23, 2006, and agreed to by the applicant in a letter to CAPCOG dated January 18, 2007, as described in Section I.B (Supplementary Technical Report) of Part I of the application and documented in Section II.K (Coordination Letters) of Part II of the application, in Attachment A of this permit.
- B. All waste receipt shall cease on or before November 1, 2015. The permittee shall restrict the property on which the landfill currently operates from use for transfer station operations on or after November 1, 2015. After the last receipt of wastes, the permittee shall complete installation of the permitted final cover system in accordance with 30 TAC §330.253. The maximum heights, depths and footprint for the landfill fill area, as approved by the TCEQ under permit No. MSW 1447A shall not be exceeded by any subsequent modification or amendment of the permit.
- C. Leachate and gas condensate shall not be recirculated.

- D. The permittee shall repair eroded cover within 5 days of detection unless the commission's regional office approves otherwise.
- E. The following Special Provisions are incorporated as a result of a settlement agreement between the permittee, Giles Holdings, L.P., and the City of Austin, and include the definitions below which apply to Special Provisions E.1 through E.9:

**Side slope** means the exterior edges of fill areas or sidewalls of detention ponds which generally will have a slope steeper than 10%.

**Top deck** means the top portion of the landfill which generally will have a slope flatter than 10%.

**Adequate vegetation growth** means 85% surface area coverage in vegetation at least 1" tall.

**Seeding events** means seeding in compliance with City of Austin Environmental Criteria Manual (ECM) Section 1.4.7 A (Exhibit 1) except as otherwise noted.

**Amended landfill permit** means proposed TCEQ draft permit 1447A for the Sunset Farms Landfill.

**Property** means the property on which the Landfill operates as described in the amended landfill permit application.

1. BFI shall place intermediate cover and implement seeding events, on all side slope areas on which waste placement activity has not recommenced within 60 days except BFI is under no obligation to seed such areas during the months of July and August. These seeded areas shall be irrigated in accordance with the requirements of Exhibit 1. This provision is not intended to modify the requirement to seed or sod immediately following the application of final cover as required by 30 TAC §330.253(b)(3).
2. BFI shall place intermediate cover and implement seeding events on the top deck of the landfill in all areas on which waste placement activity has not recommenced within 120 days except for that area immediately up gradient of the five constructed temporary drainage down chutes on intermediate cover areas as shown on attached Exhibit 2. Those up gradient areas shall be immediately vegetated upon construction of each down chute with a filter strip of buffalo grass sod that extends at least 100 feet out from each down chute inlet and is wide enough to filter the run off to be directed to each down

chute (See Exhibit 2 for width dimensions). The buffalo grass filter strip shall be maintained until final cover is placed. In addition, a silt fence or mulch berm or other erosion control mechanisms approved by the TCEQ shall be placed on the top deck in front of the inlet of each down chute and at the end of each constructed down chute (See Exhibit 2 for locations). These controls shall remain in place and be maintained until the areas contributing runoff to these down chutes achieve adequate vegetation growth. This provision is not intended to modify the requirement to seed or sod immediately following the application of final cover as required by 30 TAC §330.253(b)(3).

3. The initial seeding event for all areas will be accomplished using hydro-mulch seeding application procedures per Exhibit 1.
4. Seeding will be of a seasonally appropriate mix. Currently the seed mix is bermuda/millet for warm weather and rye for cold weather. When cold weather seed is used the seeded area shall be reseeded with warm weather mix within 60 days of the onset of sufficiently warm weather to support the warm weather mix. The reseeded area shall be irrigated until adequate vegetation growth is achieved.
5. Seeding for the final cover shall include a seasonally appropriate 609-S (native seeds) mix as defined in Exhibit 3, excerpt from the City of Austin Standard Specifications Manual, on approximately 15% of the surface area of the eastern and northern slopes of the landfill and for the remainder of the site a seasonally appropriate mix.
6. Perimeter sediment/erosion control devices such as silt fences, hay bales, mulch tubes or mulch berms shall be in place prior to the establishment of any soil stock piles on site. For soil stock piles which have slope lengths greater than 20 feet, mid-slope temporary stabilization controls such as seeding, tarping or placement of silt fences or mulch berms shall be implemented within fourteen days of the initial establishment of the soil stock pile and shall be maintained in good working condition until the stockpile is removed.
7. BFI shall install and maintain silt fences or mulch berms within 14 days of completion of intermediate cover at the base of all side slope and top deck intermediate cover areas until adequate vegetation growth is achieved.

8. Stormwater runoff from the landfill area designated as Drainage Area 2 shall be routed through the existing detention pond, or the proposed water quality/detention pond, when the waste fill in Drainage Area 2 has reached the final grades proposed in the landfill expansion plan.
9. BFI will ensure that the side slopes of the existing detention pond and the side slopes of the proposed water quality/detention pond in the northeast portion of the landfill shall be adequately stabilized through proper grading and maintenance and by implementing/applying vegetation on the side slopes of the ponds within thirty days of completion of construction of the pond. BFI further agrees to inspect the sedimentation ponds/basins every three months and after every half-inch rainfall event and to clean the ponds/basins by removing the accumulated sediment once the sediment has reached 25% of the respective pond capacity.
10. BFI shall not accept liquid waste as defined in 30 TAC §330.2(70) and shall not construct or operate a liquid waste stabilization/solidification basin at the Sunset Farms Landfill.
11. BFI shall take steps to discourage commercial waste hauling vehicles from utilizing Blue Goose Road as ingress or egress to the Sunset Farms Landfill except for those few vehicles which service businesses and residences in that area. These steps may include posting signs, adding surcharges, or similar measures.

F. BFI shall not use alternative material daily cover (ADC) at the Sunset Farms Landfill.

**PART NO. 2**

**Attachment A**

Parts I through IV of the permit application.

**PART NO. 3**

**Attachment B**

Minor Amendments, Corrections, and Modifications that may be issued for MSW Permit No. 1447A

The minor amendment, modification, or correction document prepared and executed with an approval date shall be attached to this attachment. There is no limit on the number of these documents that may be included in Attachment B of this permit.

**DRAFT**

## EXHIBIT 1

### Vegetative Practices

#### ***Temporary Vegetative Stabilization of Disturbed Areas***

1. Description.

Stabilize soil in disturbed areas with temporary vegetation or mulching.

2. Purpose.

To stabilize the soil; to reduce damages from sediment and runoff to downstream areas; improve wildlife habitat; enhance natural beauty.

3. Conditions Where Practice Applies.

Use vegetation to temporarily stabilize the soil on disturbed, graded or cleared areas prior to establishment of permanent vegetation.

4. Design Criteria.

Prior to vegetative establishment, install needed erosion control practices, such as diversions, grade stabilization structures, berms, dikes, level spreaders, and sediment basins.

Final grading and shaping has usually not been completed for temporary stabilization.

5. Fertilizer.

For temporary vegetative establishment, apply fertilizer with an analysis of 15-15-15 at the rate of .5 pounds of nitrogen per 1,000 square feet during the installation period. In order to avoid the conveyance of nutrients off-site, the timing shall not occur when rainfall is expected.

6. Seed Bed Preparation.

Prepare a suitable seed bed which allows good seed-to-soil contact and soil conditions that are conducive to vegetative growth. Do not disturb the soil within the critical root zone of existing trees.

Areas of compacted soil shall be loosened to a depth of at least two (2) inches by plowing, discing, raking or other acceptable means before seeding. In areas where no topsoil exists, or where fill is needed, the subgrade shall be loosened by discing or by scarifying to a depth of at least two (2) inches to permit bonding of the topsoil to the subsoil.

Topsoil, when used, shall have the following requirements: The depth of the topsoil shall be a minimum of 6" in all areas except within the critical root zone of existing trees. Do not add topsoil within the critical root zone of existing trees.

For temporary vegetative stabilization, the top six inches of soil used for intermediate cover must contain sufficient organic matter and nutrients to support vegetative cover. The following description is not required but is a suggested mix which will be presumed to meet this performance requirement: *The topsoil shall be composed of 3 parts of soil mixed with 1 part Compost, by volume. The compost*

shall be Dillo Dirt or an equal approved by the Engineer, or designated representative. The soil shall be locally available native soil that meets the following specifications:

- Shall be free of trash, weeds, deleterious materials, rocks, and debris.
- 100% shall pass through a 0.75-inch screen.
- Less than 25 % shall pass through a #200 sieve.

Topsoil salvaged from the existing site may often be used, but it should meet the same standards as set forth in these standards.

7. Seeding.

If seeding is to be conducted during the cool season (November 1 to February 15) select species noted as "cool season cover crop" from the tables in Standard Specification 604S and/or 609S. If seeding is to be conducted during the warm season (February 16 to October 31) use one of the following options (whichever is applicable).

- Native Seeding: Green Sprangletop (*Leptochloa dubia*) at the rate of 4 lbs. per acre.
- Non-native Seeding: Comply with 604S.5 using Bermuda grass.
  - Apply seed uniformly with a seed spreader, drill, cultipacker seeder or hydroseeder (slurry includes seed, fertilizer and binder).

8. Protection of Seed Bed with Hydromulching or Soil Retention Blanket.

Newly-installed temporary vegetation must be protected by hydromulch or soil retention blanket (refer to Standard Specification 605S Soil Retention Blanket) immediately after seeding. Protection of the seed bed shall occur in a manner that will allow seed germination and that encourages effective vegetative growth. Hydromulching, when used, shall comply with the requirements of Table 1.4.7-A: Hydromulching for Temporary Vegetative Stabilization.

**Table 1.4.7-A: Hydromulching for Temporary Vegetative Stabilization**

| Material                         | Description                           | Longevity  | Typical Applications              | Application Rates |
|----------------------------------|---------------------------------------|------------|-----------------------------------|-------------------|
| 70/30 Wood/Cellulose Blend Mulch | 70% Wood<br>30% Paper<br>3% Tackifier | 0-3 months | Moderate slopes; from flat to 3:1 | 45.9 lbs/1000 sf  |
| Wood Fiber Mulch                 | 96% Wood<br>3% Tackifier              | 0-3 months | Moderate slopes; from flat to 3:1 | 45.9 lbs/1000 sf  |

a. 70/30 Wood/Cellulose Blend Fiber Mulch. Wood/Cellulose blend fiber mulch shall consist of 70% long wood grain fibers produced from grinding clean, whole wood chips and 30% cellulose fiber produced from ground newsprint. Refer to Table 1.4.7-B for mulch properties and to Standard Specification 604S – Seeding for additional mulch requirements.

b. Wood Fiber Mulch. Wood fiber mulch shall consist of 100% long wood grain fibers produced from grinding clean, whole wood chips. . Refer to Table 1.4.7-C for mulch properties and to Standard Specification 604S – Seeding for additional mulch requirements.

**Table 1.4.7-B: Properties of 70/30 Wood/Cellulose Blend Fiber Mulch**

| <u>Property (Test Method)</u>         | <u>Required Value</u>                                     |
|---------------------------------------|---|
| <u>Moisture content %</u>             | <u>12.0% ±3.0% (max.)</u>                                 |
| <u>Organic matter % - wood fiber</u>  | <u>70% ±1% Oven Dry Basis (min.)</u>                      |
| <u>Organic matter % - paper fiber</u> | <u>30.0% ±1% Oven Dry Basis (max.)</u>                    |
| <u>Tacking Agent</u>                  | <u>3.0% (min.)</u>  |
| <u>Water holding capacity</u>         | <u>1,000 Grams of water per 100 grams of fiber (min.)</u> |

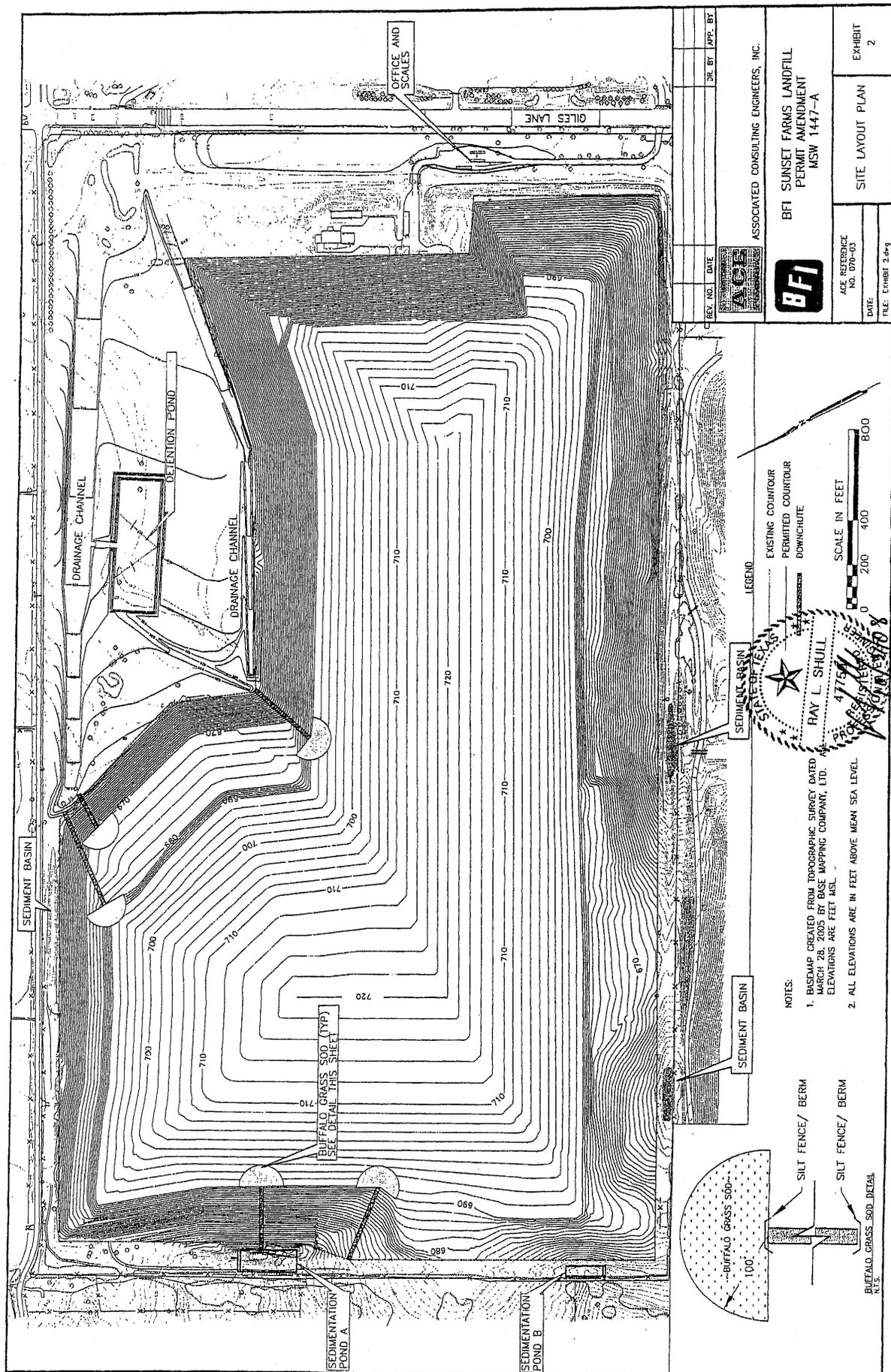
**Table 1.4.7-C: Properties of Wood Fiber Mulch**

| <u>Property (Test Method)</u>         | <u>Required Value</u>                                     |
|---------------------------------------|---|
| <u>Moisture content %</u>             | <u>12.0% ±3.0% (max.)</u>                                 |
| <u>Organic matter % - wood fiber</u>  | <u>96% ±1% Oven Dry Basis (min.)</u>                      |
| <u>Organic matter % - paper fiber</u> | <u>30.0% ±1% Oven Dry Basis (max.)</u>                    |
| <u>Tacking Agent</u>                  | <u>3.0% (min.)</u>  |
| <u>Water holding capacity</u>         | <u>1,000 Grams of water per 100 grams of fiber (min.)</u> |

9. Watering

Seed germination will be expected within 1 week of sowing. Watering is required to germinate seed and maintain growth. Seedlings shall be watered daily, or more often as necessary to ensure growth and to ensure that the vegetative cover stabilizes the soil as required.

Exhibit 2



|          |      |        |         |
|----------|------|--------|---------|
| REV. NO. | DATE | DR. BY | APP. BY |
|          |      |        |         |

ASSOCIATED CONSULTING ENGINEERS, INC.

**BFI** BFI SUNSET FARMS LANDFILL PERMIT AMENDMENT MSW 1447-A

AGE REFERENCE NO. 07-03  
DATE: \_\_\_\_\_  
FILE: EXHIBIT 2-4-03

SITE LAYOUT PLAN  
EXHIBIT 2

LEGEND

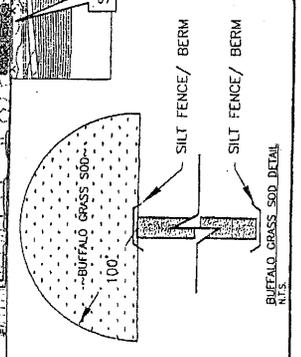
- EXISTING COUNTOUR
- PERMITTED COUNTOUR
- DOWNSHUTE

SCALE IN FEET  
0 200 400 800

SEDIMENT BASIN  
SITE OF EXISTING  
RAY L. SHULL  
4775  
OFFICE OF THE SUPERVISOR  
MARCH 28, 2005

NOTES:

1. BASEMAP CREATED FROM TOPOGRAPHIC SURVEY DATED MARCH 28, 2005 BY BASE MAPPING COMPANY, LTD. ELEVATIONS ARE FEET MSL.
2. ALL ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL.



BUFFALO GRASS SOD (TYP)  
SEE DETAIL THIS SHEET

SEDIMENTATION POND A

SEDIMENTATION POND B

SEDIMENT BASIN

DRAINAGE CHANNEL

DRAINAGE CHANNEL

DETONATION POND

OFFICE AND SCALES

GILES LANE

SEDIMENT BASIN

SEDIMENT BASIN

EXHIBIT 3

If the native grassland is being installed during the cool season (November 1 to February 15), the cool season cover crop species (as listed) shall be included in the mix.

The rooted plants shall be applied in accordance with appropriate 'growing environments' (UFS = Upland Full Sun; USD = Upland Shade-Dappled; and FHM = Facultative, Moderate to High Moisture)

**Table 2: Native Grass Planting Options**

| Select Rooted Grasses For Appropriate Environments On Project Site<br>Use Several Species If Site Environment Is Diverse Or To Achieve Greater Diversity |                                 |                |                        |                       |
|--|---------------------------------|----------------|------------------------|-----------------------|
| Common Name  | Botanical Name                  | Spacing        | Size                   | Preferred Environment |
| Buffalo Grass  | <i>Buchloe dactyloides</i>      | 5 foot centers | 16" X 24" piece of sod | UFS                   |
| Sideoats Grama   | <i>Bouteloua curtipendula</i>   | 5 foot centers | 1 gallon equivalent    | UFS                   |
| Green Sprangletop  | <i>Leptochloa dubia</i>         | 5 foot centers | 1 gallon equivalent    | UFS                   |
| Little Bluestem  | <i>Schizachyrium scoparium</i>  | 5 foot centers | 1 gallon equivalent    | UFS                   |
| Blue Grama Grass   | <i>Bouteloua gracilis</i>       | 5 foot centers | 1 gallon equivalent    | UFS                   |
| Big Bluestem   | <i>Andropogon gerardii</i>      | 5 foot centers | 1 gallon equivalent    | UFS or FHM            |
| Indiangrass  | <i>Sorghastrum nutans</i>       | 5 foot centers | 1 gallon equivalent    | UFS or FHM            |
| Bushy Bluestem   | <i>Andropogon glomeratus</i>    | 5 foot centers | 1 gallon equivalent    | FHM                   |
| Big Muhly (Lindheimer's)   | <i>Muhlenbergia lindheimeri</i> | 5 foot centers | 1 gallon equivalent    | FHM                   |
| Eastern Gama Grass   | <i>Tripsacum dactyloides</i>    | 5 foot centers | 1 gallon equivalent    | FHM                   |
| Switchgrass  | <i>Panicum virgatum</i>         | 5 foot centers | 1 gallon equivalent    | FHM                   |
| Inland Sea Oats  | <i>Chasmanthium latifolium</i>  | 5 foot centers | 1 gallon equivalent    | USD                   |
| Canada Wild Rye  | <i>Elymus canadensis</i>        | 5 foot centers | 1 gallon equivalent    | USD                   |
| Caric Sedges   | <i>Carex spp.</i>               | 5 foot centers | 1 gallon equivalent    | USD                   |
| Canada Wild Rye  | <i>Elymus canadensis</i>        | 5 foot centers | 1 gallon equivalent    | USD                   |

The seed mixture and the rate of application shall be as follows for both native grasses and wildflowers:

| <b>Table 3: Native Grasses</b> |                         |                            |                            |
|--------------------------------|-------------------------|----------------------------|----------------------------|
| Common Name                    | Botanical Name          | Application rates          |                            |
|                                |                         | Lbs/1000 feet <sup>2</sup> | kg/ 100 meter <sup>2</sup> |
| Indiangrass                    | Sorghastrum nutans      | 0.2                        | 0.10                       |
| Sideoats grama                 | Bouteloua curtipendula  | 0.2                        | 0.10                       |
| Green sprangletop              | Leptochloa dubia        | 0.2                        | 0.10                       |
| Buffalo Grass                  | Buchloe dactyloides     | 0.1                        | 0.05                       |
| Little Bluestem                | Schizachyrium scoparium | 0.05                       | 0.025                      |
| Blue Grama Grass               | Bouteloua gracilis      | 0.2                        | 0.10                       |
| Canada Wild Rye                | Elymus canadensis       | 0.2                        | 0.10                       |
| Eastern gamagrass              | Tripsacum dactyloides   | 0.2                        | 0.10                       |
| Switchgrass                    | Panicum virgatum        | 0.1                        | 0.05                       |
| Big Bluestem                   | Andropogon gerardii     | 0.05                       | 0.025                      |
| Total Grass Seeding Rate       |                         | 1.5                        | 0.75                       |

| <b>Table 4: Native Wildflowers</b> |                         |                            |                            |
|------------------------------------|-------------------------|----------------------------|----------------------------|
| Common Name                        | Botanical Name          | Application rates          |                            |
|                                    |                         | Lbs/1000 feet <sup>2</sup> | kg/ 100 meter <sup>2</sup> |
| Black-Eyed Susan                   | Rudbeckia hirta         | 0.05                       | 0.025                      |
| Bundleflower                       | Desmanthus illinoensis  | 0.05                       | 0.025                      |
| Scarlet Sage                       | Salvia coccinea         | 0.10                       | 0.05                       |
| Pink Evening Primrose              | Oenothera speciosa      | 0.05                       | 0.025                      |
| Phlox                              | Phlox Drummondii        | 0.05                       | 0.025                      |
| Coreopsis                          | Coreopsis tinctoria     | 0.05                       | 0.025                      |
| Greenthread                        | Thelesperma filifolium  | 0.05                       | 0.025                      |
| Purple Prairie Clover              | Petalostemum purpurea   | 0.05                       | 0.025                      |
| Cutleaf Daisy                      | Engelmannia pinnatifida | 0.05                       | 0.025                      |
| Partridge Pea                      | Cassia fasciculata      | 0.1                        | 0.05                       |
| Indian Blanket                     | Gaillardia pulchella    | 0.1                        | 0.05                       |
| Bluebonnet                         | Lupinus texensis        | 0.15                       | 0.075                      |
| Mexican Hat                        | Ratibida columnaris     | 0.05                       | 0.025                      |
| Maximilian Sunflower               | Helianthus maximiliani  | 0.1                        | 0.05                       |
| Total Wildflower Seeding Rate      |                         | 1.0                        | 0.5                        |
| Total Warm Season                  |                         | 2.5                        | 1.25                       |

|                                    |  |  |  |
|------------------------------------|--|--|--|
| Seeding Rate (Grass & Wildflowers) |  |  |  |
|------------------------------------|--|--|--|

| Table 5: Cool Season Cover Crop                                   |                   |                            |                            |
|---|-------------------|----------------------------|----------------------------|
| Common Name   | Botanical Name    | Application rates          |                            |
|   |                   | Lbs/1000 feet <sup>2</sup> | kg/ 100 meter <sup>2</sup> |
| Wheat   | Triticum aestivum | 0.5                        | 0.25                       |
| Oats  | Avena sativa      | 0.5                        | 0.25                       |
| Cereal Rye Grain  | Secale cereale    | 0.5                        | 0.25                       |
| Total Cool Season Cover Crop Seeding Rate                         |                   | 1.5                        | 0.75                       |
| Total Cool Season Seeding Rate (Grass, Wildflowers, & Cover Crop) |                   | 4.0                        | 2.0                        |

Species substitution as necessary due to availability shall be approved by the Engineer or designated representative. Watering and fertilizer application shall follow procedures outlined above or as otherwise specified on the Drawings.

Seed shall be applied by broadcast or drill method and shall be distributed evenly over the topsoil. Mulching shall immediately follow seed application.

September 15 to March 1:

Add 1.5 pounds per 1000 square feet (0.75 kilograms per 100 square meters) of cool season cover crop to grass and wildflower mixture.