WEAVER

BOOS

CONSULTANTS

SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206 FORT WORTH, TEXAS 76109 PHONE: 817.735.9770 FAX: 817.735.9775 www.weaverboos.com Chicago, IL
Springfield, IL
Naperville, IL
Griffith, IN
South Bend, IN
Denver, CO
St. Louis, MO
Columbus, OH
Beaverton, OR
Fort Worth, TX

October 2, 2009 Project No. 0628-01-17-09-03

Richard Carmichael, PhD, PE, CIH
MC 124
Section Manager
Municipal Solid Waste Permits Section
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Re: Permit Modification/Landfill Gas Remediation Plan
Landfill Gas System Expansion
City of Grand Prairie Landfill - TCEQ MSW Permit No. 996C
Dallas County, Texas

Dear Dr. Carmichael:

The purpose of this Permit Modification/Landfill Gas Remediation Plan, submitted on behalf of our client, the City of Grand Prairie (City), is to modify the site's existing Attachment 14 – Landfill Gas Management Plan (LGMP) to incorporate an expansion of the facility's existing landfill gas (LFG) collection and control system (GCCS). The purpose of this GCCS expansion is to mitigate LFG migration in the vicinity of perimeter gas monitoring probe GMP(R)-12. This permit modification is being submitted as a public notice permit modification in accordance with Title 30 of the Texas Administrative Code (30 TAC), §305.70(k)(3).

Additional/replacement pages for the site's LGMP are included in Attachment 1. The following summarizes the changes made to the existing LGMP:

- The second cover page has been updated to reflect the revision date of October 2009.
- Page 14-ii in the Table of Contents was revised to update the page number for Section 6.3.
- Section 6.2 was expanded to describe the proposed 2009 GCCS Upgrades.

- Drawings showing the updated existing GCCS site plan and proposed 2009 GCCS expansion were added to Appendix 14A. The replacement/additional drawings include:
 - Drawing 14A-5: Existing GCCS Plan [Updated]
 - Drawing 14A-6B: 2009 GCCS Expansion [Added]

Background

In July 2004, the City submitted a Landfill Gas Remediation Plan (LGRP) to address elevated methane concentrations in the facility's perimeter monitoring probes. In an effort to remediate the methane concentrations at the perimeter probes, the City expanded the existing GCCS by installing fifteen LFG extraction wells, six passive soil vapor vents, adding pumps and dewatering couplings to four extraction wells, and increasing the LFG capacity of the existing flare. The expansion permit modification was approved by the TCEQ on February 24, 2005 and the expansion work was completed in April 2005.

The 2005 GCCS expansion was effective in mitigating the methane concentrations in gas probes GMP(R)-1, GMP(R)-2, and GMP(R)-8 to below the compliance threshold. However, methane concentrations above 5 percent, by volume in air, continued to be exhibited in probes GMP(R)-3, GMP(R)-4, GMP(R)-5, GMP(R)-6, GMP(R)-7, GMP(R)-11, and GMP(R)-12. As a result, a new LGRP/permit modification was submitted in March 2007 and approved on August 31, 2007. This LGRP included the installation of twelve additional LFG extraction wells, twenty-four soil vapor extraction wells, a larger blower at the flare facility, and the conversion of six existing passive vents to active. This expansion was completed in December 20007 and resulted in the mitigation of the elevated methane levels in all probes. However, in August 2008, the methane level in GMP(R)-12 once again rose above the regulatory limit.

It was believed that the increase in the methane level in GMP(R)-12 was a result of mechanical problems that had occurred with the GCCS. A remediation plan was submitted in June 2009 and approved on July 9, 2009 allowing the City three months to allow the existing GCCS to remediate the methane levels in GMP(R)-12. Because methane levels remained above the regulatory limit at the end of the three month period, the City proposes the following remediation plan for GMP(R)-12.

Proposed Remediation Plan

LFG Extraction Wells

As shown on Drawing 14A-6B, the proposed GCCS expansion will include eight additional LFG extraction wells along the southeast side of the landfill to remediate LFG migration at probe GMP(R)-12. These additional LFG extraction wells will relieve pressure build up within the landfill. The elevated LFG pressures are due to waste decomposition and are the driving force for LFG migration. Each LFG extraction well will be installed in vertical borings drilled into the waste as shown on Drawing 14A-3 of the approved LGMP. In addition, one LFG extraction well (EW-45) will be abandoned due to the collapse of the well casing below ground surface, which has limited the ability of the well to collect LFG. This well will be redrilled in the general vicinity of the existing well.

Collection Piping

Each LFG extraction well will be fitted with a wellhead valve assembly. The wellhead will be equipped with an adjustment valve to regulate the applied vacuum and flow of LFG. The wellhead will also be equipped with monitoring ports to enable the system operator to measure gas composition, pressure, flow rate, and temperature. The wellheads will be connected to lateral piping, which will convey the flow of LFG into the main header pipe or selected low points.

Condensate Management

The GCCS piping will be graded to enable LFG condensate to gravity drain into the existing GCCS. The condensate generated in the existing GCCS previously approved by the TCEQ drains into existing condensate sumps. The condensate generated from the new LFG extraction wells will be disposed of along with rest of the condensate and the leachate from the landfill.

System Operations

Once the GCCS expansion has been installed, operation and monitoring of the new LFG extraction wells will be initiated. The expanded system will be routinely monitored at each of the wellheads and the flare station. During the initial startup of the expanded system, frequent monitoring and adjustments to the wells will be required. The perimeter gas probe monitoring data will continue to be assessed to determine how effectively the GCCS is mitigating the LFG migration.

Once the system is balanced, operational activities for the GCCS will include periodic system monitoring and maintenance. Monitoring and necessary adjustments will continue to be made to the LFG extraction wells to maintain optimum performance.

Schedule/Monitoring

As the GCCS expansion is being installed for remediation purposes, the City is making preparations for the system installation. Contract award and construction commencement is anticipated during the fourth quarter of 2009.

It could take several months for the expanded GCCS to achieve steady-state operating conditions and effectively mitigate LFG migration. The City will continue to monitor the affected LFG perimeter probe GMP(R)-12 weekly until the monitoring data indicates methane levels at the affected probe are below the regulatory limit (5 percent methane by volume in air) for three consecutive months. At that time, the City will submit a written request along with the LFG monitoring report to the TCEQ requesting that the frequency of LFG perimeter probe monitoring return to quarterly. The LFG monitoring results will be submitted to the TCEQ each month. However, if methane levels in the probe remain above the regulatory limit for 12 months after installation, the City will contact the TCEQ to discuss further remediation options.

Permit Modification Justification

The City understands the importance of maintaining effective environmental controls at the landfill. The primary purpose of the expansion of the existing GCCS is to further remediate LFG migration at the site. As such, please process this permit modification request per 30 TAC §305.70(k)(3). It is our understanding that public notice will be required for this permit modification. Please note that a surrounding landowners map, along with a list of the property owners' names and addresses, is included in Attachment 2. In addition, an applicant certification consistent with 30 TAC §305.70(f) and §305.44 is included on Page 10 of the Part I Form in Attachment 3. In accordance with Title 30 TAC §330.59(h)(1), a \$150.00 application fee has been submitted to the TCEQ as documented on Page 8 of the Part I Form in Attachment 3. This application will be posted on the internet at (http://www.gptx.org/index.aspx?page=124) consistent with Title 30 TAC §330.57(i)(1).

One original and one copy of the permit modification are provided for your use and distribution. To facilitate your review, we have included copies of the LGMP revisions in both a clean and redline/strikeout format. In addition, one copy of this permit

modification has been provided to the appropriate regional office. A copy of this submittal was also placed in the site operating record

If you have any questions or comments regarding this submittal, please do not hesitate to contact us.

Sincerely,

Weaver Boos Consultants, LLC-Southwest

J. Heath Parker, P.E. Project Engineer

Attachments: Attachment 1 – Attachment 14 Revisions Pages

Attachment 2 - Landowners List and Map

Attachment 3 – TECQ Permit Application Part I Form

Attachment 4 – Attachment 14 Revisions Pages (Redline/Strikeout Format)

cc: TCEQ Region 4 Office

Patricia Redfearn, City of Grand Prairie Ruth Bracken, City of Grand Prairie Dusty Wilson, City of Grand Prairie

ATTACHMENT 1 ATTACHMENT 14 REVISION PAGES

CITY OF GRAND PRAIRIE LANDFILL DALLAS COUNTY, TEXAS TCEQ PERMIT APPLICATION NO. MSW-996C

PART III – SITE DEVELOPMENT PLAN ATTACHMENT 14 LANDFILL GAS MANAGEMENT PLAN

PERMIT MODIFICATIONS

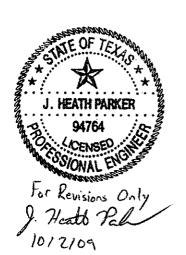
Revised June 2009

Revised October 2009

Prepared by

Weaver Boos Consultants, LLC-Southwest

TBPE Registration No. F-3727 6420 Southwest Blvd., Suite 206 Fort Worth, Texas 76109 817-735-9770



CONTENTS

1	INTE	RODUCTION	14-1
	1.1	Scope	14-1
	1.2	Purpose	14-1
2	SITE	CHARACTERISTICS	14-2
	2.1	Introduction	14-2
	2.2	Geologic Conditions	14-2
	2.3	Hydrogeologic Conditions	14-3
-	2.4	Hydraulic Conditions	14-3
	2.5	Facility Structures Within the Permit Boundary	14-3
	2.6	Underground Utilities	14-4
	2.7	Land Use and Offsite Structures	14-4
	2.8	Nature and Age of Waste	14-4
	2.9	Climate	14-5
	2.10	Depth of Waste and Liner Description	14-5
3	MON	TORING	om. 14-6
	3.1	Perimeter Monitoring	14-6
	3.2	Monitoring of Facility Structures	* 14-8
	3.3	Recordkeeping/Reporting	14-8
	3.4	Contingency Monitoring Plan	KER 2 14-9
4	EXC	EEDANCE ACTION PLAN	14-11
	4.1	Exceedance Response Measures	14-11
	4.2	Matification Dragodyrog	14-13
	4.3	Placement into Operating Record	Only 14-13
5	REM	EDIATION PLAN 1012/09	14-15
6	LFG	SYSTEM	14-16
	6.1	Existing LFG Collection and Control System	14-16
	6.2	Proposed GCCS Improvements	14-17
	6.3	GCCS Expansion for Vertical Expansion	14-18
	6.4	Future LFG Control Capacity	14-18
	6.5	GCCS Operation and Maintenance	14-18
	6.6	Soil Vapor Extraction System	14-18

currently is not required to comply with the NSPS requirements for GCCS installation, operation, monitoring, record keeping and reporting.

6.2 Proposed GCCS Improvements

As the site develops, additional extraction wells will be installed as needed to reduce the buildup of internal gas pressures caused by the increased generation of LFG. The locations and details of the anticipated proposed extraction wells are shown on Drawing 14A-2. Based on industry standards for internal extraction wells, a spacing of approximately 250 feet was used to develop the future extraction well layout. Each extraction well will be equipped with a control valve and monitoring port as shown on Drawing 14A-3. These control valves and monitoring ports, used in conjunction with controls on the blower, will allow the site to regulate vacuum and LFG levels at each individual extraction well. This will allow the site to make adjustments in order to effectively reduce the potential for subsurface migration and odors, as well as to protect the integrity of the final cover system.

Each LFG extraction well will consist of a perforated pipe within a well-bore backfilled with gravel. The LFG extraction wells will be installed as the landfill develops in accordance with the NSPS requirements and as needed to control odors.

6.2.1 2007 GCCS Upgrades

The proposed 2007 GCCS upgrades includes the installation of additional LFG extraction wells along the eastern perimeter, soil vapor extraction (SVE) wells near the northwestern perimeter, conversion of six passive vents into active SVE wells near GMP(R)-3 and GMP(R)-4, a solar blower/flare facility, a new blower at the existing flare facility, and related piping as shown in Drawing 14A-6.

6.2.2 2008 GCCS Expansion

The proposed 2008 GCCS Expansion includes the installation of eight additional LFG extraction wells, two condensate sumps, and related piping as shown on Drawing 14A-6A.

6.2.3 2009 GCCS Expansion

The proposed 2009 GCCS Expansion includes the installation of eight additional LFG extraction wells, the abandonment and redrill of EW-45, and related piping as shown on Drawing 14A-6B.

6.3 GCCS Expansion for Vertical Expansion

The proposed vertical expansion for the City of Grand Prairie Landfill consists of an overlay of additional waste placed over a portion of the existing landfill footprint. As the expansion is developed, additional vertical wells will be incrementally installed to provide LFG collection and control from the additional waste materials. As the landfill develops and waste placement approaches the existing wells, the well will either be extended vertically, or the valve will be relocated horizontally to a location that is outside of the waste fill or the well will be redrilled after waste filling is completed. The locations of the proposed extraction wells are shown on Drawing 14A-2. The collection points will be connected to the existing GCCS for discharge to the existing LFG flare facility.

6.4 Future LFG Control Capacity

Using the EPA Landfill Gas Emissions Model, it is estimated that the site will generate a maximum of approximately 2,740 standard cubic feet per minute (scfm) of LFG (Appendix 14D). As such, additional collection and control equipment will be installed to provide the vacuum and capacity needed to handle the predicted maximum design flow rate of the GCCS. The City of Grand Prairie LFG flare currently operates under Standard Air Permit No. 43841 issued by the TCEQ in April 2000. Future expansions of the control equipment by the City of Grand Prairie Landfill, which may increase site emissions, will be performed following TCEQ approval of the appropriate air authorization.

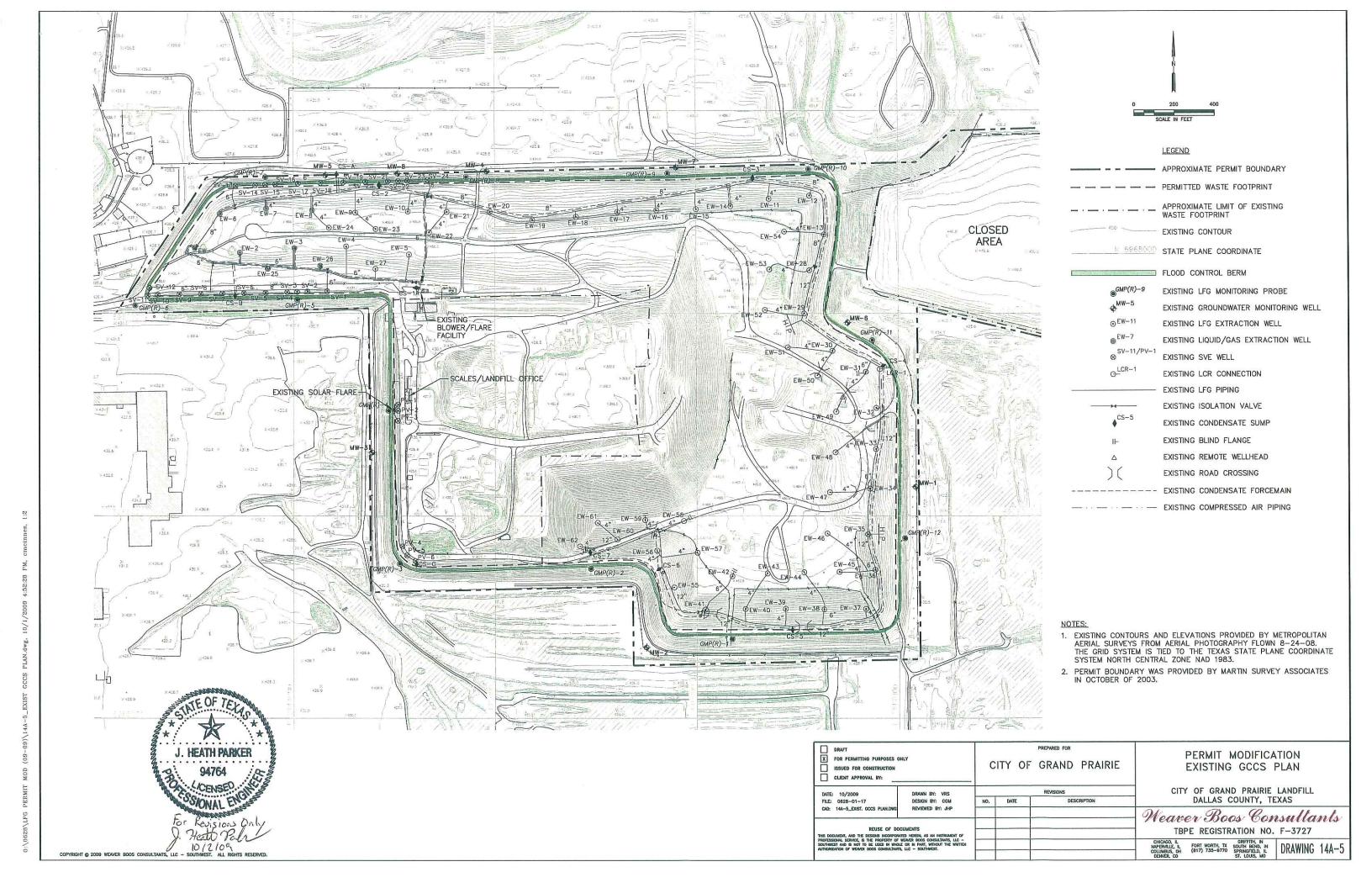
6.5 GCCS Operation and Maintenance

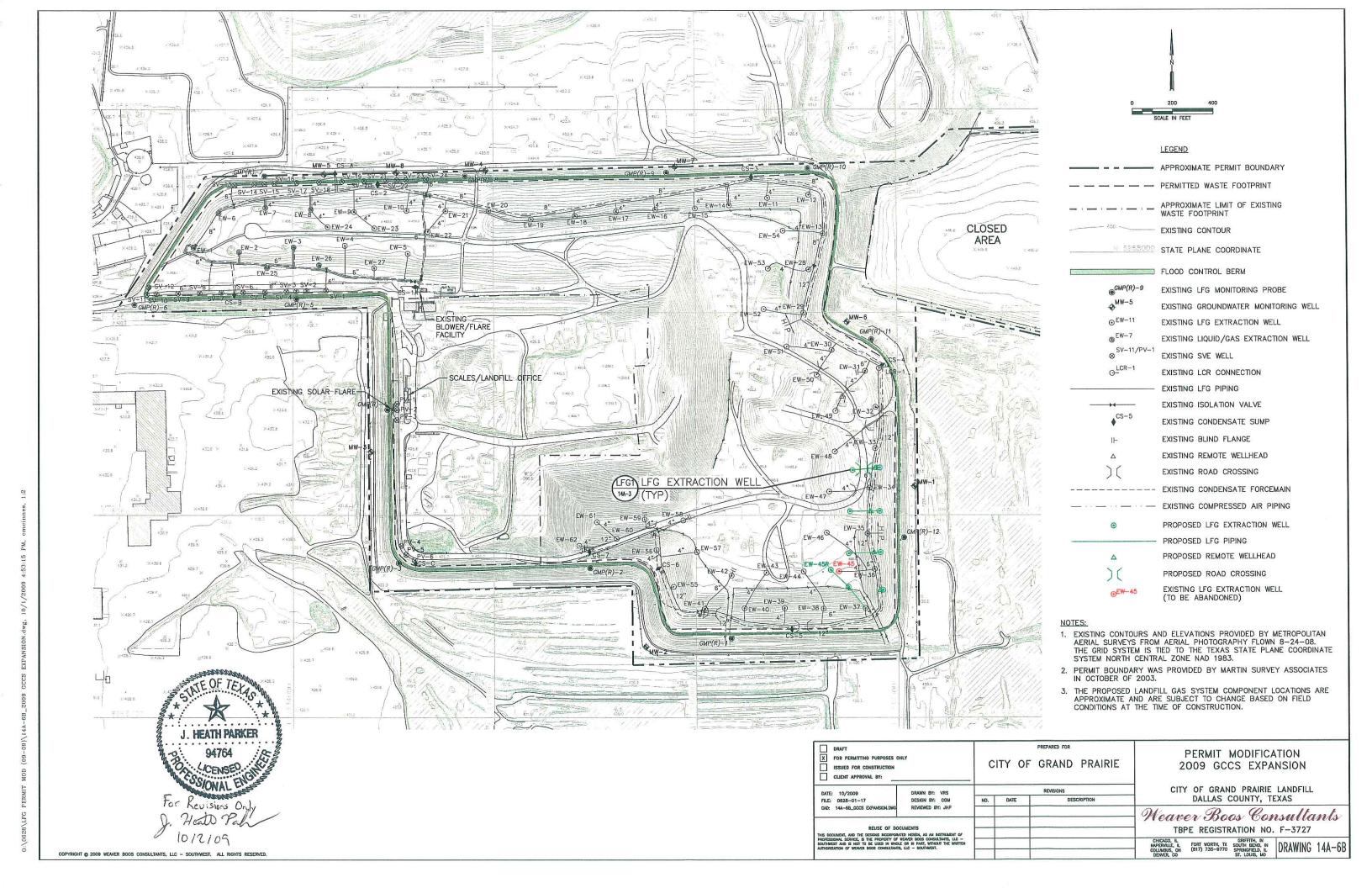
The City of Grand Prairie Landfill currently has an NMOC emission rate of less than 50 megagrams per year. As such, the site is not currently subject to the EG requirements for the operation and maintenance of the GCCS. The City of Grand Prairie Landfill will however continue to follow current industry accepted guidelines and practices for the system operation and maintenance, as well as any requirements stipulated under currently issued TCEO air authorizations.

6.6 Soil Vapor Extraction System

In order to provide additional controls for limiting LFG migration, soil vapor extraction (SVE) wells will be installed in selected areas where gas migration is evident. The SVE wells will be installed in vertical borings drilled between the limits of waste and affected probes and corrective action groundwater monitoring wells. SVE well depths will be

based on the depth of the adjacent probes. Each SVE well will be equipped with a wellhead similar to those installed on the LFG extraction wells. A typical detail for an SVE well can be found on Drawing 14A-7.



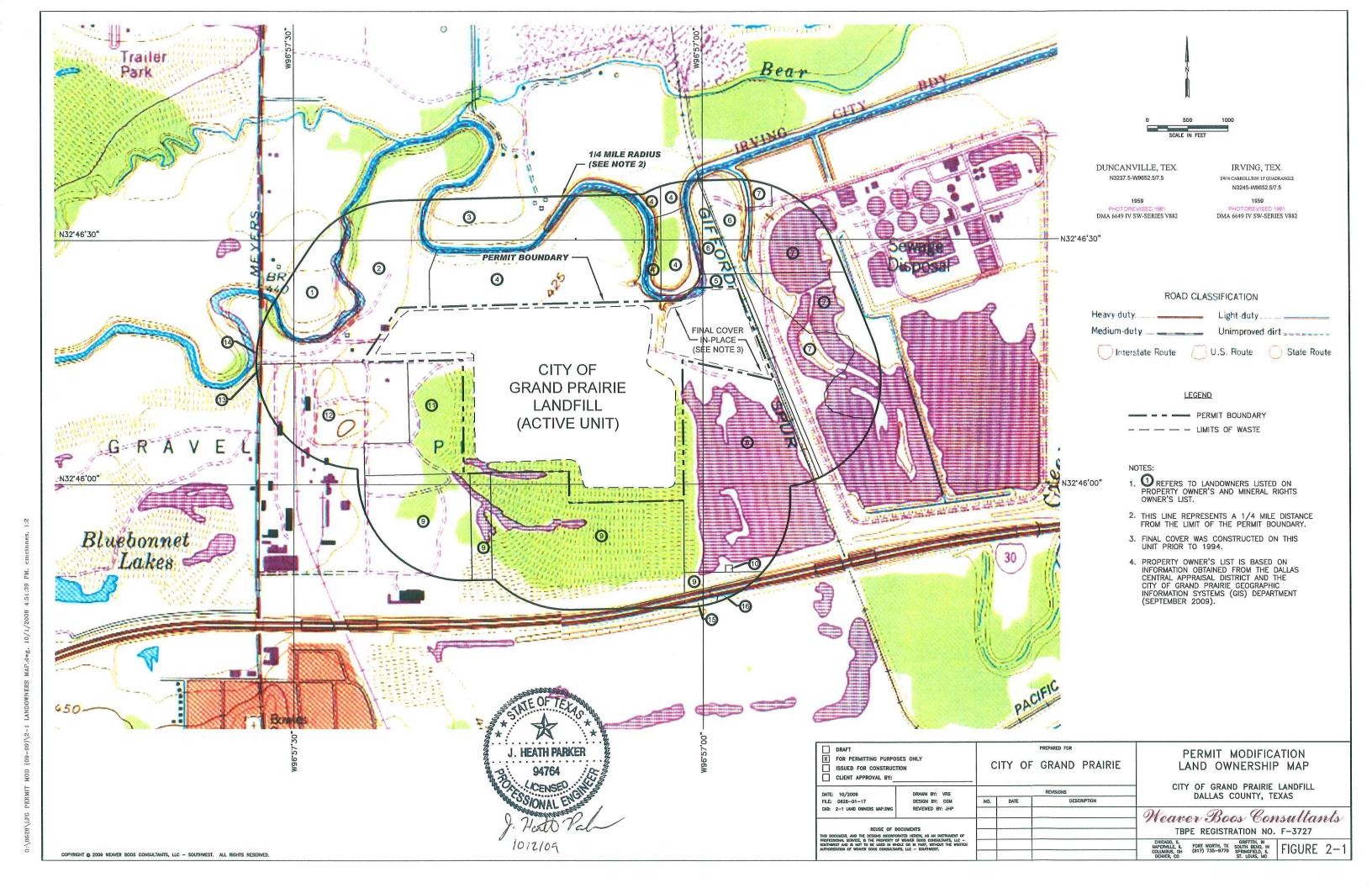


ATTACHMENT 2 LANDOWNERS LIST AND MAP

PROPERTY OWNER'S AND MINERAL RIGHTS OWNER'S LIST*

1.	AL NAYEM INTERNATIONAL C/O MARGARITA TREVINO 5026 REDWATER DR ARLINGTON, TEXAS 76018-2014	9.	CORNERSTONE C & M INC C/O PROPERTY TAX DEPT 8505 FREEPORT PKWY STE 500 IRVING, TEXAS 75063-2591
2.	BEAZER WEST INC PO BOX 190999 DALLAS, TEXAS 75219-0999	10.	CLEAR CHANNEL OUTDOOR INC 3700 E RANDOL MILL RD ARLINGTON, TEXAS 76011-5435
3.	PLATTNER HERMAN H ETAL SUITE 100-711 25 HIGHLAND PARK VLG DALLAS, TEXAS 75205-2789	11.	GIFFORD HILL AMER INC 1003 MACARTHUR BLVD GRAND PRAIRIE, TEXAS 75050-7943
4.	GRAND PRAIRIE CITY OF 317 COLLEGE ST GRAND PRAIRIE, TEXAS 75050-5636	12.	GIFFORD HILL AMERICAN PO BOX 569470 DALLAS, TEXAS 75356-9470
5.	BEAZER WEST INC C/O LAND DEPT 2515 MCKINNEY AVE FL 10 DALLAS, TEXAS 75201-1908	13.	EQUITABLE INVESTMENTS INC G L HARRIS 8320 MEADOWBROOK DR FORT WORTH, TEXAS 76120-5321
6.	TRINITY RIVER AUTHORITY OF TEXAS 5300 S COLLINS ST ARLINGTON, TEXAS 76018-1710	14.	GRIFFIN JULES P ET AL C/O DOROTHY DARBY 501 MURL DR IRVING, TEXAS 75062-8008
7.	TRINITY RIVER AUTHORITY PO BOX 60 ARLINGTON, TEXAS 76004-0060	15.	MACK INTERMEDIARY LLC PO BOX 2867 LONGVIEW, TEXAS 75606-2867
8.	W HALL REALTY DEV LLC C/O WALLACE L HALL JR 5956 SHERRY LN STE 1810 DALLAS, TEXAS 75225-8029	16.	SOUTH IH 30 LTD ATTN JAMES E SOWELL 1601 ELM ST STE 300 DALLAS, TEXAS 75201-7277

^{*} In accordance with 330.59(c)(3), the availability of mineral ownership beneath the facility has been investigated. Based on conversations with the Dallas Appraisal District, their records do not include mineral ownership.



ATTACHMENT 3 TCEQ PERMIT APPLICATION PART I FORM



Texas Commission on Environmental Quality

Permit or Registration Application for Municipal Solid Waste Facility

Part I

A. General Information

Facility Name:	City of Grand Prairie Landfill		
Physical or Street Address (if available):	1102 Macarthur Boulevard		
(City) (County)(State)(Zip Code):	Grand Prairie Dallas	TX	75053
(Area Code) Telephone Number:	(972) 237-4550		
Charter Number:			

If the application is submitted on behalf of a corporation, provide the Charter Number as recorded with the Office of the Secretary of State for Texas.

Operator Name ¹ .	City of Grand Prairie		
Mailing Address:	1102 Macarthur Boulevard		
(City) (County)(State)(Zip Code):	Grand Prairie Dallas	TX	75053
(Area Code) Telephone Number:	(972) 237-4550		
(Area Code) FAX Number:	(817) 563-1224		
Charter Number:			

If the permittee is the same as the operator, type "Same as Operator".

Permittee Name:	Same as Operator		
Physical or Street Address (if available).			
(City) (County)(State)(Zip Code):	,	TX	
(Area Code) Telephone Number			
Charter Number:			

If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

Agent Name:	Patricia Redfearn		
Mailing Address:	1102 Macarthur Boulevard		
(City) (County)(State)(Zip Code)	Grand Prairie Dallas	TX	75053
(Area Code) Telephone Number:	(972) 237-8147		
(Area Code) FAX Number:	(817) 563-1224		

Application Type:

Application Type.				
Permit	Major Amendment	☐ Mi	nor Amendmei	at .
Registration	Modification	Te	mporary Autho	rization
	w/Public Notice			
plant transfer and a first transfer	w/out Public Notice		tice of Deficie	acy Response

¹ The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on this application [Section 361.087 Texas Health and Safety Code].

Faci	lity Classification:						
\boxtimes	Type I		Гуре ГУ		Type V		Type IX
	Type I AE		Type IV AE		Type VI		
					. 1. 3.		
	rities covered by this	applica			oiy):	1	
	Storage Processing Disposal						
Was	te management unit	s cover	ed by this applica	ation (check all that apply):		
	Containers		Tanks		Surface	\boxtimes	Landfills
					Impoundments		
	Incinerators		Composting		Type IV		Type IX
					Demonstration		Energy/Material
				L	Unit		Recovery
	Other (Specify)				Other (Specify)		
	Other (Specify)				Other (Specify)		
r. er. er. er. er.				S. Carlo (027.		4	= #E-20-TAG/OP==-1:=
	is submittal part of a	Consc	lidated Permit Pr	ocess	ing request, in accor	dance	with 30 TAC Chapter
33?	☐ Yes 🖾 N	^					
<u> </u>	LITES MIN	0					
If ve	s, state the other T	EO pr	ogram authorizati	ons re	equested.		
				mantagolig (Thomas No. agill)	•		
Prov	ride a brief descripti	on of t	he portion of the	facilit	y covered by this ap	plicati	on. For amendments,
mod	lifications, and temp	orary a	authorizations, pr	ovide	a brief description	of the	exact changes to the
permit or registration conditions and supporting documents referenced by the permit or registration.							
Also, provide an explanation of why the amendment, modification, or temporary authorization is							
requested. The purpose of this permit modification is to modify the site's existing Attachment 14-Landfill Gas							
Mor	purpose of this pe	mit m movto	incorporate the p	ronos	ed expansion of the	facilit	y's existing landfill gas
(IF	ayement Han (LON 3) collection and o	ontrol :	system (GCCS).	This	permit modification	is ne	ecessary to remediate
elev	ated methane conce	ntratio	ns in gas probe G	MP(F	R)-12.		,
					•		

Doe	s the application cor	itain co	nfidential Materia	123 [☐ Yes 🖾 No		

If yes, cross-reference the confidential material throughout the application and submit as a separate document or binder conspicuously marked "CONFIDENTIAL."

Alternative Language Notice Instructions

For certain permit applications, public notice in an alternate language is required. If an elementary school or middle school nearest to the facility offers a bilingual program, notice may be required to be published in an alternative language. The Texas Education Code, upon which the TCEQ alternative language notice requirements are based, trigger a bilingual education program to apply to an entire school district should the requisite alternative language speaking student population exist. However, there may not exist any bilingual students at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notice in an alternative language is triggered if the nearest elementary or middle school, as a part of a larger school district, is required to make a bilingual education program available to qualifying students and either the school has students enrolled at such a program on-site, or has students who attend such a program at another location in satisfaction of the school's obligation to provide such a program as a member of a triggered district.

If it is determined that an alternative language notice is required, the applicant is responsible for ensuring that the publication in the alternate language is complete and accurate in that language. Electronic versions of the Spanish template examples are available from the TCEQ to help the applicant complete

the publication in the alternative language. Alternative Language Notice Application Form: Alternative language notice confirmation for this application: Is a bilingual program required by the Texas Education Code in the school district where the facility is located? ☐YES ⊠NO (If NO, alternative language notice publication not required) 2. If YES to question 1, are students enrolled in a bilingual education program at either the elementary school or the middle school nearest to the facility? ☐ YES (IF YES to guestions 1 and 2, alternative language publication is required; If NO to question 2, then consider the next question) If YES to question 1, are there students enrolled at either the elementary school or the 3. middle school nearest to the facility who attend a bilingual education program at another location? YES (If Yes to questions 1 and 3, alternative language publication is required; If NO to question 3, then consider the next question) If YES to guestion 1, would either the elementary school or the middle school nearest to 4. the facility be required to provide a bilingual education program but for the fact that it secured a waiver from this requirement, as available under 19 TAC '89.1205(g)? YES (If Yes to questions 1 and 4, alternative language publication is required; If NO to question 4, alternative language notice publication not required) If a bilingual education program(s) is provided by either the elementary school or the middle school nearest to the facility, which language(s) is required by the bilingual program? Note: Applicants for new permits and major amendments must make a copy of the administratively complete application available at a public place in the county where the facility is, or will be, located for review and copying by the public. Public place where administratively complete permit application will be located. Public Place (e.g., public library, county Not Applicable court house, city hall, etc.): Mailing Address:

(City) (County)(State)(Zip Code): (Area Code) Telephone Number:

B. Facility Location (Not Applicable)

Except for Type I AE and Type IV AE landfill facilities, for permits, registrations, amendments, and modifications requiring public notice, provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted. www.gptx.org/environmentalservices/solidwaste/landfill/tceq.aspx Local Government Jurisdiction: Within City Limits of: Within Extraterritorial Jurisdiction of City of: Is the proposed municipal or industrial solid waste disposal or processing facility located in an area in which the governing body of the municipality or county has prohibited the disposal or processing of municipal or industrial solid waste? (If YES, provide a copy of the ordinance or order): ☐ YES Provide a description of the location of the facility with respect to known or easily identifiable landmarks. Not Applicable Detail the access routes from the nearest United States or state highway to the facility. Not Applicable Provide the latitudinal and longitudinal geographic coordinates of the facility. Latitude W Longitude Elevation (above msl) Is the facility within the Coastal Management Program boundary? ⊠ No Texas Department of Transportation District Location: TXDOT District Name & Number: Not Applicable District Engineer's Name: Street or P. O. Box: (City) (County)(State)(Zip Code): (Area Code) Telephone Number: (Area Code) FAX Number: The local governmental authority or agency responsible for road maintenance: Agency Name Not Applicable Contact Person's Name: Street or P. O. Box: (City) (County)(State)(Zip Code): (Area Code) Telephone Number: (Area Code) FAX Number: State Representative: District Number: Not Applicable State Representative's Name: District Office Address: (City) (County)(State)(Zip Code): (Area Code) Telephone Number: (Area Code) FAX Number:

State Senator:	Wender!
District Number	Not Applicable
State Senator's Name.	
District Office Address:	
(City) (County)(State)(Zip Code):	
(Area Code) Telephone Number.	
(Area Code) FAX Number	
Council of Government (COG) Information	n:
COG Name:	Not Applicable
COG Representative's Name:	
COG Representative's Title	
Street or P. O. Box:	
(City) (County)(State)(Zip Code):	
(Area Code) Telephone Number.	
(Area Code) FAX Number:	
River Basin Information:	
River Authority:	Not Applicable
Contact Person's Name:	
Watershed Sub-Basin Name:	
Street or P. O. Box	
(City) (County)(State)(Zip Code):	
(Area Code) Telephone Number.	
(Area Code) FAX Number.	
	ict of the U.S. Army Corps of Engineers:
Albuquerque, NM Ft. Worth,	TX 🔲 Galveston, TX 🔲 Tulsa, OK

C. Maps (Not Applicable)

General

For permits, registrations, and amendments only, submit a topographic map, ownership map, county highway map, or a map prepared by a registered professional engineer or a registered surveyor which shows the facility and each of its intake and discharge structures and any other structure or location regarding the regulated facility and associated activities. Maps must be of material suitable for a permanent record, and shall be on sheets 8-1/2 inches by 14 inches or folded to that size, and shall be on a scale of not less than one inch equals one mile. The map shall depict the approximate boundaries of the tract of land owned or to be used by the applicant and shall extend at least one mile beyond the tract boundaries sufficient to show the following:

each well, spring, and surface water body or other water in the state within the map area;

the general character of the areas adjacent to the facility, including public roads, towns and the nature of development of adjacent lands such as residential, commercial, agricultural, recreational, undeveloped, etc;

the location of any waste disposal activities conducted on the tract not included in the application; and

the ownership of tracts of land adjacent to the facility and within a reasonable distance from the proposed point or points of discharge, deposit, injection, or other place of disposal or activity.

General location maps

For permits, registrations, and amendments only, submit at least one general location map at a scale of one-half inch equals one mile. This map shall be all or a portion of a county map prepared by Texas Department of Transportation (TxDOT). If TxDOT publishes more detailed maps of the proposed facility area, the more detailed maps shall also be included in Part I. Use the latest revision of all maps.

Land ownership map

Provide a map that locates the property owned by adjacent and potentially affected landowners. The maps should show all property ownership within 1/4 mile of the facility, on-site facility easement holders, and all mineral interest ownership under the facility.

Landowners list

Provide the adjacent and potentially affected landowners' list, keyed to the land ownership map with each property owner's name and mailing address. The list shall include all property owners within 1/4 mile of the facility, easement holders, and all mineral interest ownership under the facility. Provide the property, easement holders', and mineral interest owners' names and mailing addresses derived from the real property appraisal records as listed on the date that the application is filed. Provide the list in electronic form, as well.

D. Property owner information (Not Applicable)

For permits, registrations, amendments, and modifications that change the legal description, a change in owner, or a change in operator only, provide the following:

- (1) the legal description of the facility;
 - (A) the abstract number as maintained by the Texas General Land Office for the surveyed tract of land;
 - (B) the legal description of the property and the county, book, and page number or other generally accepted identifying reference of the current ownership record;
 - (C) for property that is platted, the county, book, and page number or other generally accepted identifying reference of the final plat record that includes the acreage encompassed in the application and a copy of the final plat, in addition to a written legal description:
 - (D) a boundary metes and bounds description of the facility signed and sealed by a registered professional land surveyor;
 - (E) on-site easements at the facility, and
 - (F) drawings of the boundary metes and bounds description; and
- (2) a property owner affidavit signed by the owner.

E. Legal authority (Not Applicable)

Provide verification of the legal status of the owner and operator, such as a one-page certificate of incorporation issued by the secretary of state. List all persons having over a 20% ownership in the proposed facility.

Indicate Ownership		manner Pinesumannon er a reason i mercano de la como de			
Private	Corporation	Partnership	Proprietor:		Profit
				and desired the second	nization
Public _	Federal	Military	State	Regio	onal
County	Municipal	Other			
		(Specify)			
Does the operator	own the facility unit	s and the facility proj	perty? 🗌 Yes	□ No	
If "No " for poroit	conictrations amo	ndments, and modif	ications that char	ages the legal des	erintion a
		ators submit a copy of			
		appropriate, and ide			
Owner Name:		Not Apr		and the second s	
Street or P. O. Box	C				
(City) (County)(St	ate)(Zip Code):				
(Area Code) Telep	A CONTRACTOR OF THE PROPERTY O				
(Area Code) FAX 1	Cont. D. William Committee Control of the Control of Co				
Charter Number:					
Roune et a sommand field region to beneficiore to frequencia et parablesto.		100000000000000000000000000000000000000			***************************************
F. Evidence of	f competency (No	t Applicable)			
	• • •				
		ts, and modifications			
		submit a list of all	Texas solid was	te sites that the o	owner and
and a local constraint to an experience to begin one rather a facility basis in the Labelland was for 1997 1997		in the last ten years.		TT 6	
Site Name	Site Type	Permit/Reg. No.	County	Dates of O	peration
Not Applicable					
				1. 1. 11.	
have a direct finan		all states, territories,	or countries in w	nich the owner an	u operator
Site Name	Location	Dates of Opera	tion	Regulatory Agen	637
Site Name	Location	Dates of Opera	11011	(Name & Addres	
Not Applicable				Alvaine of Addice	3)
Mot Applicable					
	<u></u>	- Annabalanta Anthonomia Anthonom			
A licensed solid wa	ste facility supervis	or, as defined in 30	TAC Chapter 30	Occupational Lic	enses and
Registrations will be	employed before c	ommencing facility o	peration.	, ooopalional III	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		.	<u>.</u>		
Provide the name	s of the principals	and supervisors of	of the owner's a	nd operator's org	ganization,
		other organizations e		100 100 100 100 100 100 100 100 100 100	
Name	Pre	vious Affiliation	0	ther Organization	
Not Applicable	W				
		· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·
Tor landfill marmit s	annlinations only o	vidence of compete	nov to aparata t	ho facility shall a	leo include

For landfill permit applications only, evidence of competency to operate the facility shall also include landfilling and earthmoving experience if applicable, and other pertinent experience, or licenses as described in 30 TAC Chapter 30 possessed by key personnel. The number and size of each type of equipment to be dedicated to facility operation will be specified in greater detail on Part IV of the application within the site operating plan.

Landfilling/Earthmoving Equipment Types	Personnel Experience or Licenses
Not Applicable	

For mobile liquid waste processing units, submit a list of all solid waste, liquid waste, or mobile waste units that the owner and operator have owned or operated within the past five years. Submit a list of any final enforcement orders, court judgments, consent decrees, and criminal convictions of this state and the federal government within the last five years relating to compliance with applicable legal requirements relating to the handling of solid or liquid waste under the jurisdiction of the commission or the United States Environmental Protection Agency. Applicable legal requirement means an environmental law, regulation, permit, order, consent decree, or other requirement.

	Texas and federal final enforcement orders, court
units owned or operated within past 5	judgments, consent decrees, and criminal convictions
years Not Applicable	
Not Applicable	
	· · · · · · · · · · · · · · · · · · ·

G. Appointments (Not Applicable)

Provide documentation that the person signing the application meets the requirements of 30 TAC §305.44, Signatories to Applications. If the authority has been delegated, provide a copy of the document issued by the governing body of the owner or operator authorizing the person that signed the application to act as agent for the owner or operator.

H. Application Fees

For a new permit, registration, amendment, modification, or temporary authorization, submit a \$150 application fee.

For authorization to construct an enclosed structure over an old, closed municipal solid waste landfill in accordance with 30 TAC 330 Subchapter T, submit a \$2,500 application fee.

If paying by check, send payment to:

Texas Commission on Environmental Quality Financial Administration Division, MC 214 P. O. Box 13087 Austin, Texas 78711-3087

Payment maybe made online using TCEQ e	-pay at www.fceg.state.tx.us/e-services/
E-pay confirmation number	582EA000059448

PROPERTY OWNER AFFIDAVIT (NOT APPLICABLE)

"[,	
(property owner)	
acknowledge that the State of Texas may hold me either jointly or seve maintenance, and closure and post-closure care of the facility. For a fa closure, I acknowledge that I have a responsibility to file with the coun public advising that the land will be used for a solid waste facility prior begins operating as a municipal solid waste landfill facility, and to file a disposal operations and closure of the landfill units in accordance with 1 §330.19, Deed Recordation. I further acknowledge that I or the oper have access to the property during the active life and post-closure car for the purpose of inspection and maintenance."	cility where waste will remain after ty deed records an affidavit to the to the time that the facility actually final recording upon completion of Fitle 30 Texas Administrative Code ator and the State of Texas shal
(Owner signature)	(Date)

Signature Page

g the possibility of fine and imprisonment for k	her and age the litted is, Inificant
Carw Date: 10-1-09	 •=
HE APPLICATION IS SIGNED BY AN AUTHO	RIZED
ereby designate	
(Print or Type Representative	Name)
orized representative in support of the application is any permit which might be issued based up	on, and
Signature	
	•
	-
signature said Patricia Redfean , 2009	-
said Patricia Redfean	- -
	the possibility of fine and imprisonment for king the possibility of fine and possible for a fine at any hearing or before and/or appear for me at any hearing or before and/or appear for me at any hearing or before and/or appear for me at any hearing or before and/or appear for me at any hearing or before and/or appear for me at any hearing or before and/or appear for me at any hearing or before any permit which might be issued based up any permit which might be issued based up

ATTACHMENT 4 ATTACHMENT 14 REVISION PAGES (REDLINE/STRIKEOUT FORMAT)

CITY OF GRAND PRAIRIE LANDFILL DALLAS COUNTY, TEXAS TCEQ PERMIT APPLICATION NO. MSW-996C

PART III – SITE DEVELOPMENT PLAN ATTACHMENT 14 LANDFILL GAS MANAGEMENT PLAN

PERMIT MODIFICATIONS

Revised June 2009

Revised October 2009

Prepared by

Weaver Boos Consultants, LLC-Southwest

TBPE Registration No. F-3727 6420 Southwest Blvd., Suite 206 Fort Worth, Texas 76109 817-735-9770

CONTENTS

1	INTRODUCTION		14-1
	1.1	Scope	14-1
	1.2	Purpose	14-1
2	SITE CHARACTERISTICS		14-2
	2.1	Introduction	14-2
	2.2	Geologic Conditions	14-2
	2.3	Hydrogeologic Conditions	14-3
	2.4	Hydraulic Conditions	14-3
	2.5	Facility Structures Within the Permit Boundary	14-3
	2.6	Underground Utilities	14-4
	2.7	Land Use and Offsite Structures	14-4
	2.8	Nature and Age of Waste	14-4
	2.9	Climate	14-5
	2.10	Depth of Waste and Liner Description	14-5
3	MONITORING		14-6
	3.1	Perimeter Monitoring	14-6
	3.2	Monitoring of Facility Structures	14-8
	3.3	Recordkeeping/Reporting	14-8
	3.4	Contingency Monitoring Plan	14-9
4	EXC	EEDANCE ACTION PLAN	14-11
	4.1	Exceedance Response Measures	14-11
	4.2	Notification Procedures	14-13
	4.3	Placement into Operating Record	14-13
5	REM	EDIATION PLAN	14-15
6	LFG SYSTEM		14-16
	6.1	Existing LFG Collection and Control System	14-16
	6.2	Proposed GCCS Improvements	14-17
	6.3	GCCS Expansion for Vertical Expansion	14 -17 18
	6.4	Future LFG Control Capacity	14-18
	6.5	GCCS Operation and Maintenance	14-18
	6.6	Soil Vapor Extraction System	14-18

Weaver Boos Consultants, LLC-Southwest
TBPE Firm Registration No. F-3727
Rev. 0, 3/24/2006
Rev. 1, 3/27/2007
Rev. 1, 3/27/2009
Attachment 14

currently is not required to comply with the NSPS requirements for GCCS installation, operation, monitoring, record keeping and reporting.

6.2 Proposed GCCS Improvements

As the site develops, additional extraction wells will be installed as needed to reduce the buildup of internal gas pressures caused by the increased generation of LFG. The locations and details of the anticipated proposed extraction wells are shown on Drawing 14A-2. Based on industry standards for internal extraction wells, a spacing of approximately 250 feet was used to develop the future extraction well layout. Each extraction well will be equipped with a control valve and monitoring port as shown on Drawing 14A-3. These control valves and monitoring ports, used in conjunction with controls on the blower, will allow the site to regulate vacuum and LFG levels at each individual extraction well. This will allow the site to make adjustments in order to effectively reduce the potential for subsurface migration and odors, as well as to protect the integrity of the final cover system.

Each LFG extraction well will consist of a perforated pipe within a well-bore backfilled with gravel. The LFG extraction wells will be installed as the landfill develops in accordance with the NSPS requirements and as needed to control odors.

6.2.1 2007 GCCS Upgrades

The proposed 2007 GCCS upgrades includes the installation of additional LFG extraction wells along the eastern perimeter, soil vapor extraction (SVE) wells near the northwestern perimeter, conversion of six passive vents into active SVE wells near GMP(R)-3 and GMP(R)-4, a solar blower/flare facility, a new blower at the existing flare facility, and related piping as shown in Drawing 14A-6.

6.2.2 2008 GCCS Expansion

The proposed 2008 GCCS Expansion includes the installation of eight additional LFG extraction wells, two condensate sumps, and related piping as shown on Drawing 14A-6A.

6.2.3 2009 GCCS Expansion

The proposed 2009 GCCS Expansion includes the installation of eight additional LFG extraction wells, the abandonment and redrill of EW-45, and related piping as shown on Drawing 14A-6B.

6.3 GCCS Expansion for Vertical Expansion

The proposed vertical expansion for the City of Grand Prairie Landfill consists of an overlay of additional waste placed over a portion of the existing landfill footprint. As the expansion is developed, additional vertical wells will be incrementally installed to provide LFG collection and control from the additional waste materials. As the landfill develops and waste placement approaches the existing wells, the well will either be extended vertically, or the valve will be relocated horizontally to a location that is outside of the waste fill or the well will be redrilled after waste filling is completed. The locations of the proposed extraction wells are shown on Drawing 14A-2. The collection points will be connected to the existing GCCS for discharge to the existing LFG flare facility.

6.4 Future LFG Control Capacity

Using the EPA Landfill Gas Emissions Model, it is estimated that the site will generate a maximum of approximately 2,740 standard cubic feet per minute (scfm) of LFG (Appendix 14D). As such, additional collection and control equipment will be installed to provide the vacuum and capacity needed to handle the predicted maximum design flow rate of the GCCS. The City of Grand Prairie LFG flare currently operates under Standard Air Permit No. 43841 issued by the TCEQ in April 2000. Future expansions of the control equipment by the City of Grand Prairie Landfill, which may increase site emissions, will be performed following TCEQ approval of the appropriate air authorization.

6.5 GCCS Operation and Maintenance

The City of Grand Prairie Landfill currently has an NMOC emission rate of less than 50 megagrams per year. As such, the site is not currently subject to the EG requirements for the operation and maintenance of the GCCS. The City of Grand Prairie Landfill will however continue to follow current industry accepted guidelines and practices for the system operation and maintenance, as well as any requirements stipulated under currently issued TCEQ air authorizations.

6.6 Soil Vapor Extraction System

In order to provide additional controls for limiting LFG migration, soil vapor extraction (SVE) wells will be installed in selected areas where gas migration is evident. The SVE wells will be installed in vertical borings drilled between the limits of waste and affected probes and corrective action groundwater monitoring wells. SVE well depths will be

Weaver Boos Consultants, LLC-Southwest TBPE Firm Registration No. F-3727

Rev. 2, 6/05/2009 Rev. 3, 10/2/2009 based on the depth of the adjacent probes. Each SVE well will be equipped with a wellhead similar to those installed on the LFG extraction wells. A typical detail for an SVE well can be found on Drawing 14A-7.