



# Texas Commission on Environmental Quality

## Waste Permits Division Correspondence

### Cover Sheet

Date: July 2025

Facility Name: City of Uvalde Landfill

Permit or Registration No.: 1725

Nature of Correspondence:

☐ Initial/New

☒ Response/Revision to TCEQ Tracking No.:  
31432047 (from subject line of TCEQ letter  
regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

**Table 1 - Municipal Solid Waste Correspondence**

Applications	Reports and Notifications
<input type="checkbox"/> New Notice of Intent	<input type="checkbox"/> Alternative Daily Cover Report
<input type="checkbox"/> Notice of Intent Revision	<input type="checkbox"/> Closure Report
<input type="checkbox"/> New Permit (including Subchapter T)	<input type="checkbox"/> Compost Report
<input type="checkbox"/> New Registration (including Subchapter T)	<input type="checkbox"/> Groundwater Alternate Source Demonstration
<input type="checkbox"/> Major Amendment	<input type="checkbox"/> Groundwater Corrective Action
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> Limited Scope Major Amendment	<input type="checkbox"/> Groundwater Background Evaluation
<input checked="" type="checkbox"/> Notice Modification	<input type="checkbox"/> Landfill Gas Corrective Action
<input type="checkbox"/> Non-Notice Modification	<input type="checkbox"/> Landfill Gas Monitoring
<input type="checkbox"/> Transfer/Name Change Modification	<input type="checkbox"/> Liner Evaluation Report
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Soil Boring Plan
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Special Waste Request
<input type="checkbox"/> Subchapter T Disturbance Non-Enclosed Structure	<input type="checkbox"/> Other:
<input type="checkbox"/> Other:	

**Table 2 - Industrial & Hazardous Waste Correspondence**

Applications	Reports and Responses
<input type="checkbox"/> New	<input type="checkbox"/> Annual/Biennial Site Activity Report
<input type="checkbox"/> Renewal	<input type="checkbox"/> CPT Plan/Result
<input type="checkbox"/> Post-Closure Order	<input type="checkbox"/> Closure Certification/Report
<input type="checkbox"/> Major Amendment	<input type="checkbox"/> Construction Certification/Report
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> CPT Plan/Result
<input type="checkbox"/> CCR Registration	<input type="checkbox"/> Extension Request
<input type="checkbox"/> CCR Registration Major Amendment	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> CCR Registration Minor Amendment	<input type="checkbox"/> Interim Status Change
<input type="checkbox"/> Class 3 Modification	<input type="checkbox"/> Interim Status Closure Plan
<input type="checkbox"/> Class 2 Modification	<input type="checkbox"/> Soil Core Monitoring Report
<input type="checkbox"/> Class 1 ED Modification	<input type="checkbox"/> Treatability Study
<input type="checkbox"/> Class 1 Modification	<input type="checkbox"/> Trial Burn Plan/Result
<input type="checkbox"/> Endorsement	<input type="checkbox"/> Unsaturated Zone Monitoring Report
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Waste Minimization Report
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Other:
<input type="checkbox"/> 335.6 Notification	
<input type="checkbox"/> Other:	

July 25, 2025  
SCS Project No. 16224067.00

Mr. Arten Avakian  
MSW Permits Section – MC 124  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711

Subject: City of Uvalde MSW Landfill - Uvalde County  
Municipal Solid Waste - Permit No. 1725  
Permit Modification Application – Landfill Gas Management Plan – Notice of  
Technical Deficiency  
Tracking No. 31432047; RN102803921 / CN600648455

Dear Mr. Avakian:

On behalf of City of Uvalde (City), SCS Engineers (SCS) has prepared the following response to the Texas Commission on Environmental Quality's (TCEQ's) April 28, 2025 Permit Modification Application – Landfill Gas Management Plan – Notice of Technical Deficiency (NOD) email, related to the permit modification to address revisions to Attachment 14 - Landfill Gas Management Plan (LGMP).

For ease of review, we have included your original comments from the April 28, 2025, NOD #1, followed by our response and/or revision in ***bold/italics***.

- A1. Revise the cover letter for the modification to indicate the date of the email from TCEQ that contained specific questions and comments was July 30, 2024 (rather than June 30, 2024).

***The permit modification cover letter has been revised to reflect the correct date (July 30, 2024) of TCEQ comments related to the LGMP.***

- A2. On the Attachment 14 title page, delete the last part of the note ("and is accepted as presented, but SCS Engineers cannot attest to its accuracy").

***Part III, Att. 14, Title Page: The note has been removed as requested.***

- A3. In Section 3.2.1, indicate that the Methane Monitoring and Recording Form is in Appendix A.

***Part III, Att. 14, Section 3.2.1, Page 8: Reference to Appendix A has been indicated as requested.***

- A4. Revise the second paragraph of Section 3.2.4 to indicate that a permit modification will be submitted any time a gas monitoring probe (GMP) or vent needs to be replaced, regardless of the distance of the replacement probe or vent from the probe or vent being replaced.

***Part III, Att. 14, Section 3.2.4, Page 8: The second paragraph has been revised to indicate that a permit modification will be submitted if a gas probe or vent needs to be replaced.***

- A5. Address the following items regarding Figure 3.1, Gas Monitoring Features Location Map, and Sections 4.1.1, 4.1.2, and 4.1.3 of the narrative:

A5a. Figure 3.1, Gas Monitoring Features Location Map

- (i) Review and revise the map to ensure it shows all probes, vents, extraction wells, and other features that currently exist at the facility, and that all are labelled correctly.

***Part III, Att. 14, Figure 3.1, Page 18: One (1) existing whirly bird vent and proposed Phase 4.0 & 5.0 passive vents from the updated landfill gas remediation plan, dated May 29, 2025, have been added to Figure 3.1. All other current features are shown and labelled correctly.***

- (ii) Add a bar scale to the inset map.

***Part III, Att. 14, Figure 3.1, Page 18: A bar scale has been added as requested.***

A5b. Section 4.1.1, Passive Vents

- (i) In the discussion of remediation efforts in 2004, document what became of vent GMV-3.

***Part III, Att. 14, Section 4.1.1, Page 11: Abandonment of GMV-3, as part of the September 2, 2022 Landfill Gas Remediation Plan (LGRP), has been added to the 2004 remediation efforts paragraph.***

- (ii) In the discussion of remediation efforts in 2010, document what became of vents GMV-5 and GMV-6.

***Part III, Att. 14, Section 4.1.1, Page 11: Abandonment of GMV-5 and GMV-6, as part of the September 2, 2022 LGRP, has been added to the 2010 remediation efforts paragraph.***

- (iii) In the discussion of remediation efforts in 2018, document what became of vents GMV-7 and GMV-7a.

***Part III, Att. 14, Section 4.1.1, Page 11: Abandonment of GMV-7 and GMV-7a, as part of the September 2, 2022 LGRP, has been added to the 2018 remediation efforts paragraph.***

A5c. In Section 4.1.3, Gas Collection and Control System, list the gas extraction wells that currently exist, and any that were installed and later abandoned.

***Part III, Att. 14, Section 4.1.3, Page 12: EW-11, EW-12, EW-13 and EW-14, as part of the September 2, 2022 LGRP, have been listed in the 2023 remediation efforts paragraph. No additional extraction wells have been installed or abandoned-to-date. Phase 4.0 of the September 2, 2022, LGRP was not implemented.***

A6. Probe and vent construction details

A6a. Provide boring logs for gas probes, with survey data.

***Part III, Att. 14, Appendix C: Unfortunately, no additional boring log data was able to be located. All available boring log data has already been included in the original permit modification submittal.***

- A6b. Provide individual logs for each probe and vent showing construction details and critical elevations (including ground surface, probe depth, top of casing, top of seal, top of filter pack, and top of screen).

***Part III, Att. 14, Pages 19-20: Related to individual logs for each probe and vent, see response to comment 6a. Construction details for the existing gas monitoring probes and vents remain unchanged from the current Landfill Gas Management Plan (LGMP) (including their page numbers); therefore, they were not included in the original permit modification submittal. Construction Details for the temporary probes and vents are included in Appendix B, related to LGRPs, as part of the May 8, 2018 LGRP, Figures 4.0 and 6.0, respectively. The construction details for the extraction wells are included in Appendix B, as part of the September 2, 2022 LGRP, Drawing No. 2. Related to critical elevations for probes, vents, and extraction wells, see response to comment A6c.***

- A6c. Revise Table 2.0, Gas Monitoring Probe Completion Details to include critical elevations.

***Part III, Att. 14, Tables 2.0 and 3.0, Pages 23 and 24, respectively: The tables have been updated to include critical elevations such as: ground surface, top of casing, probe depth, top of seal, top of filter pack and top of screen. Ground surface elevations were determined from the most recent survey data dated October 16, 2024, while probe depths were measured in the field for all features except the extraction well log data included in Appendix C. Due to the lack of as-built well logs for all other features, the other critical elevations listed are derived from the existing details included in the permit application, if available.***

Additional information requested per TCEQ letter dated June 16, 2025, Tracking No: 31618678:

***Part III, Att. 14, Section 4.1.1, Page 12, the narrative has been updated to include the updated remediation features described in the LGRP dated May 29, 2025, located in Appendix B.***

***Part III, Att. 14, Figure 3.1, page 18, the drawing has been updated to include the updated remediation features described in the LGRP dated May 29, 2025, located in Appendix B.***

Consistent with TCEQ regulations we have included Form TCEQ-2065, related to Application Form for MSW Permit or Registration Modification or Temporary Authorization, in Attachment A. Furthermore, consistent with §330.59(f), we have submitted one original and two copies of the permit modification, with one of the copies marked in a redline/strike-out format to clearly show the above-described revisions (see Attachment B for marked version and Attachment C for unmarked version for replacement pages within the approved landfill permit application).

Mr. Arten Avakian  
July 22, 2025  
Page 4

If you have questions related to the above described permit modification, please do not hesitate to call Jennifer Brown at 817-358-6130.

Sincerely,



Jennifer Brown P.E.  
Project Manager  
**SCS ENGINEERS**  
TBPE Registration No. F-3407



Ryan Kuntz, P.E.  
Vice President/Satellite Office Manager  
**SCS ENGINEERS**

Attachments: Attachment A – Permit Modification Application Form  
Attachment B – Permit Revisions (Marked)  
Attachment C – Permit Revisions (Unmarked)

cc: Mr. Juan Zamora, City of Uvalde  
TCEQ Region Office 13

**ATTACHMENT A**

**PERMIT MODIFICATION APPLICATION FORM**



# Texas Commission on Environmental Quality

## Application Form for Municipal Solid Waste Permit or Registration Modification or Temporary Authorization

### Application Tracking Information

Facility Name: City of Uvalde Landfill

Permittee or Registrant Name: City of Uvalde

MSW Authorization Number: 1725

Initial Submission Date: 03/12/2025

Revision Date: 07/25/2025

Instructions for completing this form are provided in [form TCEQ-20650-instr](#)<sup>1</sup>. If you have questions, contact the Municipal Solid Waste Permits Section by email to [mswper@tceq.texas.gov](mailto:mswper@tceq.texas.gov), or by phone at 512-239-2335.

### Application Data

#### 1. Submission Type

☐ Initial Submission ☒ Notice of Deficiency (NOD) Response

#### 2. Authorization Type

☒ Permit ☐ Registration

#### 3. Application Type

☒ Modification with Public Notice ☐ Modification without Public Notice  
☐ Temporary Authorization (TA) ☐ Modification for Name Change or Transfer

#### 4. Application Fee

##### Amount

The application fee for a modification or temporary authorization is \$150.

##### Payment Method

☐ Check  
☒ Online through ePay portal [www3.tceq.texas.gov/epay/](http://www3.tceq.texas.gov/epay/)

If paid online, enter ePay Trace Number: 582EA000658903

<sup>1</sup> [www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/20650-instr.pdf](http://www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/20650-instr.pdf)

## Attachments for Permit or Registration Modification with Public Notice

Refer to instruction document **200650-instr** for professional engineer seal requirements.

### ***Attachments Table 1. Required attachments.***

<b>Required Attachments</b>	<b>Attachment Number</b>
Land Ownership Map	N/A
Landowners List	N/A
Marked (Redline/Strikeout) Pages	B; Revised 07/25/25
Unmarked Revised Pages	C; Revised 07/25/25

### ***Attachments Table 2. Additional attachments as applicable.***

<b>Additional Attachments as Applicable (select all that apply and add others as needed)</b>	<b>Attachment Number</b>
<input type="checkbox"/> TCEQ Core Data Form(s)	N/A
<input checked="" type="checkbox"/> Signatory Authority Delegation	A
<input type="checkbox"/> Fee Payment Receipt	N/A
<input type="checkbox"/> Confidential Documents	N/A



## Signature Page

### Site Operator or Authorized Signatory

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Juan Zamora Title: Director of Public Works

Email Address: zamora@uvaldetx.gov

Signature:  Date: 7-28-25

### Operator or Principal Executive Officer Designation of Authorized Signatory

*To be completed by the operator if the application is signed by an authorized representative for the operator.*

I hereby designate \_\_\_\_\_ as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Operator or Principal Executive Officer Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

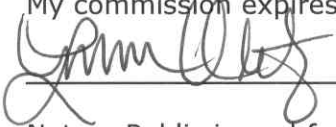
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Notary

SUBSCRIBED AND SWORN to before me by the said Juan Zamora

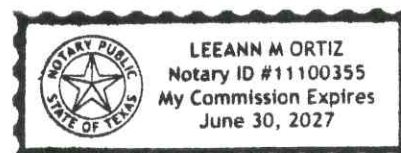
On this 28<sup>th</sup> day of July, 2025

My commission expires on the 30<sup>th</sup> day of June, 2027



Notary Public in and for

Uvalde County, Texas



Note: Application Must Bear Signature and Seal of Notary Public

**ATTACHMENT B**  
**MARKED VERSION**

March 12, 2025  
SCS Project No. 16224067.00

Mr. Arten Avakian  
MSW Permits Section – MC 124  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711

Subject: City of Uvalde MSW Landfill - Uvalde County  
Municipal Solid Waste - Permit No. 1725  
Permit Modification Application – Landfill Gas Management Plan  
RN102803921 / CN600648455

Dear Mr. Avakian:

On behalf of City of Uvalde (City), SCS Engineers (SCS) has prepared the attached permit modification application of Attachment 14 - Landfill Gas Management Plan (LGMP), as requested by Texas Commission on Environmental Quality (TCEQ) in letters dated August 23, 2024 (Tracking Nos. 29886183 and 30043922) and December 6, 2024 (Tracking No. 30360699). This permit modification has been prepared to address specific questions and/or comments provided by you in an email dated ~~June~~ July 30, 2024 and addressed to Mr. Brett DeVries, P.E., Ph.D, as described below. Specifically, the purpose of this permit modification is to update the LGMP to reflect current site conditions and incorporate complete documentation on the landfill gas (LFG) monitoring system, including temporary probes, vents, and the gas extraction system (descriptive text, tables, drawings, and appendices containing logs and construction details), specifically related to the LFG remediation efforts for GMP-4. As such, this permit modification is being submitted consistent with the 30 TAC §305.70(k)(3), related to installation of a landfill gas management system for a landfill gas remediation plan, which requires public notice.

In response to your ~~June~~ July 30, 2024 email, the following summarizes the revisions made to the LGMP, as described below in response to your questions/comments:

- Section 1.1, Site Description – Reference to prior Figure 1.3 (dated 10/21/2016) was **removed** since it is now combined with **new** Figure 1.2 (replaced prior Figure 1.2, dated 10/21/2016). Reference to prior Figure 1.4 has been corrected to the **new** Figure 3.1 (replaced prior Figure 3.1, dated 10/21/2016).
- Section 2.5, Facility Boundaries (Permitted Area) – Added the definition for the acronym, EAP – Exceedance Action Plan.
- Section 3.1, Landfill Gas Monitoring System – Removed an unnecessary reference to a previous superseded LGMP (replaced due to permit modification dated 10/21/2016) and added a reference to the added Table 2.0, Gas Monitoring Probe/Vent Completion Details; clarified what changes would be made to the LGMP should an EAP be required.
- Section 3.2.1 Gas Probe Monitoring Procedures – Identified which buildings would be monitored and referenced the monitoring form added as Appendix C.
- Section 3.2.4 Backup Monitoring Plan – Added text regarding the timeframe in which damaged/failed gas monitoring features would be repaired/replaced and what documentation would be provided and kept in the Site Operating Record, as well as when a permit modification would be necessary for such changes.

Revision 1  
July 2025

**ATTACHMENT 14**  
**LANDFILL GAS MANAGEMENT PLAN**

**CITY OF UVALDE**  
**MUNICIPAL SOLID WASTE LANDFILL**  
**TCEQ PERMIT NO. 1725**  
**UVALDE, TEXAS**

**Prepared by**  
**SCS Engineers**  
**Texas Board of Professional Engineers, Reg. No. F-3407**  
Dallas/Fort Worth Office  
1901 Central Drive, Suite 550  
Bedford, Texas 76021  
817/571-2288



*[Note: This Plan (LGMP #4) relies on information presented in previous LGMP completed and sealed by other engineers and approved by Texas Natural Resource Conservation Commission/Texas Commission on Environmental Quality ~~and is accepted as presented, but SCS Engineers cannot attest to its accuracy.~~]*

Version #4 ~~(03/12/25)~~,  
Revision #1 (07/25/25)  
SCS Engineers

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## APPENDICES

**Appendix A – Methane Monitoring and Recording Form**

**Appendix B – Landfill Gas Remediation Plans**

**Appendix C – Vertical Extraction Vents/Wells**



**SCS Engineers  
TBPE Reg. # F-3407**

- Methane concentrations as % volume will be measured and recorded at each GMP on the Methane Monitoring and Recording Form (Appendix ~~CA~~) or similar form.
- Probe condition will be visually inspected and recorded.
- Gas monitoring recordkeeping will be maintained per Section 3.2.5.

- **Exceedance Action Plan will be initiated when gas-monitoring readings confirm that methane gas concentrations > 5% volume are recorded at facility boundary.** See Section 3.0.

### 3.2.2 Backup GMP (BGMP)

As discussed in the Exceedance Action Plan (EAP-Section 4.0), probes installed to assess gas migration serve as backup-GMP (BGMP). They are located relative to the location of a reported exceedance and are not monitored unless an exceedance has occurred. Figure 3.1 shows the location of current Landfill Gas Monitoring facilities within (GMP/BGMP). Gas monitoring probe design and installation criteria are discussed in Section 3.2.

### 3.2.3 Maintenance Procedures

The permanent GMP system will be inspected on a quarterly basis during regularly scheduled monitoring events. Each probe and vent will be inspected for damage to protective barrier, casing, cap, working pad, and covers. The general maintenance conditions will be noted in the field sampling record and all damage will be repaired as soon as practical and duly recorded. Major damage to monitoring system will be reported and appropriate authorities notified in accordance with following section.

### 3.2.4 Backup Monitoring Plan

The purpose of this Backup Plan is to provide a plan of action in the event that the main monitoring system breaks down or it becomes ineffective in accordance to §330.371(g)(3).

In the event a gas monitoring probe/vent failure has been damaged and is inoperative, they will be repaired or replaced within 60 days of discovery. Upon completion of a replacement GMP/vent, an installation report including boring logs and/or construction details will be maintained in the landfill Site Operating Record. A permit modification will be submitted to the TCEQ ~~within 60 days of if~~ GMP/vent replacement ~~is required if located more than 100 feet from initial location~~, in accordance with applicable regulations 30 TAC §305.70(j)(18).



landfill gas migration. Copies of the action plan will be placed in the operating record and sent to the TCEQ. The following subsections summarize the remediation efforts at the landfill, including installation of passive vents, backup/temporary monitoring probes and gas collection and control systems.

#### 4.1.1 Passive Vents

[2004 LFG Vents in waste] To control LFG migration at GMP-1 and GMP-3 four passive gas monitoring vents (GMV-1 through GMV-4 as shown on Figure 2.0 of Appendix B, Remediation Plan (05/08/18)) were installed in Stage A to release pressure in the storage cells, see Table 3.0 for gas extraction well/vent completion information. GMV-3 was plugged and abandoned on August 1, 2023, as part of the remediation plan dated September 2, 2022.

[2010 LFG Vents in waste] Two additional vents (one in Stage A and one in Stage B) were installed to control LFG migration at GMP-4. GMV-5 and GMV-6 are shown on Figure 2.0 of Appendix B, Remediation Plan (05/08/18). GMV-5 and GMV-6 were plugged and abandoned on July 31, 2023 and August 5, 2023, respectively, as part of the remediation plan dated September 2, 2022.

[2018 Temporary LFG Vents outside waste] To continue with remediation efforts, three additional vents were installed as part of Phase 1.0 of the Remediation Plan submitted to TCEQ dated May 5, 2018, included in Appendix B. Temporary vents TV-1, TV-2 and TV-3 are shown on Figure 3.0 of the 2018 Remediation Plan. Three additional vents with whirly bird turbines were added as part of Phase 2.0 of the Remediation Plan dated May 5, 2018. Vents WB-1, WB-2, and WB-3 are shown on Figure 1 of Appendix B, Remediation Plan (05/29/25).

[2018 LFG vents in waste] To continue with remediation efforts, five additional vents were installed as part of Phase 2.0 of the Remediation Plan dated May 5, 2018. The gas vents are shown as GV-7, GV-7a, GV-8, GV-9 and GV-10 on Figure 1.0 in Appendix B, Remediation Plan Update (01/17/22). GMV-7 and GMV-7a were plugged and abandoned on August 4, 2023, as part of the remediation plan dated September 2, 2022.



[2025 LFG Vents outside waste] To continue with remediation efforts, seven additional vents will be installed next to the landfill unit boundary as part of Phase 4.0 of the remediation plan dated May 29, 2025. Passive vents PV-1 through PV-7 are shown on Figure 1 of Appendix B, Remediation Plan (05/29/25). BGMP-4.2, vents TV-1, TV-2, TV-3, WB-1, and WB-2 will be plugged and abandoned as part of Phase 4.0 as well.

#### 4.1.2 Backup/Temporary Monitoring Probes

[2010 Backup Monitoring Probes] Four backup gas monitoring probes were installed in the vicinity of GMP-4, designated as BGMP-4.1, 4.2, 4.3 & 4.4, as shown in Figure 2.0 of Appendix B, Remediation Plan (05/08/18), to identify the gas migration path.

[2018 Temporary Gas Monitoring Probes] To continue the identification of the landfill gas migration path, five temporary gas monitoring probes were installed at various depths along the north property line outside the Stage B limits of waste. Figure 3.0 of Appendix B, Remediation Plan (05/08/18) depicts the locations of TGMP-1, TGMP-2 and TGMP-3.1, 3.2, 3.3.

#### 4.1.3 Gas Collection and Control System

[2023 Vertical LFG Extraction Wells] In order to reduce gas emissions and further minimize the potential for offsite migration, an initial landfill gas collection system (GCS) was installed as shown on Drawing 1 of Appendix B, Remediation plan (09/02/22). The initial GCS included installing four vertical LFG extraction wells, EW-11, EW-12, EW-13, and EW-14, connected by lateral piping and routed to localized blowers and solar vent flares.

### 5.0 POST CLOSURE REQUIREMENTS {§330.371(e)&(f)}

This LGMP or its future approved renditions will be in place for a period of 30 years after certification of final closure of the facility. A reduction in the monitoring and control period may be approved by the TCEQ or its predecessors upon demonstration that there is no potential for gas migration beyond the property boundary or on-site structures.

Post-closure land use at the Site should not interfere with the gas monitoring and control systems and underground utilities trenches crossing the landfill boundary should be vented and monitored regularly.



**TABLE 2.0**  
**GAS MONITORING PROBE COMPLETION DETAILS**  
**LANDFILL GAS MANAGEMENT PLAN**

Probe No.	Installation Date**	Ground Surface (msl)	TOC (msl)	BOC (msl)	Probe Depth (fbgs)	Top of Seal*** (msl)	Top of Filter Pack*** (msl)	Top of Screen*** Interval (ft) (msl)	Notes
GMP-1*	1986	937.13	937.13 N/A	N/A	19.9	NIA	NIA	NIA N/A	
GMP-2*	1986	940.30	940.30 N/A	N/A	19.3	NIA	NIA	NIA N/A	
GMP-3*	2002	952.76	952.76 N/A	N/A	39.8	NIA	NIA	NIA N/A	
GMP-4*	2002	968.00	972.75 N/A	N/A	50	NIA	NIA	NIA N/A	Converted to a vent on 06/08/18
GMP-5*	2011	966.18	966.18 N/A	N/A	36.7	NIA	NIA	NIA N/A	
GMP-6*	2011	970.92	970.92 N/A	N/A	39.8	NIA	NIA	NIA N/A	
GMP-7*	2011	980.52	980.52 N/A	N/A	40	NIA	NIA	NIA N/A	
BGMP-1.1*	2004	936.80	936.80 N/A	N/A	39.3	NIA	NIA	NIA N/A	
BGMP-1.2*	2004	936.58	936.58 N/A	N/A	37.9	NIA	NIA	NIA N/A	
BGMP-1.3*	2004	937.13	937.13 N/A	N/A	39.7	NIA	NIA	NIA N/A	
BGMP-1.4*	2004	936.86	936.86 N/A	N/A	40	NIA	NIA	NIA N/A	
BGMP-1.5*	2004	936.75	936.75 N/A	N/A	38.8	NIA	NIA	NIA N/A	
BGMP-3.1*	2004	954.10	954.10 N/A	N/A	39.9	NIA	NIA	NIA N/A	
BGMP-3.2*	2004	952.67	952.67 N/A	N/A	34.5	NIA	NIA	NIA N/A	
BGMP-3.3*	2004	952.83	952.83 N/A	N/A	38.9	NIA	NIA	NIA N/A	
BGMP-4.1*	2009	967.82	967.82 N/A	N/A	26	NIA	NIA	NIA N/A	
BGMP-4.2*	2009	967.50	973.00 N/A	N/A	20	NIA	NIA	NIA N/A	Converted to a vent on 06/08/18; to be abandoned with Phase 4.0 of LGRP (05/29/25)
BGMP-4.3*	2009	967.15	974.57 N/A	N/A	38	NIA	NIA	NIA N/A	Converted to a vent on 06/08/18
BGMP-4.4*	2009	963.49	963.49 N/A	N/A	62	NIA	NIA	NIA N/A	
BGMP-12.1*	2009	957.93	957.93 N/A	N/A	47.4	NIA	NIA	NIA N/A	
TGMP-1	5/2/18	967.00	968.08 967.00	947.00	20	967.00	965.00	957.00 10-20	Refusal hit at 20' (conglomerate)
TGMP-2	5/2/18	966.00	971.75 966.00	946.00	20	966.00	964.00	956.00 10-20	Refusal hit at 20' (conglomerate); converted to vent (date unknown)
TGMP-3.1	5/3/18	966.00	967.00 966.00	926.00	40	966.00	964.00	946.00 20-40	Drilled with air rotary. Completed in Anacacho
TGMP-3.2	5/3/18	966.00	966.92 966.00	936.00	30	966.00	964.00	941.00 25-30	Drilled using air rotary. Completed in Uvalde Gravel
TGMP-3.3	5/3/18	966.00	967.33 966.00	958.00	8	966.00	964.00	966.00 0-5	Completed in Uvalde Gravel

\*Probe/vent depth was field measured due to limited available information

\*\*When exact dates are unavailable, approximate year is provided

\*\*\* See Figure 3.2 for best available information if no elevation is listed, as indicated by NIA

GMP= Gas Monitoring Probe

BGMP= Backup Gas Monitoring Probe

TGMP= Temporary Gas Monitoring Probe

N/A= Not Available NIA=No Information Available

**TABLE 3 .0**  
**GAS EXTRACTION WELL/VENT COMPLETION DETAILS**  
**LANDFILL GAS MANAGEMENT PLAN**

Well No.	Installation Date	<u>Ground Surface</u> <u>(msl)</u>	TOC (msl)	BOC (msl)	Probe Depth (fbgs)	<u>Top of Seal</u> <u>(msl)**</u>	<u>Top of Filter Pack</u> <u>(msl)**</u>	<u>Top of Screen</u> Interval (ft) <u>(msl)</u>	Notes
GMV-1*	2004	<u>985.35</u>	<u>995.02</u> <del>N/A</del>	<del>N/A</del>	45	<u>984.85</u>	<u>982.35</u>	<u>982.35</u> <del>N/A</del>	
GMV-2*	2004	<u>985.50</u>	<u>989.50</u> <del>N/A</del>	<del>N/A</del>	33	<u>985.00</u>	<u>982.50</u>	<u>982.50</u> <del>N/A</del>	
GMV-3*	2004	<u>994.10</u>	<u>=</u> <del>N/A</del>	<del>N/A</del>	23	<u>=</u>	<u>=</u>	<u>=</u> <del>N/A</del>	Abandoned on 08/01/23
GMV-4*	2004	<u>976.00</u>	<u>982.17</u> <del>N/A</del>	<del>N/A</del>	50	<u>975.50</u>	<u>973.00</u>	<u>973.00</u> <del>N/A</del>	
GMV-5*	2009	<u>993.00</u>	<u>=</u> <del>N/A</del>	<del>N/A</del>	24	<u>=</u>	<u>=</u>	<u>=</u> <del>N/A</del>	Abandoned on 07/31/23
GMV-6*	2009	<u>996.60</u>	<u>=</u> <del>N/A</del>	<del>N/A</del>	57	<u>=</u>	<u>=</u>	<u>=</u> <del>N/A</del>	Abandoned on 08/05/23
GV-7*	7/29/18	<u>995.60</u>	<u>=</u> <del>N/A</del>	<del>N/A</del>	50	<u>=</u>	<u>=</u>	<u>=</u> <del>N/A</del>	Abandoned on 08/04/23
GV-7a*	7/29/18	<u>995.85</u>	<u>=</u> <del>N/A</del>	<del>N/A</del>	57	<u>=</u>	<u>=</u>	<u>=</u> <del>N/A</del>	Abandoned on 08/04/23
GV-8*	7/29/18	<u>993.77</u>	<u>1000.44</u> <del>N/A</del>	<del>N/A</del>	50	<u>993.27</u>	<u>990.77</u>	<u>990.77</u> <del>N/A</del>	
GV-9*	7/29/18	<u>991.22</u>	<u>997.64</u> <del>N/A</del>	<del>N/A</del>	60	<u>990.72</u>	<u>988.22</u>	<u>988.22</u> <del>N/A</del>	
GV-10*	7/29/18	<u>994.61</u>	<u>1001.78</u> <del>N/A</del>	<del>N/A</del>	59	<u>994.11</u>	<u>991.61</u>	<u>991.61</u> <del>N/A</del>	
<u>WB-1*</u>	<u>7/29/18</u>	<u>968.43</u>	<u>976.18</u>		<u>35</u>	<u>NIA</u>	<u>NIA</u>	<u>NIA</u>	<u>Whirly Bird Turbine - NIA, to be abandoned with Phase 4.0 of LGRP (05/29/25)</u>
<u>WB-2*</u>	<u>7/29/18</u>	<u>968.75</u>	<u>977.00</u>		<u>39</u>	<u>NIA</u>	<u>NIA</u>	<u>NIA</u>	<u>Whirly Bird Turbine - NIA, to be abandoned with Phase 4.0 of LGRP (05/29/25)</u>
<u>WB-3*</u>	<u>7/29/18</u>	<u>966.60</u>	<u>974.60</u>		<u>39</u>	<u>NIA</u>	<u>NIA</u>	<u>NIA</u>	<u>Whirly Bird Turbine - No Details Available</u>
TV-1*	5/16/18	<u>967.30</u>	<u>968.80</u> <del>N/A</del>	<del>N/A</del>	15	<u>966.30</u>	<u>965.30</u>	<u>965.30</u> <del>N/A</del>	<u>To be abandoned with Phase 4.0 of LGRP (05/29/25)</u>
TV-2*	5/16/18	<u>968.89</u>	<u>973.89</u> <del>N/A</del>	<del>N/A</del>	13	<u>967.89</u>	<u>966.89</u>	<u>966.89</u> <del>N/A</del>	<u>To be abandoned with Phase 4.0 of LGRP (05/29/25)</u>
TV-3*	5/16/18	<u>967.80</u>	<u>973.47</u> <del>N/A</del>	<del>N/A</del>	26	<u>966.80</u>	<u>965.80</u>	<u>965.80</u> <del>N/A</del>	<u>To be abandoned with Phase 4.0 of LGRP (05/29/25)</u>
EW-11	8/1/23	<u>992.00</u>	<u>994.03</u> <del>992</del>	<del>952</del>	40	<u>990.00</u>	<u>974.00</u>	<u>972.00</u> <del>20-40</del>	
EW-12	8/1/23	<u>986.40</u>	<u>988.33</u> <del>986.4</del>	<del>947.4</del>	39	<u>984.40</u>	<u>968.40</u>	<u>966.40</u> <del>20-39</del>	
EW-13	8/1/23	<u>994.70</u>	<u>996.66</u> <del>994.7</del>	<del>947.7</del>	47	<u>992.70</u>	<u>975.70</u>	<u>974.70</u> <del>20-47</del>	
EW-14	8/2/23	<u>994.00</u>	<u>996.04</u> <del>994</del>	<del>947</del>	47	<u>992.00</u>	<u>975.00</u>	<u>974.00</u> <del>20-47</del>	

\*Probe/vent depth was field measured due to limited available information

\*\*NIA=No Information Available

GMV= Gas Monitoring Vent

GV= Gas Vent

TV= Temporary Vent

EW= Extraction Well

ATTACHMENT C

UNMARKED VERSION



March 12, 2025  
SCS Project No. 16224067.00

Mr. Arten Avakian  
MSW Permits Section – MC 124  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711

Subject: City of Uvalde MSW Landfill - Uvalde County  
Municipal Solid Waste - Permit No. 1725  
Permit Modification Application – Landfill Gas Management Plan  
RN102803921 / CN600648455

Dear Mr. Avakian:

On behalf of City of Uvalde (City), SCS Engineers (SCS) has prepared the attached permit modification application of Attachment 14 - Landfill Gas Management Plan (LGMP), as requested by Texas Commission on Environmental Quality (TCEQ) in letters dated August 23, 2024 (Tracking Nos. 29886183 and 30043922) and December 6, 2024 (Tracking No. 30360699). This permit modification has been prepared to address specific questions and/or comments provided by you in an email dated July 30, 2024 and addressed to Mr. Brett DeVries, P.E., Ph.D, as described below. Specifically, the purpose of this permit modification is to update the LGMP to reflect current site conditions and incorporate complete documentation on the landfill gas (LFG) monitoring system, including temporary probes, vents, and the gas extraction system (descriptive text, tables, drawings, and appendices containing logs and construction details), specifically related to the LFG remediation efforts for GMP-4. As such, this permit modification is being submitted consistent with the 30 TAC §305.70(k)(3), related to installation of a landfill gas management system for a landfill gas remediation plan, which requires public notice.

In response to your July 30, 2024 email, the following summarizes the revisions made to the LGMP, as described below in response to your questions/comments:

- Section 1.1, Site Description – Reference to prior Figure 1.3 (dated 10/21/2016) was **removed** since it is now combined with **new** Figure 1.2 (replaced prior Figure 1.2, dated 10/21/2016). Reference to prior Figure 1.4 has been corrected to the **new** Figure 3.1 (replaced prior Figure 3.1, dated 10/21/2016).
- Section 2.5, Facility Boundaries (Permitted Area) – Added the definition for the acronym, EAP – Exceedance Action Plan.
- Section 3.1, Landfill Gas Monitoring System – Removed an unnecessary reference to a previous superseded LGMP (replaced due to permit modification dated 10/21/2016) and added a reference to the added Table 2.0, Gas Monitoring Probe/Vent Completion Details; clarified what changes would be made to the LGMP should an EAP be required.
- Section 3.2.1 Gas Probe Monitoring Procedures – Identified which buildings would be monitored and referenced the monitoring form added as Appendix C.
- Section 3.2.4 Backup Monitoring Plan – Added text regarding the timeframe in which damaged/failed gas monitoring features would be repaired/replaced and what documentation would be provided and kept in the Site Operating Record, as well as when a permit modification would be necessary for such changes.

**ATTACHMENT 14  
LANDFILL GAS MANAGEMENT PLAN**

**CITY OF UVALDE  
MUNICIPAL SOLID WASTE LANDFILL  
TCEQ PERMIT NO. 1725  
UVALDE, TEXAS**

**Prepared by  
SCS Engineers  
Texas Board of Professional Engineers, Reg. No. F-3407  
Dallas/Fort Worth Office  
1901 Central Drive, Suite 550  
Bedford, Texas 76021  
817/571-2288**



*[Note: This Plan (LGMP #4) relies on information presented in previous LGMP completed and sealed by other engineers and approved by Texas Natural Resource Conservation Commission/Texas Commission on Environmental Quality.]*

Version #4, Revision #1  
(07/25/25)  
SCS Engineers

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**.SCS Engineers**  
**TBPE Reg. # F-3407**

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## **APPENDICES**

**Appendix A – Methane Monitoring and Recording Form**

**Appendix B – Landfill Gas Remediation Plans**

**Appendix C – Vertical Extraction Vents/Wells**



**SCS Engineers  
TBPE Reg. # F-3407**

- Methane concentrations as % volume will be measured and recorded at each GMP on the Methane Monitoring and Recording Form (Appendix A) or similar form.
  - Probe condition will be visually inspected and recorded.
  - Gas monitoring recordkeeping will be maintained per Section 3.2.5.
- **Exceedance Action Plan will be initiated when gas-monitoring readings confirm that methane gas concentrations > 5% volume are recorded at facility boundary.** See Section 3.0.

### 3.2.2 Backup GMP (BGMP)

As discussed in the Exceedance Action Plan (EAP-Section 4.0), probes installed to assess gas migration serve as backup-GMP (BGMP). They are located relative to the location of a reported exceedance and are not monitored unless an exceedance has occurred. Figure 3.1 shows the location of current Landfill Gas Monitoring facilities within (GMP/BGMP). Gas monitoring probe design and installation criteria are discussed in Section 3.2.

### 3.2.3 Maintenance Procedures

The permanent GMP system will be inspected on a quarterly basis during regularly scheduled monitoring events. Each probe and vent will be inspected for damage to protective barrier, casing, cap, working pad, and covers. The general maintenance conditions will be noted in the field sampling record and all damage will be repaired as soon as practical and duly recorded. Major damage to monitoring system will be reported and appropriate authorities notified in accordance with following section.

### 3.2.4 Backup Monitoring Plan

The purpose of this Backup Plan is to provide a plan of action in the event that the main monitoring system breaks down or it becomes ineffective in accordance to §330.371(g)(3).

In the event a gas monitoring probe/vent failure has been damaged and is inoperative, they will be repaired or replaced within 60 days of discovery. Upon completion of a replacement GMP/vent, an installation report including boring logs and/or construction details will be maintained in the landfill Site Operating Record. A permit modification will be submitted to the TCEQ if GMP/vent replacement is required, in accordance with applicable regulations 30 TAC §305.70(j)(18).

landfill gas migration. Copies of the action plan will be placed in the operating record and sent to the TCEQ. The following subsections summarize the remediation efforts at the landfill, including installation of passive vents, backup/temporary monitoring probes and gas collection and control systems.

#### 4.1.1 Passive Vents

[2004 LFG Vents in waste] To control LFG migration at GMP-1 and GMP-3 four passive gas monitoring vents (GMV-1 through GMV-4 as shown on Figure 2.0 of Appendix B, Remediation Plan (05/08/18)) were installed in Stage A to release pressure in the storage cells, see Table 3.0 for gas extraction well/vent completion information. GMV-3 was plugged and abandoned on August 1, 2023, as part of the remediation plan dated September 2, 2022.

[2010 LFG Vents in waste] Two additional vents (one in Stage A and one in Stage B) were installed to control LFG migration at GMP-4. GMV-5 and GMV-6 are shown on Figure 2.0 of Appendix B, Remediation Plan (05/08/18). GMV-5 and GMV-6 were plugged and abandoned on July 31, 2023 and August 5, 2023, respectively, as part of the remediation plan dated September 2, 2022.

[2018 Temporary LFG Vents outside waste] To continue with remediation efforts, three additional vents were installed as part of Phase 1.0 of the Remediation Plan submitted to TCEQ dated May 5, 2018, included in Appendix B. Temporary vents TV-1, TV-2 and TV-3 are shown on Figure 3.0 of the 2018 Remediation Plan. Three additional vents with whirly bird turbines were added as part of Phase 2.0 of the Remediation Plan dated May 5, 2018. Vents WB-1, WB-2, and WB-3 are shown on Figure 1 of Appendix B, Remediation Plan (05/29/25).

[2018 LFG vents in waste] To continue with remediation efforts, five additional vents were installed as part of Phase 2.0 of the Remediation Plan dated May 5, 2018. The gas vents are shown as GV-7, GV-7a, GV-8, GV-9 and GV-10 on Figure 1.0 in Appendix B, Remediation Plan Update (01/17/22). GMV-7 and GMV-7a were plugged and abandoned on August 4, 2023, as part of the remediation plan dated September 2, 2022.

[2025 LFG Vents outside waste] To continue with remediation efforts, seven additional vents will be installed next to the landfill unit boundary as part of Phase 4.0 of the remediation plan dated May 29, 2025. Passive vents PV-1 through PV-7 are shown on Figure 1 of Appendix B, Remediation Plan (05/29/25). BGMP-4.2, vents TV-1, TV-2, TV-3, WB-1, and WB-2 will be plugged and abandoned as part of Phase 4.0 as well.

#### 4.1.2 Backup/Temporary Monitoring Probes

[2010 Backup Monitoring Probes] Four backup gas monitoring probes were installed in the vicinity of GMP-4, designated as BGMP-4.1, 4.2, 4.3 & 4.4, as shown in Figure 2.0 of Appendix B, Remediation Plan (05/08/18), to identify the gas migration path.

[2018 Temporary Gas Monitoring Probes] To continue the identification of the landfill gas migration path, five temporary gas monitoring probes were installed at various depths along the north property line outside the Stage B limits of waste. Figure 3.0 of Appendix B, Remediation Plan (05/08/18) depicts the locations of TGMP-1, TGMP-2 and TGMP-3.1, 3.2, 3.3.

#### 4.1.3 Gas Collection and Control System

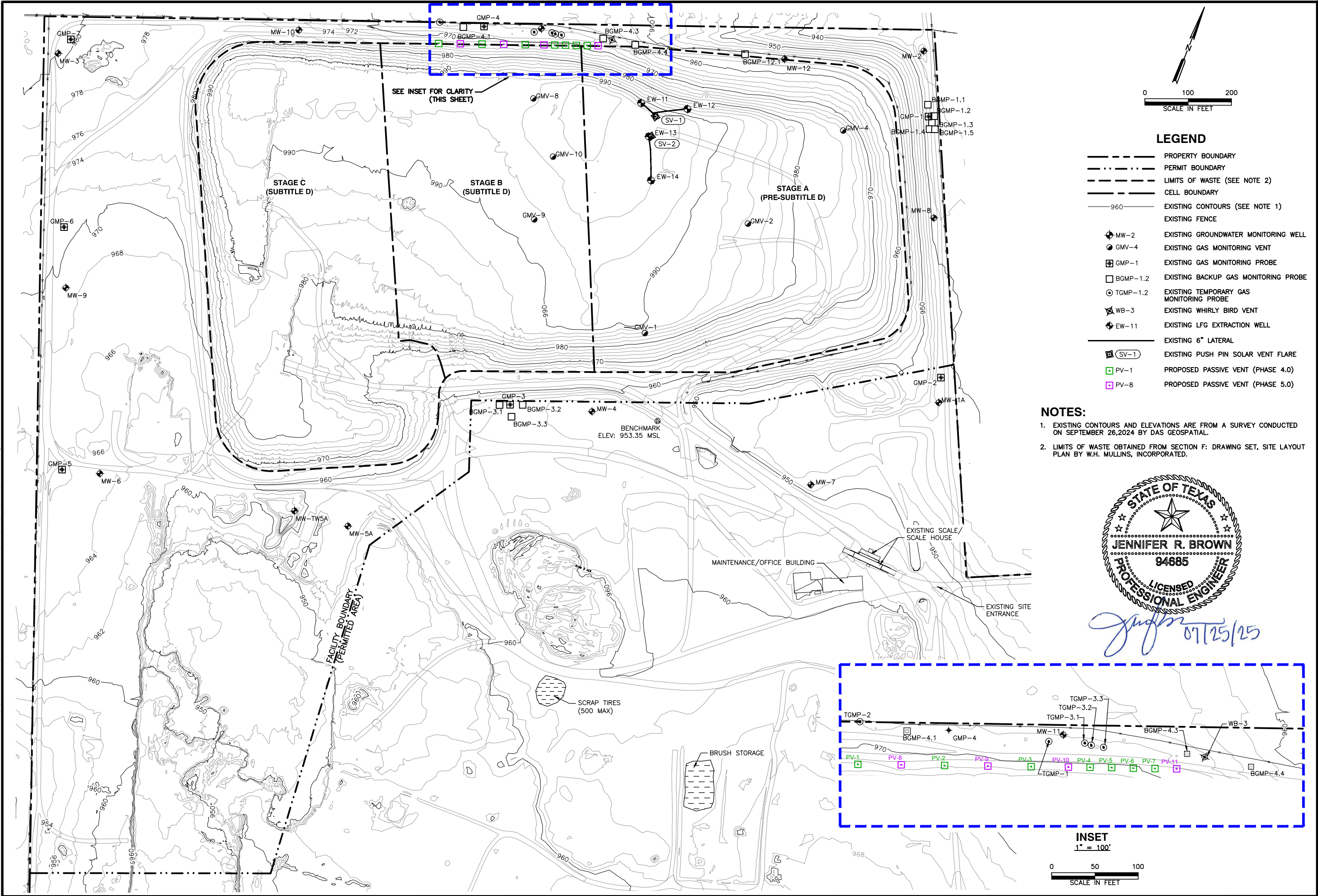
[2023 Vertical LFG Extraction Wells] In order to reduce gas emissions and further minimize the potential for offsite migration, an initial landfill gas collection system (GCS) was installed as shown on Drawing 1 of Appendix B, Remediation plan (09/02/22). The initial GCS included installing four vertical LFG extraction wells, EW-11, EW-12, EW-13, and EW-14, connected by lateral piping and routed to localized blowers and solar vent flares.

### **5.0 POST CLOSURE REQUIREMENTS {§330.371(e)&(f)}**

This LGMP or its future approved renditions will be in place for a period of 30 years after certification of final closure of the facility. A reduction in the monitoring and control period may be approved by the TCEQ or its predecessors upon demonstration that there is no potential for gas migration beyond the property boundary or on-site structures.

Post-closure land use at the Site should not interfere with the gas monitoring and control systems and underground utilities trenches crossing the landfill boundary should be vented and monitored regularly.

7/24/2025 8:31 PM C:\VALDE\19224007.DWG - TYPE 1 MAJOR PERMIT DWGS - ATT 6\Plan\MD01\_Jordan\3.1 Gas Monitoring Features\_Rev1



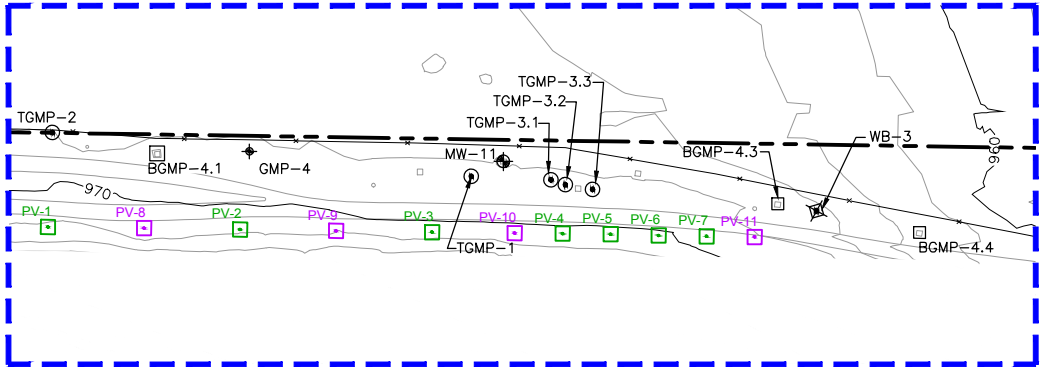
**LEGEND**

---	PROPERTY BOUNDARY
- . - . -	PERMIT BOUNDARY
- - -	LIMITS OF WASTE (SEE NOTE 2)
- - -	CELL BOUNDARY
960	EXISTING CONTOURS (SEE NOTE 1)
---	EXISTING FENCE
MW-2	EXISTING GROUNDWATER MONITORING WELL
GMV-4	EXISTING GAS MONITORING VENT
GMP-1	EXISTING GAS MONITORING PROBE
BGMP-1.2	EXISTING BACKUP GAS MONITORING PROBE
TGMP-1.2	EXISTING TEMPORARY GAS MONITORING PROBE
WB-3	EXISTING WHIRLY BIRD VENT
EW-11	EXISTING LFG EXTRACTION WELL
SV-1	EXISTING 6" LATERAL
SV-1	EXISTING PUSH PIN SOLAR VENT FLARE
PV-1	PROPOSED PASSIVE VENT (PHASE 4.0)
PV-8	PROPOSED PASSIVE VENT (PHASE 5.0)

- NOTES:**
- EXISTING CONTOURS AND ELEVATIONS ARE FROM A SURVEY CONDUCTED ON SEPTEMBER 26, 2024 BY DAS GEOSPATIAL.
  - LIMITS OF WASTE OBTAINED FROM SECTION F: DRAWING SET, SITE LAYOUT PLAN BY W.H. MULLINS, INCORPORATED.



*Signature* 07/25/25



**INSET**  
1" = 100'  
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
1	07/2025	ADD PASSIVE VENTS, BAR SCALE & SURVEYOR	JRB
2		REMOVE TEMP VENTS & BGMP-4.2	JRB

DRAWING TITLE	GAS MONITORING FEATURES
LOCATION MAP	
PROJECT TITLE	CITY OF UVALDE LANDFILL
	PERMIT MODIFICATION

CLIENT	CITY OF UVALDE
	3774 FM 481
	UVALDE, TEXAS 78801

SCS ENGINEERS	STEARN, CONRAD AND SCHMIDT
CONSULTING ENGINEERS	1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021
	PH (817) 571-2288 FAX NO. (817) 571-2188
DRWN. BY	JRB
CHECKED BY	JRB
DATE	07/25/25

CADD FILE:	3.1 GAS MONITORING FEATURES_REV1
DATE:	02/2025
SCALE:	AS SHOWN
FIGURE:	3.1

**TABLE 2.0**  
**GAS MONITORING PROBE COMPLETION DETAILS**

**LANDFILL GAS MANAGEMENT PLAN**

Probe No.	Installation Date**	Ground Surface (msl)	TOC*** (msl)	Probe Depth (fbgs)	Top of Seal*** (msl)	Top of Filter Pack*** (msl)	Top of Screen*** (msl)	Notes
GMP-1*	1986	937.13	937.13	19.9	NIA	NIA	NIA	
GMP-2*	1986	940.30	940.30	19.3	NIA	NIA	NIA	
GMP-3*	2002	952.76	952.76	39.8	NIA	NIA	NIA	
GMP-4*	2002	968.00	972.75	50	NIA	NIA	NIA	Converted to a vent on 06/08/18
GMP-5*	2011	966.18	966.18	36.7	NIA	NIA	NIA	
GMP-6*	2011	970.92	970.92	39.8	NIA	NIA	NIA	
GMP-7*	2011	980.52	980.52	40	NIA	NIA	NIA	
BGMP-1.1*	2004	936.80	936.80	39.3	NIA	NIA	NIA	
BGMP-1.2*	2004	936.58	936.58	37.9	NIA	NIA	NIA	
BGMP-1.3*	2004	937.13	937.13	39.7	NIA	NIA	NIA	
BGMP-1.4*	2004	936.86	936.86	40	NIA	NIA	NIA	
BGMP-1.5*	2004	936.75	936.75	38.8	NIA	NIA	NIA	
BGMP-3.1*	2004	954.10	954.10	39.9	NIA	NIA	NIA	
BGMP-3.2*	2004	952.67	952.67	34.5	NIA	NIA	NIA	
BGMP-3.3*	2004	952.83	952.83	38.9	NIA	NIA	NIA	
BGMP-4.1*	2009	967.82	967.82	26	NIA	NIA	NIA	
BGMP-4.2*	2009	967.50	973.00	20	NIA	NIA	NIA	Converted to a vent on 06/08/18; to be abandoned with Phase 4.0 of LGRP (05/29/25)
BGMP-4.3*	2009	967.15	974.57	38	NIA	NIA	NIA	Converted to a vent on 06/08/18
BGMP-4.4*	2009	963.49	963.49	62	NIA	NIA	NIA	
BGMP-12.1*	2009	957.93	957.93	47.4	NIA	NIA	NIA	
TGMP-1	5/2/18	967.00	968.08	20	967.00	965.00	957.00	Refusal hit at 20' (conglomerate)
TGMP-2	5/2/18	966.00	971.75	20	966.00	964.00	956.00	Refusal hit at 20' (conglomerate) ; converted to vent (date unknown)
TGMP-3.1	5/3/18	966.00	967.00	40	966.00	964.00	946.00	Drilled with air rotary. Completed in Anacacho
TGMP-3.2	5/3/18	966.00	966.92	30	966.00	964.00	941.00	Drilled using air rotary. Completed in Uvalde Gravel
TGMP-3.3	5/3/18	966.00	967.33	8	966.00	964.00	966.00	Completed in Uvalde Gravel

\*Probe/vent depth was field measured due to limited available information

\*\*When exact dates are unavailable, approximate year is provided

\*\*\*See Figure 3.2 for best available information if no elevation is listed, as indicated by NIA

GMP= Gas Monitoring Probe

BGMP= Backup Gas Monitoring Probe

TGMP= Temporary Gas Monitoring Probe

NIA=No Information Available

**TABLE 3.0**  
**GAS EXTRACTION WELL/VENT COMPLETION DETAILS**

**LANDFILL GAS MANAGEMENT PLAN**

Well No.	Installation Date	Ground Surface (msl)	TOC (msl)	Probe Depth (fbgs)	Top of Seal (msl) **	Top of Filter Pack (msl) **	Top of Screen Interval (ft) (msl)	Notes
GMV-1*	2004	985.35	995.02	45	984.85	982.35	982.35	
GMV-2*	2004	985.50	989.50	33	985.00	982.50	982.50	
GMV-3*	2004	994.10	--	23	--	--	--	Abandoned on 08/01/23
GMV-4*	2004	976.00	982.17	50	975.50	973.00	973.00	
GMV-5*	2009	993.00	--	24	--	--	--	Abandoned on 07/31/23
GMV-6*	2009	996.60	--	57	--	--	--	Abandoned on 08/05/23
GV-7*	7/29/18	995.60	--	50	--	--	--	Abandoned on 08/04/23
GV-7a*	7/29/18	995.85	--	57	--	--	--	Abandoned on 08/04/23
GV-8*	7/29/18	993.77	1000.44	50	993.27	990.77	990.77	
GV-9*	7/29/18	991.22	997.64	60	990.72	988.22	988.22	
GV-10*	7/29/18	994.61	1001.78	59	994.11	991.61	991.61	
WB-1*	7/29/18	968.43	976.18	35	NIA	NIA	NIA	Whirly Bird Turbine - NIA, to be abandoned with Phase 4.0 of LGRP (05/29/25)
WB-2*	7/29/18	968.75	977.00	39	NIA	NIA	NIA	Whirly Bird Turbine - NIA, to be abandoned with Phase 4.0 of LGRP (05/29/25)
WB-3*	7/29/18	966.60	974.60	39	NIA	NIA	NIA	Whirly Bird Turbine - No Details Available
TV-1*	5/16/18	967.30	968.80	15	966.30	965.30	965.30	To be abandoned with Phase 4.0 of LGRP (05/29/25)
TV-2*	5/16/18	968.89	973.89	13	967.89	966.89	966.89	To be abandoned with Phase 4.0 of LGRP (05/29/25)
TV-3*	5/16/18	967.80	973.47	26	966.80	965.80	965.80	To be abandoned with Phase 4.0 of LGRP (05/29/25)
EW-11	8/1/23	992.00	994.03	40	990.00	974.00	972.00	
EW-12	8/1/23	986.40	988.33	39	984.40	968.40	966.40	
EW-13	8/1/23	994.70	996.66	47	992.70	975.70	974.70	
EW-14	8/2/23	994.00	996.04	47	992.00	975.00	974.00	

\*Probe/vent depth was field measured due to limited available information

\*\*NIA=No Information Available

GMV= Gas Monitoring Vent

GV= Gas Vent

TV= Temporary Vent

EW= Extraction Well

## Landfill Gas Remediation Plan

Dated May 29, 2025



May 29, 2025  
SCS Project No. 16222099.00

Mr. Arten Avakian  
Project Manager  
MSW Permits Section (MC-124)  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, Bldg. F  
Austin, Texas 78753

Re: 2025 Landfill Gas Remediation Plan Continuation/Update for GMP-4  
City of Uvalde Landfill – Permit No. MSW-1725  
Uvalde County, Texas  
RN102803921/CN600648455  
Tracking No: 26649876, 27810539, and 31430140

Dear Mr. Avakian:

On behalf of the City of Uvalde Landfill, SCS Engineers (SCS) is providing this letter to the Texas Commission on Environmental Quality (TCEQ) as a continuation/update of the landfill gas (LFG) remediation plan (LGRP) for perimeter gas monitoring probe GMP-4 (dated May 8, 2018), TCEQ letter dated October 28, 2021 (Tracking No. 26649876), and LGRP continuation/update (dated September 2, 2022, Tracking No. 27810539) for the City of Uvalde Landfill (MSW-1725).

As indicated in previous LGRPs, methane concentrations above the regulatory limit (i.e., five (5) percent by volume methane in accordance with 30 Texas Administrative Code (TAC) §330.371(a)(2)) was detected in gas monitoring probe GMP-4 during a quarterly gas probe monitoring event on March 8, 2018.

Following the May 2018 LGRP, and generally consistent with the plans, the following remediation efforts were completed:

- Monitoring of methane in the GMPs, gas monitoring vents (GMV), backup gas monitoring probes (BGMP), temporary gas monitoring probes (TGMP), temporary vents (TV), monitoring wells (MW) in proximity to GMP-4 on a monthly basis (see Drawing No. 1 for approximate locations). Monitoring results were provided in the response to TCEQ's letter dated October 28, 2021.
- Phase 1.0 of the LGRP: installation of three, 2-inch vents on a general 200 foot spacing, with the vents screened in the upper Uvalde Gravel with a 10-foot riser to intercept and divert the gas before reaching the primary remediation probes.
- Phase 2.0 of the LGRP: five, PVC passive vents in Stage B (Subtitle D area) screened to approximately one foot above bottom liner were installed in August 2019.

Following the September 2022 LGRP continuation/update, the following remediation efforts were completed:

- Phase 3.0 of the LGRP: installation of four passive LFG extraction wells, connected by lateral piping and routed to blowers and solar vent flares, east of the GCL termination in Stage A.

As indicated in the 2nd and 3rd Quarter 2024 LFG Monitoring Report, during these monthly and quarterly readings, all probes and monitoring points were below the regulatory threshold of 5% methane by volume in accordance with 30 TAC §330.371(a)(2) with exception of GMP-4, BGMP-4.3, TGMP-1, 2, 3.1, 3.2, and 3.3; and TV-1, 2 and 3. As a result of methane concentration readings above the regulatory limit, this plan documents additional remediation efforts to be implemented in an effort to mitigate methane concentrations above the regulatory limit in GMP-4.

### **LFG Remediation Plan**

As described above, the City has already conducted extensive remediation efforts for GMP-4, and vents/probes near GMP-4 have been monitored on at least monthly basis to evaluate the effects of the remediation efforts. Additionally, the City will perform further remediation efforts as described below and as necessary, to mitigate methane levels above the regulatory limit in GMP-4 as discussed in the subsequent sections.

Based on review of historical information and existing site conditions, the following is suspected:

- LFG migration is originating from the Pre-Subtitle D area (Stage A), and potentially migrating along and under the GCL installed in Stage A and Subtitle D liner installed in Stage B where a separation berm between Stage A and B was constructed.
- The existing vents (i.e., TV-1, 2, and 3; WB-1 and 2; TGMP-2; and BGMP-4.2 and 4.3) being located adjacent to probes and monitoring points (e.g., GMP-4; and TGMP-1, 3.1, 3.2, and 3.3) are resulting in methane concentrations to be above the regulatory limit in nearby probes and monitoring points. Vents located between and adjacent to probes and monitoring points will create a pressure differential between the waste mass and vent, resulting in migration near the probe and/or monitoring point. As such, this plan proposes to move vents closer to the limits of waste (the LFG source) to provide a pathway for the gas to be vent further away from the probes and monitoring points.
- The LFG is migrating through the Uvalde Gravel located near the existing surface.

Internal gas pressure is known to be a driving force behind LFG migration; however, the proposed remediation efforts focus on controlling LFG from its source (i.e., the landfill) decreasing the long term methane concentrations in GMP-4.

As such, the remediation efforts will focus on the following:

- Controlling LFG near/adjacent to the edge of the liner in Stages A and B;
- Venting LFG from between the limits of waste and GMP-4 and other TGMP/BGMP (i.e., not adjacent to the existing monitoring points) and abandonment of the existing vents near/adjacent to monitoring points; and
- Venting LFG from the Uvalde Gravel.

### **Proposed Remediation Efforts, Monitoring, and Evaluation**

To continue the remediation efforts at the landfill and based on the information listed above, the City will proceed with a two-phase approach (Phase 4.0 and 5.0) as outlined below.

- **Phase 4.0** is anticipated to begin in 2025 or beginning of 2026, and include the following:
  - Installation of seven passive vents (PV-1 through PV-7) between the limits of waste and existing monitoring points on the northwest side of the landfill (nearest the LFG migration).
  - Abandonment of the existing vents (i.e., TV-1, 2, and 3; WB-1 and 2; and BGMP-4.2) located near/adjacent to the monitoring points. Recent field measurements of BGMP-4.2 (previously converted to a vent) indicate that this vent is silted-in and inoperable; therefore, abandonment versus drilling a new vent/probe is recommended since TGMP-3.3 is located in close proximity of the current location.
  - GMP-4 and TGMP-2 will be converted from vents back to monitoring probes.
  - Following completion of construction, methane concentrations will be monitored on a monthly basis in GMP-4; TGMP-1, 2, 3.1, 3.2, and 3.3; and BGMP-4.1 for a twelve-month evaluation period. These results will be submitted to TCEQ on a quarterly basis. BMGP-4.4 and 12.1 will no longer be monitored since these probes have been below the regulatory threshold for more than 12 months.
  - If GMP-4 is able to demonstrate six consecutive monthly readings below the regulatory limit, then the probe will be considered remediated and will return to quarterly monitoring.
  - If GMP-4 is not able to demonstrate six consecutive monthly readings below the regulatory limit over a twelve-month period following installation of Phase 4.0, then the City will continue with Phase 5.0, as described below.
- **Phase 5.0** is anticipated to begin following the twelve-month Phase 4.0 evaluation period (if required) and include the following:
  - Installation of four passive vents (PV-8, PV-9, PV-10, PV-11) between the limits of waste and existing monitoring points on the northwest side of the landfill (nearest the LFG migration) and between Phase 4.0 passive vents.
  - Following completion of construction, methane concentrations will be monitored on a monthly basis in GMP-4; TGMP-1, 2, 3.1, 3.2, and 3.3; and BGMP-4.1 for a twelve-month evaluation period with exception as TGMPs/BGMPs demonstrate six consecutive months below regulatory threshold then they will cease to be monitored. These results will be submitted to TCEQ on a quarterly basis.
  - If GMP-4 is able to demonstrate six consecutive monthly readings below the regulatory limit, then the probe will be considered remediated and will return to quarterly monitoring.
  - If GMP-4 is not able to demonstrate six consecutive monthly readings below the regulatory limit over a twelve-month period following installation of Phase 5.0, then the City will pursue other remediation efforts and a remediation plan continuation/update will be submitted to TCEQ.

The permit level plan-view and detail drawings related to Phases 4.0 and 5.0 are provided in Attachment A.

A permit modification of the Landfill Gas Management Plan (LGMP) will be submitted to TCEQ in

Mr. Arten Avakian  
May 29, 2025  
Page 4

accordance with 30 TAC §305.70(k)(3), to incorporate the remediation efforts into the LGMP once remediation efforts have been completed.

## Closing

One original and two copies of this document are provided for your use and distribution. In addition, a copy has been provided to the TCEQ Region 13 office and placed in the landfill's site operations record. If you have any questions or need additional information, please contact Brett DeVries, Ph.D., P.E. at (817) 358-6110.

Sincerely,



Jennifer Brown P.E.  
Project Manager  
SCS Engineers  
TBPE Registration No. F-3407



*Brett DeVries 5/29/25*

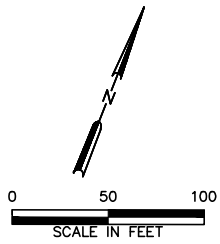
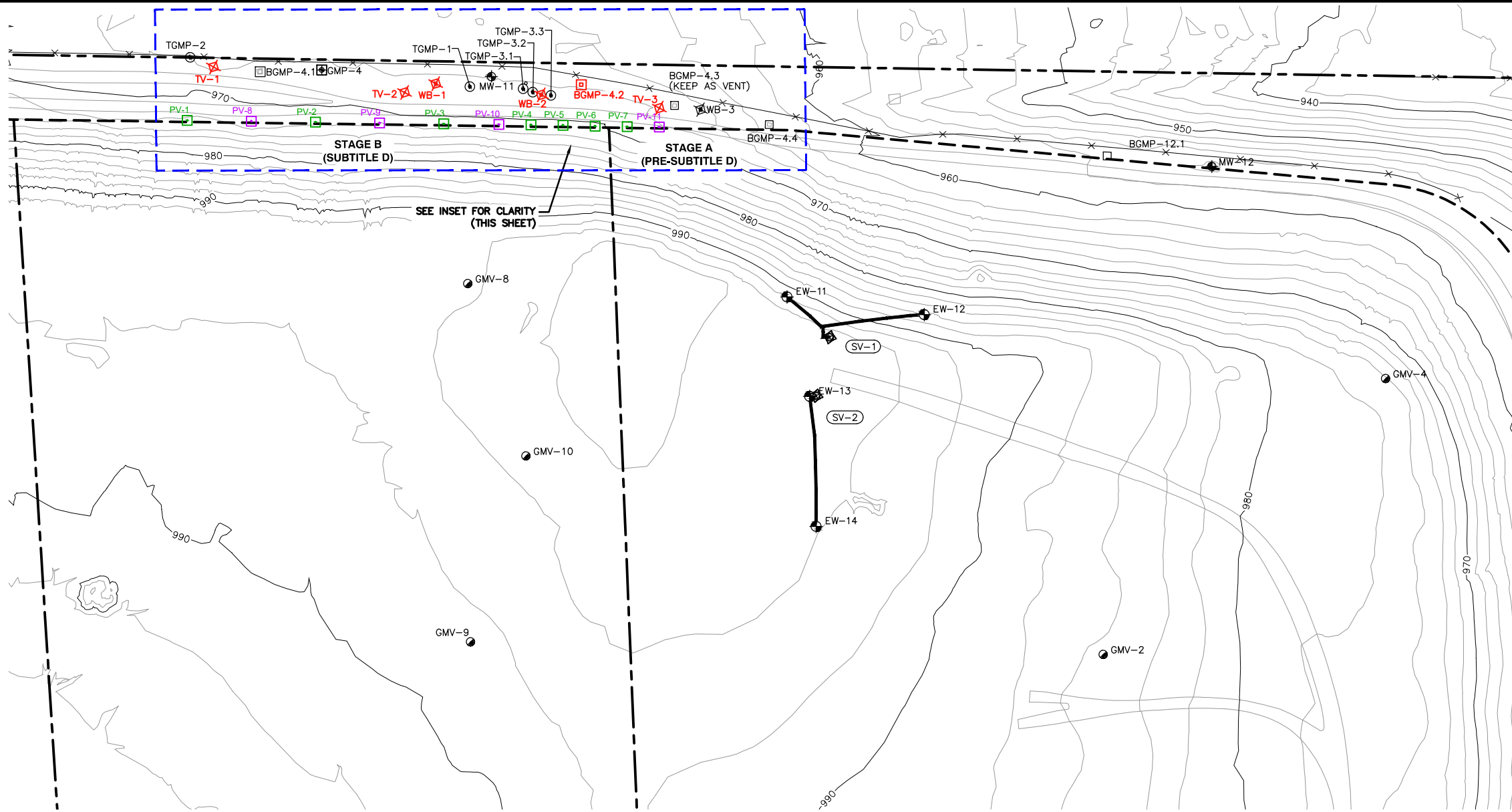
Brett DeVries, Ph.D., P.E.  
Sr. Project Manager  
SCS Engineers

## Attachment

cc: Mr. Juan Zamora, City of Uvalde  
Ms. LeeAnn M. Ortiz, City of Uvalde  
Mr. Carl Mirelez, City of Uvalde  
Mr. Jack Higginbotham, Waste Section Manager, TCEQ Region 13

**ATTACHMENT A**  
**PASSIVE VENT DRAWINGS**

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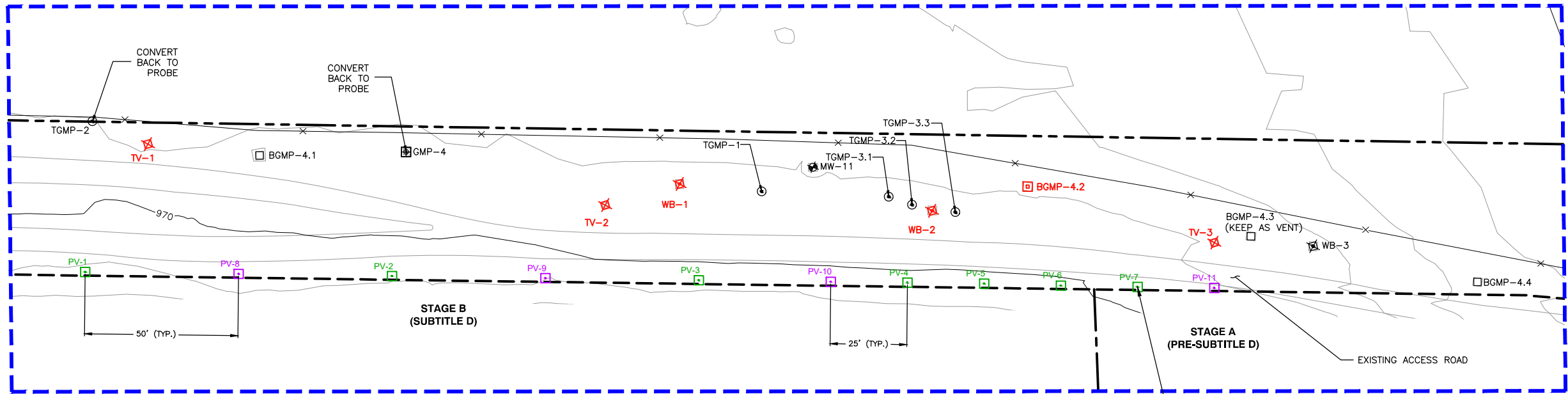


### LEGEND

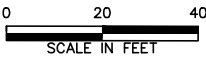
- PROPERTY BOUNDARY
- . - . - PERMIT BOUNDARY
- - - LIMITS OF WASTE (SEE NOTE 2)
- - - CELL BOUNDARY
- - - EXISTING CONTOURS (SEE NOTE 1)
- x - EXISTING FENCE
- MW-11 EXISTING GROUNDWATER MONITORING WELL
- GMV-4 EXISTING GAS MONITORING VENT
- GMP-4 EXISTING GAS MONITORING PROBE
- BGMP-4.1 EXISTING BACKUP GAS MONITORING PROBE
- TGMP-3.1 EXISTING TEMPORARY GAS MONITORING PROBE
- ⚡ WB-4 EXISTING LFG WHIRLY BIRD VENT
- ⚡ EW-11 EXISTING LFG EXTRACTION WELL
- EXISTING 6" LATERAL
- ⚡ SV-1 EXISTING PUSH PIN SOLAR VENT FLARE
- PV-1 PROPOSED PASSIVE VENT (PHASE 4.0)
- PV-9 PROPOSED PASSIVE VENT (PHASE 5.0)
- BGMP-4.2 EXISTING BACKUP GAS MONITORING PROBE ABANDONMENT
- ⚡ TV-3 EXISTING LFG TEMPORARY VENT ABANDONMENT
- ⚡ WB-1 EXISTING LFG WHIRLY BIRD VENT ABANDONMENT

### NOTES:

- EXISTING CONTOURS AND ELEVATIONS ARE FROM A SURVEY CONDUCTED ON SEPTEMBER 26, 2024 BY DAS GEOSPATIAL.
- LIMIT OF WASTE OBTAINED FROM SECTION F: DRAWING SET, SITE LAYOUT PLAN BY W.H. MULLINS, INCORPORATED.
- LOCATIONS OF PROPOSED PASSIVE VENTS ARE APPROXIMATE. ACTUAL LOCATION WILL BE DETERMINED BASED ON FIELD CONDITIONS AT THE TIME OF INSTALLATION.



### INSET



PASSIVE VENT (TYP.)

1  
21



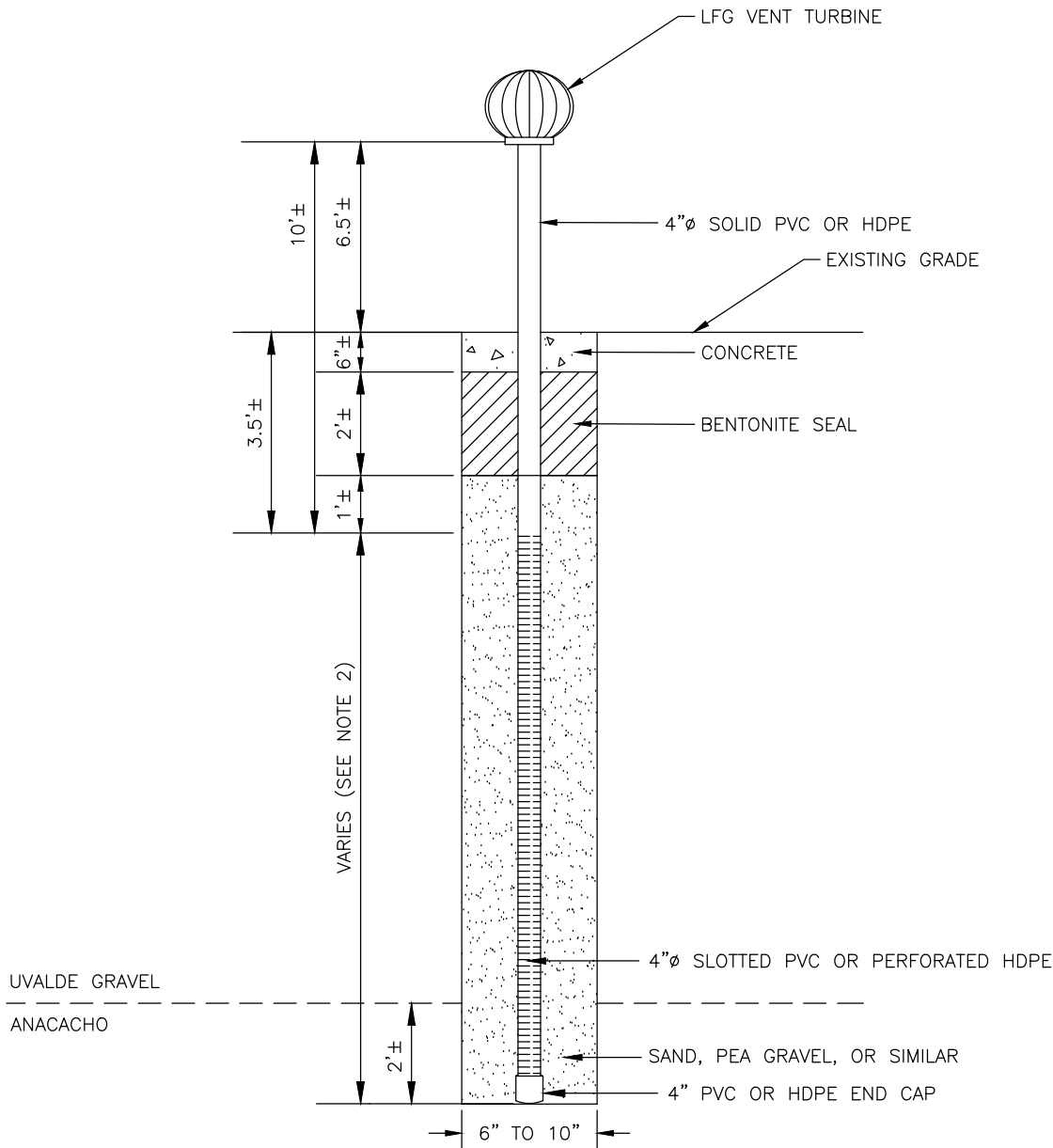
REV	DATE	DESCRIPTION	BY

DRAWING TITLE	PROJECT TITLE
PHASE 4 & 5 REMEDIATION SITE LAYOUT	CITY OF UVALDE LANDFILL PERMIT MODIFICATION

CLIENT
CITY OF UVALDE 3774 FM 481 UVALDE, TEXAS 78801

SCS ENGINEERS	DATE	SCALE	FIGURE
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021 PH (817) 571-2288 FAX NO. (817) 571-2188	05/2025	AS SHOWN	1

FOR PERMITTING PURPOSES ONLY

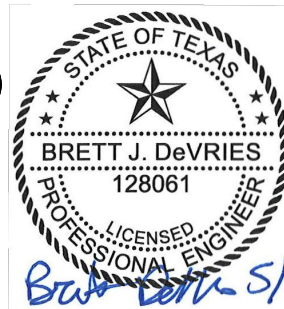


NOTES:

1. ALL SIZES AND DIMENSIONS ARE APPROXIMATE.
2. VENT DEPTH WILL BE DETERMINED DURING CONSTRUCTION BASED ON DEPTH OF UVALDE GRAVEL.

PASSIVE VENT

NTS



FOR PERMITTING PURPOSES ONLY

REV	DATE	DESCRIPTION	BY
Δ			
Δ			
Δ			
Δ			

DRAWING TITLE	PASSIVE VENT DETAIL
PROJECT TITLE	CITY OF UVALDE LANDFILL PERMIT MODIFICATION

CLIENT	CITY OF UVALDE 3774 FM 481 UVALDE, TEXAS 78801
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SCS ENGINEERS	STEARN, CONRAD AND SCHMIDT CONSULTING ENGINEERS 1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021 PH (817) 571-2288 FAX (817) 571-2188
PROJ. NO.	OWN. BY: WFS
DRAWN BY: BJD	CHECK BY: JRB
APP. BY: JRB	

CADD FILE:	2025.5.15 UVALDE - 2025 LGRP PASSIVE VENT DETAIL
DATE:	5/2025
SCALE:	AS SHOWN
FIGURE NO.	2