



**CORRESPONDENCE COVER SHEET
WASTE PERMITS DIVISION
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

Date: 05/26/2021
 Facility Name: Hawthorn Recycling and Disposal Facility
 Permit or Registration No.: MSW-2185A

Nature of Correspondence:
 Initial/New
 Response/Revision*

*If Response/Revision, please provide previous TCEQ Tracking No.: 25937311, 26099680
 (Previous TCEQ Tracking No. can be found in the Subject line of the TCEQ's response letter to your original submittal.)

This cover sheet should accompany all correspondences submitted to the Waste Permits Division and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence being submitted. For questions regarding this form, please contact the Waste Permits Division at (512) 239-2335.

Table 1 - Municipal Solid Waste

APPLICATIONS	REPORTS and RESPONSES
<input type="checkbox"/> New Notification	<input type="checkbox"/> Closure Report
<input type="checkbox"/> New Permit (including Subchapter T)	<input type="checkbox"/> Groundwater Alternate SRC Demonstration
<input type="checkbox"/> New Registration (including Subchapter T)	<input type="checkbox"/> Groundwater Corrective Action
<input checked="" type="checkbox"/> Major Amendment	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> Groundwater Statistical Evaluation
<input type="checkbox"/> Limited Scope Major Amendment	<input type="checkbox"/> Landfill Gas Corrective Action
<input type="checkbox"/> Notice Modification	<input type="checkbox"/> Landfill Gas Monitoring
<input type="checkbox"/> Non-Notice Modification	<input type="checkbox"/> Liner Evaluation Report
<input type="checkbox"/> Transfer/Name Change Modification	<input type="checkbox"/> Soil Boring Plan
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Special Waste Request
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Other:
<input type="checkbox"/> Subchapter T Workplan	
<input type="checkbox"/> Other:	

Table 2 - Industrial & Hazardous Waste

APPLICATIONS	REPORTS and RESPONSES
<input type="checkbox"/> New	<input type="checkbox"/> Annual/Biennial Site Activity Report
<input type="checkbox"/> Renewal	<input type="checkbox"/> CfPT 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"/> Class 3 Modification	<input type="checkbox"/> Extension Request
<input type="checkbox"/> Class 2 Modification	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> Class 1 ED Modification	<input type="checkbox"/> Interim Status Change
<input type="checkbox"/> Class 1 Modification	<input type="checkbox"/> Interim Status Closure Plan
<input type="checkbox"/> Endorsement	<input type="checkbox"/> Soil Core Monitoring Report
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Treatability Study
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Trial Burn Plan/Result
<input type="checkbox"/> 335.6 Notification	<input type="checkbox"/> Unsaturated Zone Monitoring Report
<input type="checkbox"/> Other:	<input type="checkbox"/> Waste Minimization Report
	<input type="checkbox"/> Other:



May 26, 2021

Project No. 1894269

Terance Virtue, PG, Geoscientist IV
Texas Commission on Environmental Quality
MSW Permits Section, Waste Permits Division
PO Box 13087, MC-124
Austin, Texas 78711-3087

**RESPONSE TO TCEQ INFORMATION REQUEST
PERMIT AMENDMENT APPLICATION
USA WASTE OF TEXAS LANDFILLS, INC.
HAWTHORN PARK RECYCLING & DISPOSAL FACILITY, TCEQ PERMIT MSW-2185A
HOUSTON, HARRIS COUNTY, TEXAS
TRACKING NO. 25937311, 26099680; RN102664232 / CN602560930**

Dear Mr. Virtue:

On behalf of the USA Waste of Texas Landfills, Inc., Golder Associates Inc. (Golder) submits this response to the Texas Commission on Environmental Quality's (TCEQ's) Information Request (Request) regarding the above-referenced PAA (PAA). The TCEQ Request was received via email on May 21, 2021.

A response column was added to the table provided in the email to identify our response to each comment. We have also included an itemized list of the revised or new PAA pages.

One original and three (3) copies of the revised PAA materials including redline-strikeout revisions are included with this letter. The redline-strikeout revisions are organized per the order of the comments. Additionally, an updated Applicant's signature page is provided. This response package will be posted to a publicly accessible website as indicated in the Part I form of the PAA.

We trust this response is sufficient to address the TCEQ Request. Upon review of this response, if you have questions, please contact the undersigned at 281-821-6868.

Sincerely,

Golder Associates Inc.

Phillip Reid Matthews, II, PE
Practice/Program Leader, Principal

Charles G. Dominguez, PE
Principal



GOLDER ASSOCIATES INC
TEXAS REGISTRATION F-2578

cc: Charles Rivette, Director Planning and Project Development

LIST OF REVISED/NEW PAGES

Part	Revised/New Pages
General	<ul style="list-style-type: none">■ Binder cover pages and spine (4 sets)■ First page of each binder■ Part I form, Pages 1 and 9 only
Part I	<ul style="list-style-type: none">■ Cover Page■ Pages 3 and 4
Part II	<ul style="list-style-type: none">■ Cover Page■ Page 4■ Appendix IIB-1 Pages
Part III	<ul style="list-style-type: none">■ Attachment 5<ul style="list-style-type: none">▪ Cover Page▪ Figure III-5A-2■ Attachment 6<ul style="list-style-type: none">▪ Cover Page▪ Page 5

NOD ID	MRI ID	App. Part	Citation	Location	2 nd NOD Type	NOD Description	Response
Comment T1	81	Part I	305.45(a)(6)(C)	Section 1.2	Inconsistent	Provide correct waste disposal acreage in section 1.2 (176.5 acres) and Table 1-3 (179.9 acres).	Part I, Section 1.2 has been revised to indicate the waste disposal area is 179.9 acres.
Comment T2	123	Part II	330.133(c)	Section 2.1	Incomplete	Indicate that Class I waste is prohibited from disposal, storage and/or processing at the facility.	Part II, Section 2.1 has been revised to indicate that Class 1 waste is a prohibited waste.
Comment NT3	141	Part II	330.61(i)(4)	Section 9.1	Incomplete	Provide response from TXDOT.	A copy of emails documenting additional coordination with TXDOT are included with this response and should be added to Appendix IIB-1. As indicated in the email from TXDOT, they have responded directly to TCEQ indicating they have "no objections" concerning the TIA documentation for the PAA.
Comment T4	270	Part III	330.63(d)(4)(C)	Attachment 3, Section 2.2	Inconsistent	Provide that the EDE is 50 ft MSL in Sections 2.2 and 4.1 according to the proposed condition in Part 1, Section 1.2, Table 1-3.	Part I, Section 1.2, Table 1-3 has been revised to indicate the Elevation of Deepest Excavation (ft-msl) is 40 to maintain consistency with other references in the PAA. No revision to Part III, Attachment 3 is required.
Comment T5	672	Part III	330.371(h)(2)	Attachment 6	Incomplete	Provide location of GP-23 in Figure III-6-3.	Part III, Attachment 6, Section 4.1.1 has been revised to indicate that GP-22, not GP-23, is the gas probe for compliance monitoring. The reference to GP-22 on Figure III-6-3 was the correct reference.
Other		Part III		Attachment 5			Figure III-5A-2 has been revised to remove monitoring well MW-9. This monitoring well is an interior well which will need to be removed as part of the expansion. No other text or figures need to be revised as a result of this revision.

Applicant's Signature Page

Facility Name: Hawthorn Park Recycling and Disposal Facility
Permittee/Registrant Name: USA Waste of Texas Landfills, Inc.
MSW Authorization #:2185A
Initial Submittal Date: 2/8/2021
Revision Date: 5/6/2021, 5/26/21



Texas Commission on Environmental Quality
Part I Application Form for New Permit, Permit
Amendment, or Registration for a
Municipal Solid Waste Facility

1. Reason for Submittal
<input type="checkbox"/> Initial Submittal <input checked="" type="checkbox"/> Notice of Deficiency (NOD) Response
2. Authorization Type
<input checked="" type="checkbox"/> Permit <input type="checkbox"/> Registration
3. Application Type
<input type="checkbox"/> New Permit <input checked="" type="checkbox"/> Permit Major Amendment <input type="checkbox"/> Permit Major Amendment (Limited Scope) <input type="checkbox"/> New Registration
4. Application Fees
Amount <input checked="" type="checkbox"/> \$2,050 for Permits and Permit Amendments <input type="checkbox"/> \$150 for Registrations Payment Method <input type="checkbox"/> Check <input checked="" type="checkbox"/> Online through ePay portal < https://www3.tceq.texas.gov/epay/ > If paid online, enter ePay Trace Number: 582EA000420758
5. Application URL
Is the application submitted for a Type I Arid Exempt (AE) or Type IV AE facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If the answer is "No", provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted. http://www.wm.com/wm/permits-texas/permits.jsp

Signature Page

I, Steve Jacobs, Director of Landfill Operations,
(Site Operator (Permittee/Registrant)'s Authorized Signatory) (Title)

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.

Signature: [Handwritten Signature]

Date: 5-26-21

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

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.

Printed or Typed Name of Operator or Principal Executive Officer

Signature

SUBSCRIBED AND SWORN to before me by the said Steve Jacobs

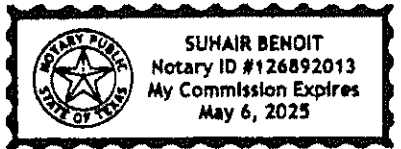
On this 21st day of May, 2021

My commission expires on the 6th day of May, 2025

Suhair Benoit
Notary Public in and for

Travis County, Texas

(Note: Application Must Bear Signature & Seal of Notary Public)



TCEQ Comments

Response T1

PART I

SITE AND APPLICANT INFORMATION

Hawthorn Park Recycling and Disposal Facility

City of Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Owner/Site Operator/Permittee:



USA Waste of Texas Landfills, Inc.
24275 Katy Freeway, Suite 450
Katy, TX 77494



Submitted By:



Golder Associates Inc.
14950 Heathrow Forest Pkwy
Suite 280
Houston, TX 77032 USA

Professional Engineering Firm Registration Number F-2578

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

**INTENDED FOR PERMITTING
PURPOSES ONLY**

Submitted: February 2021
Administrative NOD 1: March 2021
Revised NOD 1: May 2021
Revised NOD 2: May 2021

Project No. 1894269

includes incorporating a closed landfill (Permit No. MSW-1135) within the Hawthorn Park RDF's permit boundary. A Type 5RC compost and mulch facility (Registration No. 104887468) operated by Living Earth Technology Co. (LETCO) is currently located over the closed landfill.

The entrance to the Hawthorn Park RDF will be located south of the current West Block disposal area. Current Permit No. MSW-2185 retains the rights-of-way for Clara Rd., Olga Ln., and Crawford Rd. located within the permitted area. Portions of the rights-of-way have been released by the City of Houston and purchased by USA Waste so that the existing West, Central, and East Blocks will be connected under Permit No. MSW-2185A.

The following third-party facilities are currently located on property owned by and leased from USA Waste, on property that will be included in the expanded permit boundary of the Hawthorn Park RDF under Permit No. MSW-2185A:

- Composting and mulching by LETCO
- Concrete crushing and recycling by Cherry Crushed Concrete, Inc.

The lessees, LETCO and Cherry Crushed Concrete, will continue their current operations until such time as this PAA is approved. The lessees will be given notice upon PAA approval and their business operations at the site will be terminated in accordance with the terms and conditions set forth in their individual lease agreements with USA Waste.

The elevation of the deepest excavation within the overall Hawthorn Park RDF is approximately 50 feet above mean sea level (ft-msl), as referenced to the site coordinate system (see Figure I-A-2). This PAA does not propose to change the elevation of the deepest excavation. The maximum final contour elevation of the expanded facility will increase from approximately 139.4 ft-msl to approximately 227.2 ft-msl. The location of the disposal areas, or limits of waste, is provided on Figure I-A-4 in Appendix IA.

The landfill expansion will result in a permit boundary of 210.2 acres and a waste disposal area of ~~176.5~~179.9 acres. The disposal capacity (airspace) of the expansion will be 16,034,766 cubic yards, and the total remaining airspace will be approximately 16,106,490 cubic yards of waste and daily cover, based on the March 6, 2019 aerial topography. The airspace calculations are provided in Part III, Attachment 3, Appendix III-3A.

The waste acceptance rate will vary over the life of the facility depending on market conditions. For the first and second year, it is anticipated that the site will receive 150,000 tons and 200,000 tons per year, respectively. In subsequent years, the waste acceptance rate is anticipated to increase by 1.2% each year until no disposal capacity remains. This estimated increase is based on an average of the Harris-

Response T2

PART II

EXISTING CONDITIONS AND CHARACTER OF THE FACILITY

Hawthorn Park Recycling and Disposal Facility

City of Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Owner/Site Operator/Permittee:



USA Waste of Texas Landfills, Inc.
24275 Katy Freeway, Suite 450
Katy, Texas 77494



Submitted By:



Golder Associates Inc.
14950 Heathrow Forest Pkwy, Suite 280
Houston, TX 77032 USA
Professional Engineering Firm Registration Number F-2578

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

INTENDED FOR PERMITTING
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Submitted: February 2021
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Project No. 1894269

2.0 WASTE ACCEPTANCE PLAN

Per 30 TAC §330.61(b), this section provides information on waste acceptance, including a description of the waste characteristics, a projection of the estimated maximum annual waste acceptance rate, and anticipated facility service area.

2.1 Properties and Characteristics of Waste

The Hawthorn Park RDF is a Type IV landfill, and waste that will be disposed of at the landfill is expected to consist of brush, construction or demolition waste, and rubbish, as defined in 30 TAC §§330.3 and 330.5(a)(2). Listed below are the allowable wastes that the facility is authorized to accept for disposal, followed by a list of prohibited wastes that the facility is not authorized to accept:

Allowable Wastes: The facility may accept the following wastes:

- Construction or demolition waste [30 TAC §330.3(33)]
- Brush [30 TAC §330.3(18)]
- Rubbish [30 TAC §330.3(136)]
- Tires that have been processed (such as by splitting, shredding, quartering or sidewall removal) in a manner acceptable to the executive director. [30 TAC §330.3(142); 30 TAC §330.15(e)(4) (prohibiting disposal of whole used or scrap tires)]
- Class 2 industrial solid waste that is construction or demolition waste, brush, or rubbish resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations. [30 TAC §330.3(22); 30 TAC §330.173(i)]
- Class 3 industrial solid waste. [30 TAC §330.3(23); 30 TAC §330.173(j)]
- Non-regulated asbestos-containing material (non-RACM). [30 TAC §330.3(95); 40 CFR §61.141; 30 TAC §330.171(c)(4)]
- Other special waste that is construction or demolition waste, brush, or rubbish. [30 TAC §330.3(154); 30 TAC §330.171(a)]

Prohibited Wastes: The facility may not accept the following wastes:

- Wastes that are not construction or demolition waste, brush, or rubbish. [30 TAC §330.5(a)(2)]
- Putrescible waste. [30 TAC §330.3(122)]
- Class I Waste [30 TAC §330.3(21)]
- Untreated medical waste. Please note that this prohibition may be superseded by the executive director in writing when a situation exists that requires disposal of untreated medical waste to protect human health and the environment from the effects of a natural or man-made disaster. [30 TAC §330.171(c)(1)]
- Lead-acid storage batteries. [30 TAC §330.15(e)(1)]
- Do-it-yourself used motor vehicle oil. [30 TAC §330.15(e)(2)]
- Used oil filters from internal combustion engines. [30 TAC §330.15(e)(3)]
- Whole used or scrap tires. [30 TAC §330.15(e)(4)]

Response NT3

Matthews, Reid

From: Samir Goel <Samir.Goel@txdot.gov>
Sent: Wednesday, May 26, 2021 11:12 AM
To: Emily Moran
Cc: Colby Wright
Subject: RE: Hawthorn Park Traffic Letter (TR20521TIA)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Emily,

On 05/24/2021, I sent a "no objections" email to our Permits Office, and directly to Terance Virtue, PG (with the TCEQ), regarding the TIA documentation for the Hawthorn Park Landfill Expansion.

I do not know if there are other reviewers, or who the final approval authority rests with.

Thank you,
Samir Goel

From: Emily Moran [mailto:EMoran@jonescarter.com]
Sent: Wednesday, May 26, 2021 10:02 AM
Cc: Colby Wright <CWright@jonescarter.com>
Subject: RE: Hawthorn Park Traffic Letter (TR20521TIA)

Can you confirm you received the Traffic Letter for the Hawthorn Landfill Expansion? If you could provide an estimated time to approve, that would be greatly appreciated.

Best Regards,
Emily F. Moran, P.E. PTOE



Matthews, Reid

From: Emily Moran <EMoran@jonescarter.com>
Sent: Monday, May 17, 2021 7:56 AM
To: Samir Goel
Cc: Colby Wright
Subject: Hawthorn Park Traffic Letter (TR20521TIA)
Attachments: 2021-5-11 TxDOT Memo.pdf

Samir,

Please see attached requested traffic volume memo for the Hawthorn Landfill Expansion TIA (TR20521TIA). The trip generation table shows the Landfill Expansion will increase AM peak hour trips by 55 vehicles and the PM peak hour trips by 40 vehicles over a 49 year period.

Let us know if you need anything additional in order to issue your approval.

Thanks,
Emily F. Moran, P.E., PTOE
Project Engineer
emoran@jonescarter.com

JONES | CARTER

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Bellaire, Texas 77401
Telephone 713.777.5337, Ext. 2361
Direct 346.231.0861
www.jonescarter.com

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May 11, 2021

Samir Goel
 Texas Department of Transportation
 7600 Washington Ave
 Houston, TX 77007

Subject: Hawthorn Landfill Expansion Trip Generation Memorandum

A Transportation Study for the Hawthorn Park Landfill Expansion was performed by Jones & Carter, Inc. on November 20, 2020 on behalf of Waste Management. The transportation study can be referred to for additional information on the site and traffic data.

Waste Management provided daily site traffic for the approximate 46-year extension of the active site life of the Hawthorn Park Landfill Expansion. The yearly gate waste receipts are expected ramp up during Year 1 and 2. After Year 2, the yearly gate waste receipts and the number of waste vehicles entering and exiting the facility is expected to increase at a rate of 1.2% annually. A 1.2% annual increase was determined from population growth in relation to the Hawthorn Park Landfill Facility.

Table 1 provides a summary of the estimated site traffic for the Hawthorn Park Landfill Expansion. It was assumed that Year 1 represented 2022 and Year 46 represented the project site life year, 2068. The proposed 46-year extension of the active site life of the Hawthorn Park Landfill Expansion is proposed to increase AM Peak Hour trips by 55 vehicles and PM Peak Hour trips by 40 vehicles from 2019 existing volumes (49 total years).

Table 1 – Trip Generation Summary

Vehicle Type	Total Daily Vehicles	AM Peak			PM Peak		
		Enter	Exit	Total	Enter	Exit	Total
2019 Existing Traffic Data							
All Vehicles	-	3	6	9	3	21	24
Year 1 (2022) Trip Generation							
All Vehicles	130	22	12	34	12	22	34
Year 46 (2068, Active Site Life) Trip Generation							
All Vehicles	280	37	27	64	27	37	64

Please call for any questions regarding the Hawthorn Landfill Expansion Transportation Study.

Best Regards,



P.E., P.T.O.E., R.S.P.1
5/11/2021

Colby W. Wright, P.E., P.T.O.E., R.S.P.1

Response T4

Galveston Area Council's (HGAC's) population growth trend for Harris County over the estimated active life of the Hawthorn Park RDF. It is projected that the facility's waste acceptance rate will reach a maximum of approximately 340,000 tons per year and that the facility will have an active site life of approximately 46.3 years.

Table I-3 summarizes the existing (Permit No. MSW-2185) and proposed (Permit No. MSW-2185A) permit conditions.

Table I-3 – Permit Condition Summary

	Current Condition (2185)	Proposed Condition (2185A)
Permitted Area (acres)	171.6	210.2
Waste Disposal Area (acres)	129.8	179.9
Buffer/Other Area (acres)	41.8	30.3
Remaining Capacity (cubic yards)	71,724	16,106,490
Remaining Projected Site Life (years)	3*	46.3
Maximum Elevation (ft-msl)	139.4	227.2
Elevation of Deepest Excavation (ft-msl)	5040	5040

* Remaining site life based on current waste acceptance rates as documented in annual reports to TCEQ.

Per 30 TAC §330.5(a)(2), the facility is authorized and will continue to accept construction/demolition debris, brush, rubbish, and non-putrescible wastes that are free of other types of solid waste, and certain Class III industrial solid wastes that are properly identified and are inert and essentially insoluble. Properties of the wastes to be received at the facility are discussed in Part II, Section 2.0.

Response T5

PART III, ATTACHMENT 6

LANDFILL GAS MANAGEMENT PLAN

Hawthorn Park Recycling and Disposal Facility

City of Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Owner/Site Operator/Permittee:



USA Waste of Texas Landfills, Inc.
24275 Katy Freeway, Suite 450
Katy, TX 77494



Submitted By:



Golder Associates Inc.
14950 Heathrow Forest Pkwy
Suite 280
Houston, TX 77032 USA
Professional Engineering Firm Registration Number F-2578

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

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Revised NOD 2: May 2021

Project No. 1894269

4.0 MONITORING

Routine methane monitoring will be conducted at the facility, the type and frequency of which has been determined based on the following factors:

- soil conditions;
- the hydrogeologic conditions surrounding the facility;
- the hydraulic conditions surrounding the facility;
- the location of facility structures and property boundaries; and
- the location of any utility lines or pipelines that cross the facility.

The following sections describe monitoring at the perimeter of the facility (at the permit boundary) and in on-site buildings and structures. There are no utility lines or pipelines that are known to cross site. If during site development any utility lines or pipelines are discovered, they will be vented and monitored.

All monitoring probes and on-site structures will be sampled for methane during the monitoring period. Sampling for specified trace gases may be required by the TCEQ Executive Director when there is a possibility of acute or chronic exposure due to carcinogenic or toxic compounds. The TCEQ Executive Director may establish an alternative schedule for demonstrating compliance with 30 TAC 330.371 (b) and (c).

4.1 Perimeter Monitoring

4.1.1 Perimeter Monitoring Network

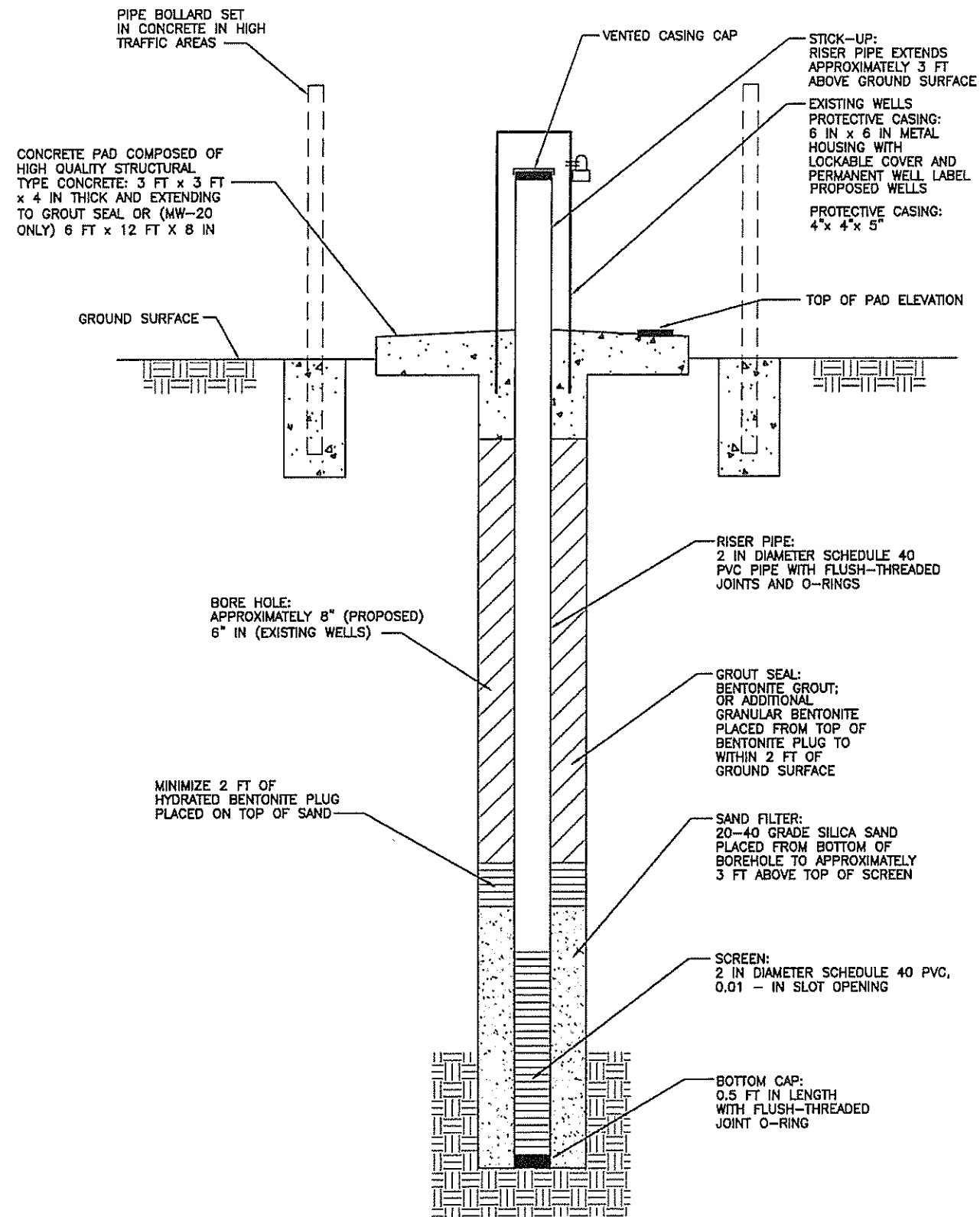
Under current Permit No. MSW-2185, the Hawthorn Park RDF's existing methane monitoring probe network consists of twenty-three (23) monitoring probes as shown in Figure III-6-2. One additional internal monitoring probe (GP-6) is located between West and Center Blocks and, although monitored, this internal probe is not a compliance monitoring point. As-constructed information for the installed methane monitoring probes is included in Appendix III-6A. A typical monitoring probe detail is provided in Figure III-6-4.

The Hawthorn Park RDF's methane monitoring network will be expanded in phases to include the expansion area. Existing methane probes in the expansion area and off the permit boundary in the vicinity of the off-site detention pond will be abandoned upon approval of MSW 2185A. Proposed gas probes GP-28, GP-29, and GP-30 will be installed upon approval of MSW-2185A. Temporary probes may be installed at the site for evaluation purposes. Gas probes for compliance monitoring are GP-1A, GP-2, GP-3, GP-4, GP-8, GP-10, GP-11, GP-12, GP-13, GP-15, GP-18, GP-~~2322~~, GP-25, GP-26, GP-28, GP-29, and GP-30. The proposed perimeter monitoring network is shown on Figure III-6-3.

In accordance 30 TAC §330.371(f), the methane monitoring system will be revised and maintained as needed. Post-closure care shall not interfere with the gas monitoring system.

Other

J:\101\24\102\ATT F\III-5A-2_MW_Detail.dwg Layout: RL (2) User: gwhite



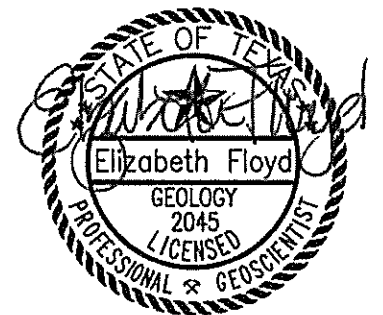
Well Name	Location Northing	Location Easting	Total Depth (feet)	Surface Elevation	Casing Top Elevation (ft msl)	Filter Pack Elevation (ft msl)	Screen Elevation (ft msl)	Top of Bentonite (ft msl)
MW-6	751676	3089869	58.50	104.50	107.80	64.50 to 41.50	56.50 to 46.50	67.60
MW-7	752099	3091197	68.00	102.40	105.34	82.40 to 34.40	46.40 to 36.40	86.40
MW-8	752106	3091756	64.00	102.20	105.29	78.20 to 38.20	49.20 to 39.20	80.20
MW-9	751552	3092479	55.00	105.20	108.45	62.20 to 50.20	60.20 to 55.20	66.20
MW-10	752168	3092511	60.00	102.20	105.20	63.20 to 42.20	61.20 to 51.20	66.20
MW-11	751582	3093876	54.00	102.60	105.51	59.60 to 48.60	57.60 to 52.60	61.10
MW-12	750508	3093951	55.00	102.40	105.10	88.40 to 47.40	62.40 to 52.40	92.10
MW-13	749432	3093938	57.00	102.10	105.14	88.10 to 45.10	62.10 to 52.10	91.10
MW-14	750428	3092521	60.00	103.50	106.43	57.50 to 43.50	55.50 to 45.50	60.40
MW-15	749415	3092553	70.00	104.00	106.76	71.00 to 34.00	51.00 to 41.00	74.00
MW-16	749378	3092270	65.00	103.40	106.26	85.70 to 38.10	53.10 to 43.10	88.10
MW-19	750056	3090816	63.00	106.10	109.07	64.10 to 43.10	58.10 to 48.10	67.10
MW-20	749994	3090199	63.00	107.80	110.69	67.80 to 44.80	59.80 to 49.80	70.80
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MW-23	752199	3093440	57.00	100.00	102.50	64.00 to 50.50	61.00 to 51.00	66.00

* ACTUAL VALUES WILL BE DETERMINED AT THE TIME OF INSTALLATION.

MONITORING WELL CONSTRUCTION WILL BE IN ACCORDANCE WITH 30 TAC § 330.231 AND 30 TAC § 330.242.

NOTES:

1. WELL TO BE DRILLED BY TEXAS LICENSED DRILLER.
2. INSTALLATION AND WELL DEVELOPMENT TO BE SUPERVISED BY QUALIFIED GEOLOGIST OR ENGINEER.
3. FLUIDS INTRODUCED INTO BOREHOLE MUST BE TREATED CITY WATER.
4. STEAMCLEAN PROCEDURES SHOULD BE USED FOR ALL EQUIPMENT SUCH AS TREMIE PIPES OR DRILL PIPE THAT ENTERS BOREHOLES.
5. WELL DEVELOPMENT SHOULD CONTINUE UNTIL pH, SPECIFIC CONDUCTANCE AND TEMPERATURE HAVE STABILIZED.



5/24/2021

REVISION
1. REMOVED MONITORING WELL MW-9 FROM DETAIL TABLE.

MONITORING WELL DETAIL

USA WASTE OF TEXAS LANDFILLS, INC.
HAWTHORN PARK LANDFILL
PERMIT AMENDMENT



BIGGS & MATHEWS
ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS		GLW	ESF	JMS	DSN.	EAS	DATE	FIGURE
2	5/21	REVISION	GLW	ESF	JMS		05/2021	
1	05/21	INFORMATION REQUEST	SRC	ESF	JMS		SCALE : GRAPHIC	
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY	DWG : III-5A-2_MW_Detail.dwg	III-5A-2

Permit Binders Covers and Application Cover Pages

PERMIT AMENDMENT APPLICATION

Hawthorn Park Recycling and Disposal Facility

City of Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Volume 1 of 3

Owner/Site Operator/Permittee:



USA Waste of Texas Landfills, Inc.
24275 Katy Freeway, Suite 450
Katy, TX 77494



Submitted By:



Golder Associates Inc.
14950 Heathrow Forest Pkwy
Suite 280
Houston, TX 77032 USA

Professional Engineering Firm Registration Number F-2578

GOLDER ASSOCIATES INC.
Professional Engineering Firm
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Unmarked Pages

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Part I

PART I

SITE AND APPLICANT INFORMATION

Hawthorn Park Recycling and Disposal Facility

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Project No. 1894269

includes incorporating a closed landfill (Permit No. MSW-1135) within the Hawthorn Park RDF's permit boundary. A Type 5RC compost and mulch facility (Registration No. 104887468) operated by Living Earth Technology Co. (LETCO) is currently located over the closed landfill.

The entrance to the Hawthorn Park RDF will be located south of the current West Block disposal area. Current Permit No. MSW-2185 retains the rights-of-way for Clara Rd., Olga Ln., and Crawford Rd. located within the permitted area. Portions of the rights-of-way have been released by the City of Houston and purchased by USA Waste so that the existing West, Central, and East Blocks will be connected under Permit No. MSW-2185A.

The following third-party facilities are currently located on property owned by and leased from USA Waste, on property that will be included in the expanded permit boundary of the Hawthorn Park RDF under Permit No. MSW-2185A:

- Composting and mulching by LETCO
- Concrete crushing and recycling by Cherry Crushed Concrete, Inc.

The lessees, LETCO and Cherry Crushed Concrete, will continue their current operations until such time as this PAA is approved. The lessees will be given notice upon PAA approval and their business operations at the site will be terminated in accordance with the terms and conditions set forth in their individual lease agreements with USA Waste.

The elevation of the deepest excavation within the overall Hawthorn Park RDF is approximately 50 feet above mean sea level (ft-msl), as referenced to the site coordinate system (see Figure I-A-2). This PAA does not propose to change the elevation of the deepest excavation. The maximum final contour elevation of the expanded facility will increase from approximately 139.4 ft-msl to approximately 227.2 ft-msl. The location of the disposal areas, or limits of waste, is provided on Figure I-A-4 in Appendix IA.

The landfill expansion will result in a permit boundary of 210.2 acres and a waste disposal area of 179.9 acres. The disposal capacity (airspace) of the expansion will be 16,034,766 cubic yards, and the total remaining airspace will be approximately 16,106,490 cubic yards of waste and daily cover, based on the March 6, 2019 aerial topography. The airspace calculations are provided in Part III, Attachment 3, Appendix III-3A.

The waste acceptance rate will vary over the life of the facility depending on market conditions. For the first and second year, it is anticipated that the site will receive 150,000 tons and 200,000 tons per year, respectively. In subsequent years, the waste acceptance rate is anticipated to increase by 1.2% each year until no disposal capacity remains. This estimated increase is based on an average of the Harris-

Galveston Area Council's (HGAC's) population growth trend for Harris County over the estimated active life of the Hawthorn Park RDF. It is projected that the facility's waste acceptance rate will reach a maximum of approximately 340,000 tons per year and that the facility will have an active site life of approximately 46.3 years.

Table I-3 summarizes the existing (Permit No. MSW-2185) and proposed (Permit No. MSW-2185A) permit conditions.

Table I-3 – Permit Condition Summary

	Current Condition (2185)	Proposed Condition (2185A)
Permitted Area (acres)	171.6	210.2
Waste Disposal Area (acres)	129.8	179.9
Buffer/Other Area (acres)	41.8	30.3
Remaining Capacity (cubic yards)	71,724	16,106,490
Remaining Projected Site Life (years)	3*	46.3
Maximum Elevation (ft-msl)	139.4	227.2
Elevation of Deepest Excavation (ft-msl)	40	40

* Remaining site life based on current waste acceptance rates as documented in annual reports to TCEQ.

Per 30 TAC §330.5(a)(2), the facility is authorized and will continue to accept construction/demolition debris, brush, rubbish, and non-putrescible wastes that are free of other types of solid waste, and certain Class III industrial solid wastes that are properly identified and are inert and essentially insoluble. Properties of the wastes to be received at the facility are discussed in Part II, Section 2.0.

Part II

PART II

EXISTING CONDITIONS AND CHARACTER OF THE FACILITY

Hawthorn Park Recycling and Disposal Facility

City of Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Owner/Site Operator/Permittee:



USA Waste of Texas Landfills, Inc.
24275 Katy Freeway, Suite 450
Katy, Texas 77494



Submitted By:



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Houston, TX 77032 USA
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2.0 WASTE ACCEPTANCE PLAN

Per 30 TAC §330.61(b), this section provides information on waste acceptance, including a description of the waste characteristics, a projection of the estimated maximum annual waste acceptance rate, and anticipated facility service area.

2.1 Properties and Characteristics of Waste

The Hawthorn Park RDF is a Type IV landfill, and waste that will be disposed of at the landfill is expected to consist of brush, construction or demolition waste, and rubbish, as defined in 30 TAC §§330.3 and 330.5(a)(2). Listed below are the allowable wastes that the facility is authorized to accept for disposal, followed by a list of prohibited wastes that the facility is not authorized to accept:

Allowable Wastes: The facility may accept the following wastes:

- Construction or demolition waste [30 TAC §330.3(33)]
- Brush [30 TAC §330.3(18)]
- Rubbish [30 TAC §330.3(136)]
- Tires that have been processed (such as by splitting, shredding, quartering or sidewall removal) in a manner acceptable to the executive director. [30 TAC §330.3(142); 30 TAC §330.15(e)(4) (prohibiting disposal of whole used or scrap tires)]
- Class 2 industrial solid waste that is construction or demolition waste, brush, or rubbish resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations. [30 TAC §330.3(22); 30 TAC §330.173(i)]
- Class 3 industrial solid waste. [30 TAC §330.3(23); 30 TAC §330.173(j)]
- Non-regulated asbestos-containing material (non-RACM). [30 TAC §330.3(95); 40 CFR §61.141; 30 TAC §330.171(c)(4)]
- Other special waste that is construction or demolition waste, brush, or rubbish. [30 TAC §330.3(154); 30 TAC §330.171(a)]

Prohibited Wastes: The facility may not accept the following wastes:

- Wastes that are not construction or demolition waste, brush, or rubbish. [30 TAC §330.5(a)(2)]
- Putrescible waste. [30 TAC §330.3(122)]
- Class I Waste [30 TAC §330.3(21)]
- Untreated medical waste. Please note that this prohibition may be superseded by the executive director in writing when a situation exists that requires disposal of untreated medical waste to protect human health and the environment from the effects of a natural or man-made disaster. [30 TAC §330.171(c)(1)]
- Lead-acid storage batteries. [30 TAC §330.15(e)(1)]
- Do-it-yourself used motor vehicle oil. [30 TAC §330.15(e)(2)]
- Used oil filters from internal combustion engines. [30 TAC §330.15(e)(3)]
- Whole used or scrap tires. [30 TAC §330.15(e)(4)]

Appendix IIB-1 Pages

Matthews, Reid

From: Samir Goel <Samir.Goel@txdot.gov>
Sent: Wednesday, May 26, 2021 11:12 AM
To: Emily Moran
Cc: Colby Wright
Subject: RE: Hawthorn Park Traffic Letter (TR20521TIA)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Emily,

On 05/24/2021, I sent a “no objections” email to our Permits Office, and directly to Terance Virtue, PG (with the TCEQ), regarding the TIA documentation for the Hawthorn Park Landfill Expansion.

I do not know if there are other reviewers, or who the final approval authority rests with.

Thank you,
Samir Goel

From: Emily Moran [mailto:EMoran@jonescarter.com]
Sent: Wednesday, May 26, 2021 10:02 AM
Cc: Colby Wright <CWright@jonescarter.com>
Subject: RE: Hawthorn Park Traffic Letter (TR20521TIA)

Can you confirm you received the Traffic Letter for the Hawthorn Landfill Expansion? If you could provide an estimated time to approve, that would be greatly appreciated.

Best Regards,
Emily F. Moran, P.E. PTOE



Matthews, Reid

From: Emily Moran <EMoran@jonescarter.com>
Sent: Monday, May 17, 2021 7:56 AM
To: Samir Goel
Cc: Colby Wright
Subject: Hawthorn Park Traffic Letter (TR20521TIA)
Attachments: 2021-5-11 TxDOT Memo.pdf

Samir,

Please see attached requested traffic volume memo for the Hawthorn Landfill Expansion TIA (TR20521TIA). The trip generation table shows the Landfill Expansion will increase AM peak hour trips by 55 vehicles and the PM peak hour trips by 40 vehicles over a 49 year period.

Let us know if you need anything additional in order to issue your approval.

Thanks,

Emily F. Moran, P.E., PTOE
Project Engineer
emoran@jonescarter.com

JONES | CARTER

6330 West Loop South, Suite 150
Bellaire, Texas 77401
Telephone 713.777.5337, Ext. 2361
Direct 346.231.0861
www.jonescarter.com

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May 11, 2021

Samir Goel
 Texas Department of Transportation
 7600 Washington Ave
 Houston, TX 77007

Subject: Hawthorn Landfill Expansion Trip Generation Memorandum

A Transportation Study for the Hawthorn Park Landfill Expansion was performed by Jones & Carter, Inc. on November 20, 2020 on behalf of Waste Management. The transportation study can be referred to for additional information on the site and traffic data.

Waste Management provided daily site traffic for the approximate 46-year extension of the active site life of the Hawthorn Park Landfill Expansion. The yearly gate waste receipts are expected ramp up during Year 1 and 2. After Year 2, the yearly gate waste receipts and the number of waste vehicles entering and exiting the facility is expected to increase at a rate of 1.2% annually. A 1.2% annual increase was determined from population growth in relation to the Hawthorn Park Landfill Facility.

Table 1 provides a summary of the estimated site traffic for the Hawthorn Park Landfill Expansion. It was assumed that Year 1 represented 2022 and Year 46 represented the project site life year, 2068. The proposed 46-year extension of the active site life of the Hawthorn Park Landfill Expansion is proposed to increase AM Peak Hour trips by 55 vehicles and PM Peak Hour trips by 40 vehicles from 2019 existing volumes (49 total years).

Table 1 – Trip Generation Summary

Vehicle Type	Total Daily Vehicles	AM Peak			PM Peak		
		Enter	Exit	Total	Enter	Exit	Total
2019 Existing Traffic Data							
All Vehicles	-	3	6	9	3	21	24
Year 1 (2022) Trip Generation							
All Vehicles	130	22	12	34	12	22	34
Year 46 (2068, Active Site Life) Trip Generation							
All Vehicles	280	37	27	64	27	37	64

Please call for any questions regarding the Hawthorn Landfill Expansion Transportation Study.

Best Regards,

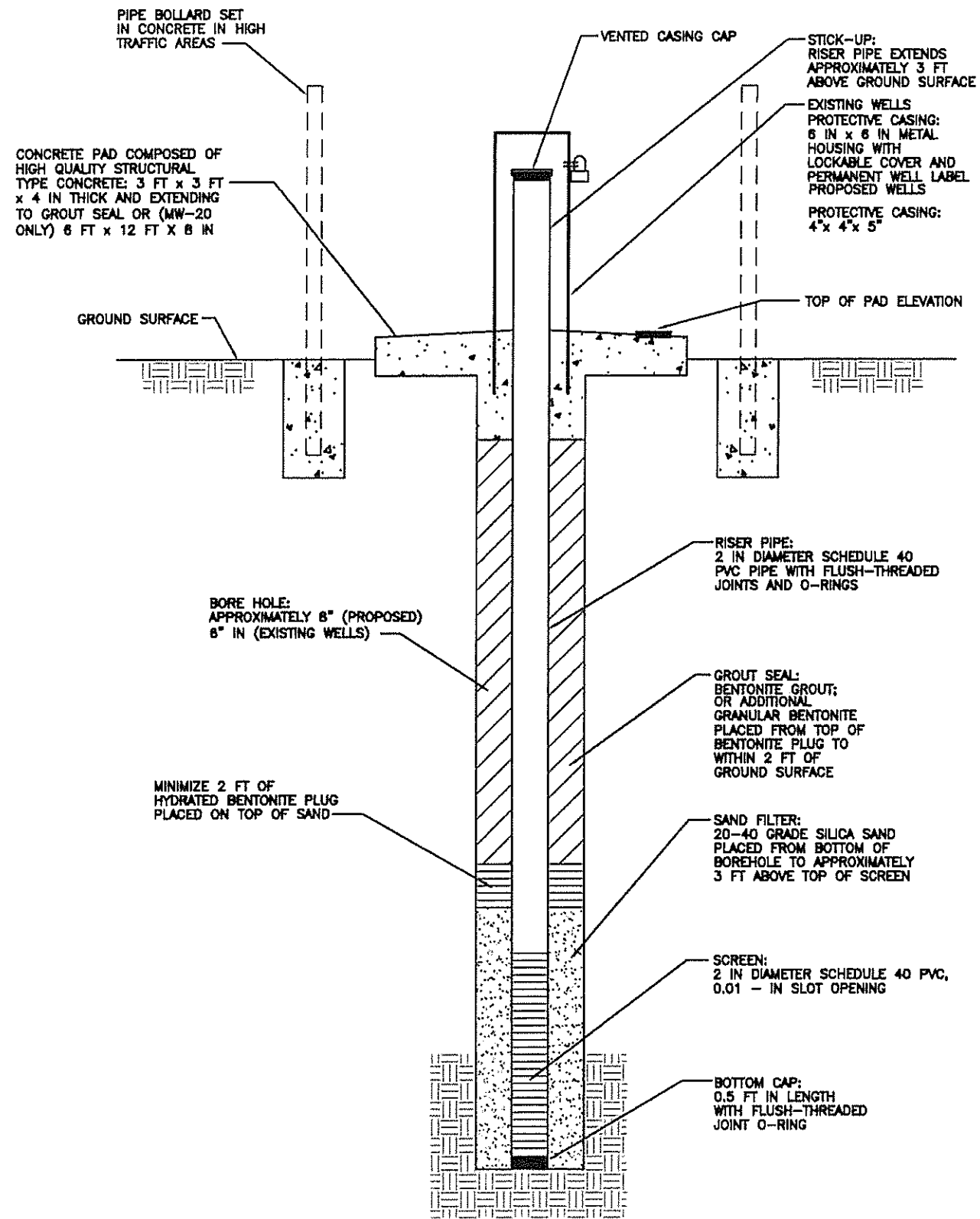


P.E., P.T.O.E., R.S.P.1
5/11/2021

Colby W. Wright, P.E., PTOE, RSP1

Part III, ATTACHMENT 5

J:\101\24\102\ATT F\III-5A-2_MW_Detail.dwg Layout: CLEAN (2) User: gwhite



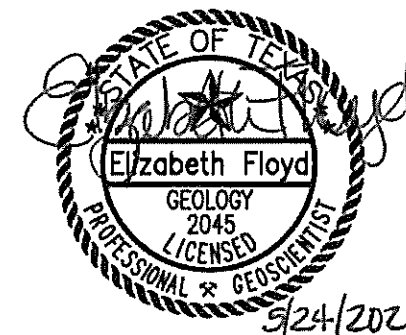
Well Name	Location Northing	Location Easting	Total Depth (feet)	Surface Elevation	Casing Top Elevation (ft masl)	Filter Pack Elevation (ft masl)	Screen Elevation (ft masl)	(ft)	Top of Bentonite (ft masl)
MW-6	751676	3089869	58.50	104.50	107.80	64.50 to 41.50	56.50 to 46.50		67.60
MW-7	752099	3091197	68.00	102.40	105.34	82.40 to 34.40	46.40 to 36.40		85.40
MW-8	752106	3091756	64.00	102.20	105.29	78.20 to 38.20	49.20 to 39.20		80.20
MW-10	752166	3092511	60.00	102.20	105.20	63.20 to 42.20	61.20 to 51.20		66.20
MW-11	751582	3093876	54.00	102.60	105.51	59.60 to 48.60	57.60 to 52.60		61.10
MW-12	750508	3093951	55.00	102.40	105.10	88.40 to 47.40	62.40 to 52.40		92.10
MW-13	749432	3093936	57.00	102.10	105.14	88.10 to 45.10	62.10 to 52.10		91.10
MW-14	750428	3092521	60.00	103.50	106.43	57.50 to 43.50	55.50 to 45.50		60.40
MW-15	749415	3092553	70.00	104.00	106.76	71.00 to 34.00	51.00 to 41.00		74.00
MW-16	749378	3092270	65.00	103.40	106.26	85.70 to 38.10	53.10 to 43.10		88.10
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MONITORING WELL CONSTRUCTION WILL BE IN ACCORDANCE WITH 30 TAC § 330.231 AND 30 TAC § 330.242.

NOTES:

1. WELL TO BE DRILLED BY TEXAS LICENSED DRILLER.
2. INSTALLATION AND WELL DEVELOPMENT TO BE SUPERVISED BY QUALIFIED GEOLOGIST OR ENGINEER.
3. FLUIDS INTRODUCED INTO BOREHOLE MUST BE TREATED CITY WATER.
4. STEAMCLEAN PROCEDURES SHOULD BE USED FOR ALL EQUIPMENT SUCH AS TREMIE PIPES OR DRILL PIPE THAT ENTERS BOREHOLES.
5. WELL DEVELOPMENT SHOULD CONTINUE UNTIL pH, SPECIFIC CONDUCTANCE AND TEMPERATURE HAVE STABILIZED.




ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS		DSN.	EAS	DATE	FIGURE	
2	5/21	REVISION	GLW	ESF	JMS	DATE : 04/2021
1	4/21	INFORMATION REQUEST				SCALE : GRAPHIC
REV	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY

MONITORING WELL DETAIL

USA WASTE OF TEXAS LANDFILLS, INC.
HAWTHORN PARK LANDFILL
PERMIT AMENDMENT



BIGGS & MATHEWS
 ENVIRONMENTAL
 CONSULTING ENGINEERS
 MANSFIELD • WICHITA FALLS
 817-563-1144

FIGURE
III-5A-2

Part III, Attachment 6

PART III, ATTACHMENT 6

LANDFILL GAS MANAGEMENT PLAN

Hawthorn Park Recycling and Disposal Facility

City of Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Owner/Site Operator/Permittee:



USA Waste of Texas Landfills, Inc.
24275 Katy Freeway, Suite 450
Katy, TX 77494



Submitted By:



Golder Associates Inc.
14950 Heathrow Forest Pkwy
Suite 280
Houston, TX 77032 USA
Professional Engineering Firm Registration Number F-2578

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

INTENDED FOR PERMITTING
PURPOSES ONLY

Submitted: February 2021
Administrative NOD 1: March 2021
Revised NOD 1: May 2021
Revised NOD 2: May 2021

Project No. 1894269

4.0 MONITORING

Routine methane monitoring will be conducted at the facility, the type and frequency of which has been determined based on the following factors:

- soil conditions;
- the hydrogeologic conditions surrounding the facility;
- the hydraulic conditions surrounding the facility;
- the location of facility structures and property boundaries; and
- the location of any utility lines or pipelines that cross the facility.

The following sections describe monitoring at the perimeter of the facility (at the permit boundary) and in on-site buildings and structures. There are no utility lines or pipelines that are known to cross site. If during site development any utility lines or pipelines are discovered, they will be vented and monitored.

All monitoring probes and on-site structures will be sampled for methane during the monitoring period. Sampling for specified trace gases may be required by the TCEQ Executive Director when there is a possibility of acute or chronic exposure due to carcinogenic or toxic compounds. The TCEQ Executive Director may establish an alternative schedule for demonstrating compliance with 30 TAC 330.371 (b) and (c).

4.1 Perimeter Monitoring

4.1.1 Perimeter Monitoring Network

Under current Permit No. MSW-2185, the Hawthorn Park RDF's existing methane monitoring probe network consists of twenty-three (23) monitoring probes as shown in Figure III-6-2. One additional internal monitoring probe (GP-6) is located between West and Center Blocks and, although monitored, this internal probe is not a compliance monitoring point. As-constructed information for the installed methane monitoring probes is included in Appendix III-6A. A typical monitoring probe detail is provided in Figure III-6-4.

The Hawthorn Park RDF's methane monitoring network will be expanded in phases to include the expansion area. Existing methane probes in the expansion area and off the permit boundary in the vicinity of the off-site detention pond will be abandoned upon approval of MSW 2185A. Proposed gas probes GP-28, GP-29, and GP-30 will be installed upon approval of MSW-2185A. Temporary probes may be installed at the site for evaluation purposes. Gas probes for compliance monitoring are GP-1A, GP-2, GP-3, GP-4, GP-8, GP-10, GP-11, GP-12, GP-13, GP-15, GP-18, GP-22, GP-25, GP-26, GP-28, GP-29, and GP-30. The proposed perimeter monitoring network is shown on Figure III-6-3.

In accordance 30 TAC §330.371(f), the methane monitoring system will be revised and maintained as needed. Post-closure care shall not interfere with the gas monitoring system.