

ORIGINAL

Madison Co.
AI#4483
1720-00080

**APPENDIX 1-E
TITLE V AIR PERMIT APPLICATION**

**LATERAL EXPANSION PERMIT APPLICATION
CANTON SANITARY LANDFILL
(Solid Waste Permit No. SW04501B0378)**

Rev. 0, December 22, 2021

R E C E I V E D
JAN 14 2022

MDEQ



1000 Highland Colony Pkwy, Bldg 5000, Ste 5203, Ridgeland, MS 39157 / P 601.672.4020 / trinityconsultants.com

September 18, 2021

Mr. Jaricus Whitlock, P.E.
Air II Branch Chief, EPD
Mississippi Department of Environmental Quality (MDEQ)
515 East Amite Street
Jackson, MS 39225

**RE: City of Canton. Canton Sanitary Landfill
Canton, MS
AI: 4483 , Air Permit No. 1780-00080
SW Permit No: SW04501B0378S**

Dear Mr. Whitlock,

On behalf of City of Canton, Trinity Consultants is submitting the enclosed TV application . The facility was initially a "True Minor Source", but because of the requirements of NSPS Subpart XXX, is required to get a Title V Permit. This submittal includes one original application and one hard copy. An electronic version of the application has been emailed as well.

If you have questions or need additional information about this application, please do not hesitate to call me at 601-672-4020 (mr Rao@trinityconsultants.com).

Sincerely,

TRINITY CONSULTANTS

A handwritten signature in black ink that reads "Maya Rao". The signature is written in a cursive, flowing style.

Maya Rao, P.E.
Manager of Consulting Services, Jackson, MS Office

cc: Mr. Melon Garrett (City of Canton)
Mr. David Ruhl (Neel-Schaffer)
Mr. Ed Lee (Trinity Consultants)
Mr. Balaji Ganesan (Trinity Consultants)

HEADQUARTERS

12700 Park Central Dr, Ste 2100, Dallas, TX 75251 / P 800.229.6655 / P 972.661.8100 / F 972.385.9203

TITLE V INITIAL APPLICATION

**City of Canton , Canton Sanitary Landfill
Canton, MS**

AI 4483 Permit No. 1780-00080

Solid Waste Management Permit No. SW04501B0378

Prepared By:

Maya Rao, P.E. – Trinity Consultants, Inc.
Ed Lee, P.E.- Trinity Consultants, Inc
Balaji Ganesan – Trinity Consultants, Inc.

TRINITY CONSULTANTS

1000 Highland Colony Parkway
Suite 5203
Ridgeland, Mississippi 39157

September 2021

Project No. 201902.0006



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1. INTRODUCTION AND PROJECT DESCRIPTION

The Canton Sanitary Landfill (Canton Landfill) is owned and operated by the City of Canton, Mississippi. The landfill is located at 303 Soldier Colony Road in Canton, MS. The landfill has been operating since 1986. The facility was a True Minor Source and did not require a Title V permit as it was below the Title V permitting thresholds. The landfill currently consists of 49.89 acres of waste disposal area and has a waste disposal capacity of 1,332,505 tons. With this application, the City of Canton is proposing to increase the waste disposal capacity to 3,940,031 tons. The City of Canton is also proposing to develop an additional 53.83 acres of land for use with this application. Per 40 CFR 60.752(b), municipal solid waste landfills are subject to Part 70 or 71 requirements if the design capacity is greater than or equal to 2.5 million megagrams (million Mg) and 2.5 million cubic meters. Therefore, the City of Canton is submitting with this initial Title V Permit Application.

1.1 Current Landfill Specifications & Emissions

The current landfill consists of a 34.5 acres Subtitle D area and a 15.44-acre Pre-Subtitle D, a waste disposal capacity of 1.0 million Megagrams (MG). The current facility was subject to 40 CFR 60, Subpart WWW. The facility was subject to the Tier II sampling per 40 CFR 60.754(a)(3). The total area subject to the Tier II sampling is approximately 49.89 acres. The City of Canton submitted a Tier II testing and Sampling report to Mississippi Department of Environmental Quality (MDEQ) on September 18, 2018. Based on the site specific NMOC concentration of 335 ppmv as hexane, it was determined that the NMOC emission rate for 2018 is 11.4 Mg/yr and the subsequent maximum concentration of the NMOC for the 5-yr cycle is 12.4 Mg/yr.

1.2 Proposed Expansion / Modifications

The Canton Landfill is proposing to have a lateral expansion at its existing facility. All landfills that are expanding after July 17, 2014, will be applicable to 40 CFR 60, Subpart XXX regulations. The proposed expansion of the Canton Sanitary Landfill will increase the waste design capacity to 3,574,337 metric tons and 5,020,617 cubic meter (m³). Since the design capacity is greater than 2.5 million Mg, a Part 70 or 71 permit is required.

This expansion project will result in the following design changes to the landfill:

- ▶ There will be a lateral expansion that will increase the footprint by about 53.83 acres;
- ▶ The additional acreage will increase the footprint to about 103.72 acres;
- ▶ There will be a design change to the interior slopes of the landfill. It is expected that the final elevation may be approximately 300 feet above the mean sea level;
- ▶ There will be no additional equipment on site; and
- ▶ A table showing the current waste acceptance rates and the projected waste acceptance rates is presented in Appendix F.

The Emission Points at the facility are as follows:

- ▶ AA-001 (Emissions from the Landfill operation – designed for 3,574,337 metric tons/year).
- ▶ AA-002 (Emissions from Paved Roads – 95% and Gravel & Limestone Roads - 5%)
- ▶ Insignificant Activities: Two (2) 1000-gallons diesel storage tanks

Table 1-1. Facility-wide Potential to Emit Emissions, tpy

Source ID	Source Description	Pollutant	Uncontrolled Emissions	
			lb / hr	tpy
AA-001	Landfill Fugitives	VOC	3.74	16.38
		CO	0.45	1.98
		Toluene (Largest HAP)	2.22	9.73
		Combined HAPs	3.06	13.41
		CO ₂	-	11,122
		CH ₄	-	4,054
		Chlorodifluoromethane	-	0.0568
		Dichlorodifluoromethane	-	0.9778
		CO ₂ e	-	122,536
		NMOC	-	23.56 (Mg/year)
AA-002	Fugitive Road Dust Emissions	PM ₁₀	2.02	8.86
		PM _{2.5}	0.07	0.29
Totals		VOC	3.74	16.38
		CO	0.45	1.98
		CO ₂ e	-	122,536
		PM ₁₀	2.02	8.86
		PM _{2.5}	0.07	0.29
		Toluene (Largest HAP)	2.22	9.73
		Total HAPs	3.06	13.41

1.3 State & Federal Regulations

1.3.1 Construction Permit Requirements: 11 Miss. Admin. Code, Rule 2.13 F

Rule 2.13.F of Title 11, Part 2 of the Mississippi Administrative Code states that a “*de minimis* NSR modification” is excluded from the requirements for a permit to construct.

The emissions increase from the landfill expansion for criteria pollutants is expected to be minimal. Therefore, the proposed project is classified as a “*de minimis* NSR Modification” and the facility is not required to obtain a construction permit to expand the landfill.

1.3.2 New Source Performance Standards (NSPS)

The proposed expansion will trigger 40 CFR 60 Subpart XXX (Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014).

Therefore, the facility will be subject to 40 CFR 60 Subpart XXX. Additionally, no Landfill Gas Collection System is required because the facility's projected NMOC is less than 35 Mg/year.

1.3.3 National Emission Standards for Hazardous Air Pollutants (MACT)

The facility is not subject to 40 CFR 63 Subpart AAAA (National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills). The individual HAP and aggregate HAPs are less than the Major Source thresholds of 10 tpy and 25 tpy, respectively. Additionally, the estimated uncontrolled NMOC emissions are less than 50 Mg/yr. Therefore, per 40 CFR 63.1935(a), the facility is not subject to 40 CFR 63 Subpart AAAA facility is not subject to the 40 CFR 63, Subpart AAAA – Municipal Solid Waste Landfills (MACT) as the estimated uncontrolled emissions is less than 50 Mg/yr.

1.3.4 National Emission Standards for Hazardous Air Pollutants – Asbestos

The Canton Sanitary landfill does not accept asbestos. Therefore, the facility is not subject to 40 CFR 61, Subpart M.

1.3.5 Stratospheric Ozone Protection

Title VI of the Clean Air Act requires phase out of ozone-depleting chemicals. The stratospheric ozone protection provisions have been codified under 40 CFR Part 82. The facility shall comply with the applicable requirements of 40 CFR 82.

1.4 Application Contents

The following are included as the part of this permit renewal application:

- ▶ Appendix A: MDEQ forms;
- ▶ Appendix B: Emission Calculations;
- ▶ Appendix C: Site Plan;
- ▶ Appendix D: Topographic Map; and
- ▶ Appendix E: Waste Collection Rate (Current & Projected).

APPENDIX A. MDEQ FORMS

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FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT															
Facility (Agency Interest) Information			Section A														
1. Name, Address, and Location of Facility																	
A. Owner/Company Name: <u>City of Canton, MS</u> B. Facility Name (if different than A. above) <u>Canton Sanitary Landfill</u> C. Facility Air Permit No. (if known): <u>1720-00080</u> D. Agency Interest No. (if known): <u>4483</u> E. Physical Address <table style="width: 100%;"> <tr> <td>1. Street Address: <u>303 Soldier Colony Road</u></td> <td>3. State: <u>Mississippi</u></td> </tr> <tr> <td>2. City: <u>Canton</u></td> <td>5. Zip Code: <u>39046</u></td> </tr> <tr> <td>4. County: <u>Madison</u></td> <td>7. Fax No. <u>601-859-5820</u></td> </tr> <tr> <td>6. Telephone No. <u>601-859-8626</u></td> <td></td> </tr> </table> F. Mailing Address (<i>if different from physical address</i>) <table style="width: 100%;"> <tr> <td>1. Street Address or P.O. Box: <u>1605</u></td> <td>4. Zip Code: <u>39056</u></td> </tr> <tr> <td>2. City: <u>Canton</u></td> <td></td> </tr> <tr> <td>3. State: <u>MS</u></td> <td></td> </tr> </table> G. Latitude/Longitude Data 1. Collection Point (<i>check one</i>) ☒ Plant Entrance ☐ Other: _____ 2. Method of Collection (<i>check one</i>) ☐ GPS Specify coordinate system (NAD 83, etc.) _____ ☒ Map Interpolation (Google Earth etc.) ☐ Other: _____ 3. Latitude (degrees/minutes/seconds): <u>32.59254 N</u> 4. Longitude (degrees/minutes/seconds): <u>-90.07829 W</u> 5. Elevation: <u>197</u> feet H. SIC/NAICS Codes (<i>primary code listed first</i>) SIC: <u>4953</u> NAICS: <u>562212</u> (NAICS Code should correspond with the SIC Code directly above.)				1. Street Address: <u>303 Soldier Colony Road</u>	3. State: <u>Mississippi</u>	2. City: <u>Canton</u>	5. Zip Code: <u>39046</u>	4. County: <u>Madison</u>	7. Fax No. <u>601-859-5820</u>	6. Telephone No. <u>601-859-8626</u>		1. Street Address or P.O. Box: <u>1605</u>	4. Zip Code: <u>39056</u>	2. City: <u>Canton</u>		3. State: <u>MS</u>	
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3. State: <u>MS</u>																	
2. Name and Address of Facility Contact																	
A. Name <u>Mr. Melon Garrett</u> Title: <u>Director</u> B. Mailing Address <table style="width: 100%;"> <tr> <td>1. Street Address: <u>303 Soldier Colony Road</u></td> <td>3. State: <u>Mississippi</u></td> </tr> <tr> <td>2. City: <u>Canton</u></td> <td>5. Email: <u>melong@clandfill.com</u></td> </tr> <tr> <td>4. Zip Code: <u>39046</u></td> <td>7. Fax No. <u>601-859-5820</u></td> </tr> <tr> <td>6. Telephone No. <u>601-859-8626</u></td> <td></td> </tr> </table>				1. Street Address: <u>303 Soldier Colony Road</u>	3. State: <u>Mississippi</u>	2. City: <u>Canton</u>	5. Email: <u>melong@clandfill.com</u>	4. Zip Code: <u>39046</u>	7. Fax No. <u>601-859-5820</u>	6. Telephone No. <u>601-859-8626</u>							
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3. Name and Address of Air Contact (if different from Facility Contact)

A. Name Same as Above Title: _____

B. Mailing Address

1. Street Address:	_____	3. State:	<u>Mississippi</u>
2. City:	_____	5. Email:	_____
4. Zip:	_____	7. Fax No.	_____
6. Telephone No.	_____		

4. Name and Address of the Responsible Official for the Facility

The Responsible Official is defined as one of the following:

- a. For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$ 25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated in accordance with corporate procedures.
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- c. For a municipality, state, federal, or other public agency: either a principal executive officer or ranking elected official. For purposes of these regulations, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA). A principal executive officer of a military facility includes the facility commander, chief executive officer, or any other similar person who performs similar policy or decision-making functions for the institution.

A. Name Mr. Melon Garrett Title : Director

B. Mailing Address

1. Street Address	<u>PO Box 1605</u>	3. State:	<u>Mississippi</u>
2. City :	<u>Canton</u>	5. Email:	<u>melong@clandfill.com</u>
4. Zip Code:	<u>39046</u>	7. Fax No.	<u>601-859-5820</u>
6. Telephone No.	<u>601-859-8626</u>		

C. Is the person above a duly authorized representative ☐ Yes ☒ No

If yes, has written notification of such authorization been submitted to MDEQ?

☒ Yes ☐ No ☐ Request for authorization is attached

5. Type of Permit Application (Check all that apply)

State Permit to Construct (i.e., non-PSD or PSD avoidance)

☐ Initial Application ☐ Modification

New Source Review (NSR) Permit to Construct (includes both Prevention of Significant Deterioration (PSD) and Nonattainment)

☐ Initial Application ☐ Modification

Title V Operating Permit

☒ Initial Application

☐ Re-issuance: Are any modification to the permit/facility being requested? ☐ Yes ☐ No
Addendum to Renewal

If yes, provide a separate sheet identifying the modification(s) and resulting change to emissions.

☐ Modification (Specify type): ☐ Significant ☐ Minor ☐ Administrative

Synthetic Minor Operating Permit (Appendix B must be completed and attached.)

☐ Initial Application

☐ Re-issuance: Are any modification to the permit/facility being requested? ☐ Yes ☐ No
If yes, address such on a separate sheet.

☐ Modification

State Permit to Operate a Significant Minor Source (defined in 11 Miss. Admin. Code Pt. 2, R.2.1.C(25).)

☐ Initial Application

☐ Re-issuance: Are any modification to the permit/facility being requested? ☐ Yes ☐ No
If yes, address such on a separate sheet.

☐ Modification

True Minor Determination

☐ Uncontrolled potential to emit air pollutants is below the Title V thresholds

6. Process/Product Details

A. List Significant Raw Materials (*if applicable*):

N/A - Landfill

B. List All Products (*if applicable*):

N/A - Landfill

C. Brief Description of Principal Process(es):

This is an operating landfill. It accepts household waste that is not hazardous. There are about 70 trucks in and out per day. The trucks travel a total of 1.5 miles once inside the facility.

6. Process/Product Details (continued)

D. Maximum Throughput for Raw Material(s) (*if applicable*):

Raw Materials	Throughput	Units
Sanitary Waste	70,000.0	tons/yr

E. Maximum Throughput for Principal Product(s) (*if applicable*): N/A

Product	Throughput	Units

7. Facility Operating Information

A. Number of employees at the facility: 30 Approx.

	Average Actual	Maximum Potential
B. Hours per day the facility will operate:	<u> </u>	<u>24</u>

C. Days per week the facility will operate:	<u> </u>	<u>7</u>
---	-----------------------------	----------

D. Weeks per year the facility will operate:	<u> </u>	<u>52</u>
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E. Months the facility will operate:	<u>January - December</u>	<u>January - December</u>
--------------------------------------	---------------------------	---------------------------

8. Maps

A. Attach a topographical map of the area extending to at least 1/2 mile beyond the property boundaries. The map must show the outline of the property boundaries.

B. Attach a site map/diagram showing the outline of the property, an outline of all buildings and roadways on the site, and the location of each significant air emission source.

9. Zoning

A. Is the facility (either existing or proposed) located in accordance with any applicable city and/or county zoning ordinances? If no, please explain.

Yes

B. Is the facility (either existing or proposed) required to obtain any zoning variance to locate/ expand the facility at this site? If yes, please explain.

No

10. Risk management Plan

A. Is the facility required to develop and register a risk management plan pursuant to Section 112(r), regulated under 40 CFR Part 68?

☐

Yes

☒

No

B. If yes, to whom was the plan submitted?

Date Submitted:

11. Is confidential information being submitted with this application?☐

Yes

☒

No

If so, please follow the procedures outlined in the Mississippi Code Ann. Sections 49-17-39 and 17-17-27(6), as outlined in MCEQ-2-"Regulation regarding the review and reproduction of public records".

12. MS Secretary of State Registration / Certificate of Good Standing

No permit will be issued to a company that is not authorized to conduct business in Mississippi. If the company applying for the permit is a corporation, limited liability company, a partnership or a business trust, the application package should include proof of registration with the Mississippi Secretary of State and/or a copy of the company's Certificate of Good Standing. The name listed on the permit will include the company name as it is registered with the Mississippi Secretary of State.

It should be noted that for an application submitted in accordance with 11 Miss. Admin. Code Pt. 2, R. 2.8.B. to renew a State Permit to Operate or in accordance with 11 Miss. Admin. Code Pt. 2, R. 6.2.A(1)(c). to renew a Title V Permit to be considered timely and complete, the applicant shall be registered and in good standing with the Mississippi Secretary of State to conduct business in Mississippi.

13. Certification

Note: If approved by the MDEQ, a duly authorized representative (DAR) may sign the air permit application. The DAR must be listed in Section 4 of this application.

I certify to the best of knowledge and belief formed after reasonable inquiry; the statements and information in this application are true, complete, and accurate, and that as a responsible official, my signature shall constitute an agreement that the applicant assumes the responsibility for any alteration, additions, or changes in operation that may be necessary to achieve and maintain compliance with all applicable Rules and Regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Signature of Responsible Official/DAR

9-15-2021

Date

Melon Garrett

Printed Name

Director

Title

Section B.0: Emission Point Descriptions & Status

This form should list all the of the Emission Points and descriptions as proposed or as otherwise identified in an existing permit. This worksheet should be updated to reflect changes to the Status of the emission points over time. Emission Point ID's should match those assigned in the current MDEQ permit. Facility ID is optional. For proposed emission points, the facility should leave the Emission Point ID blank but may complete the Facility ID (if any). Under "Status," for Emission Points that are proposed or under construction but not yet operating, indicate their status as "Proposed." For emissions points already operating or for which construction has been certified complete, indicate their status as "Operating." Include all control devices for each emission point and the pollutant(s) the device controls. Control devices may be specified in general terms (e.g., baghouse, catalytic oxidizer, fabric filter, wet ESP, etc.). When an Emission Point is removed, indicate so by changing the "Status" to "Removed." Remove the emissions on the subsequent worksheets or indicate they are removed with a "-" for all pollutants.

[illegible]

Section B.1: Maximum Uncontrolled Emissions (under normal operating conditions)

Maximum Uncontrolled Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless operating capacity and/or hours of operation are specifically limited in an enforceable permit. (Existing limits on operating conditions, not emissions or use of a control device, may be used when determining uncontrolled emissions.) Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Emissions ≥ 0.01 ton/yr from a specific emission unit must be included. Please do not change the column widths on this table.

Emission Point ID	TSP ¹ (PM)		PM-10 ¹		PM-2.5 ¹		SO ₂		NOx		CO		VOC		TRS ²		Lead		Total HAPs	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
AA-001	-	-	-	-	-	-	-	-	-	-	0.45	1.98	3.74	16.38	0.14	0.62	-	-	3.06	13.41
AA-002	2.02	8.86	2.02	8.86	0.07	0.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	2.02	8.86	2.02	8.86	0.07	0.29	-	-	-	-	0.45	1.98	3.74	16.38	0.14	0.62	-	-	3.06	13.41

¹ **Condensables:** Include condensable particulate matter emissions in particulate matter calculations for PM-10 and PM-2.5, but not for TSP (PM).

² **TRS:** Total reduced sulfur (TRS) is the sum of the sulfur compounds hydrogen sulfide (H₂S), methyl mercaptan (CH₃S), dimethyl sulfide (C₂H₆S), and dimethyl disulfide (C₂H₄S₂).

Section B.2: Proposed Allowable Emissions

Proposed Allowable Emissions (Potential to Emit) are those emissions the facility is currently permitted to emit as limited by a specific permit requirement or federal/state standard (e.g., a MACT standard); or the emission rate at which the facility proposes to emit considering emissions control devices, restrictions to operating rates/hours, or other requested permit limits that reduce the maximum emission rates. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Emissions ≥ 0.01 ton/yr from a specific emission unit must be included. Additional columns may be added if there are regulated pollutants (other than HAPs and GHGs) emitted at the facility. List HAPs in Section B.3 and GHGs in Section B.4 (if applicable).

Emission Point ID	TSP ¹		PM10 ¹		PM2.5 ¹		SO ₂		NOx		CO		VOC		TRS		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
AA-001	-	-	-	-	-	-	-	-	-	-	0.45	1.98	3.74	16.38	0.14	0.62	-	-
AA-002	2.02	8.86	2.02	8.86	0.07	0.29	-	-	-	-	-	-	-	-	-	-	-	-
Totals	2.02	8.86	2.02	8.86	0.07	0.29	-	-	-	-	0.45	1.98	3.74	16.38	0.14	0.62	-	-

¹ **Condensables:** Include condensable particulate matter emissions in particulate matter calculations for PM-10 and PM-2.5, but not for TSP (PM).

² **TRS:** Total reduced sulfur (TRS) is the sum of the sulfur compounds hydrogen sulfide (H₂S), methyl mercaptan (CH₃S), dimethyl sulfide (C₂H₆S), and dimethyl disulfide (C₂H₆S₂).

Section B.3: Proposed Allowable Hazardous Air Pollutants (HAPs)

Proposed Allowable HAPs (Potential to Emit) are those emissions the facility is currently permitted to emit as limited by a specific permit requirement or federal/state standard (e.g., a MACT standard); or the emission rate at which the facility proposes to emit considering emissions control devices, restrictions to operating rates/hours, or other requested permit limits that reduce the maximum emission rates. Select an individual HAP from the dropdown list provided. **Emissions $\geq$ 0.01 ton/yr of an individual HAP from a specific emission unit must be provided.** Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected or are below the reporting threshold. Select the appropriate HAP from the drop down menu in the header cell of the given column in the table below. Additional columns may be added as necessary to address each HAP.

[illegible]

Section B.4: Greenhouse Gas (GHG) Emissions

This form is required for facilities that have or will require a Title V Operating Permit and for all industries in the energy and oil and gas sectors (i.e., SIC codes beginning with 13, 29, 46, and 49). Proposed Allowable GHGs (Potential to Emit) are those emissions the facility is currently permitted to emit as limited by a specific permit requirement or federal/state standard; or the emission rate at which the facility proposes to emit considering emissions control devices, restrictions to operating rates/hours, or other requested permit limits that reduce the maximum emission rates. Applicants must report potential emission rates in SHORT TONS per year, as opposed to metric tons required by Part 98. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. Only those emission points with emissions of greenhouse gases are required to be provided on this form.

		CO ₂ (non-biogenic) ton/yr	CO ₂ (biogenic) ² ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ³ ton/yr	Chlorodifluoromethane ton/yr	Dichlorodifluoromethane ton/yr	Total GHG Mass Basis ton/yr ⁵	Total CO ₂ e ton/yr ⁶
Emission Point ID	GWPs ¹	1	1	298	25	22,800	footnote 4				
AA-001	mass GHG	-	11,122.14	-	4,053.60	-	-	0.06	0.98	15,177	-
	CO ₂ e	-	11,122.14	-	101,340.08	-	-	100.00	9,973.54	0	122,535.75
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
	mass GHG										
	CO ₂ e										
FACILITY TOTAL	mass GHG	-	11,122.14	-	4,053.60	-	-	0.06	0.98	15,176.77	-
	CO ₂ e	-	11,122.14	-	101,340.08	-	-	100.00	9,973.54	-	122,535.75

¹ **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

² Biogenic CO₂ is defined as carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms.

³ For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

⁴ For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

⁵ Greenhouse gas emissions on a **mass basis** is the ton per year greenhouse gas emission before adjustment with its GWP. Include both biogenic and non-biogenic GHG in this total.

⁶ **CO₂e** means Carbon Dioxide Equivalent and is calculated by multiplying the ton/yr mass emissions of the greenhouse gas by its GWP. Include both biogenic and non-biogenic CO₂e in this total.

Section B.5: Stack Parameters and Exit Conditions

Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit.

[illegible]

¹ A WAAS-capable GPS receiver should be used and in the WGS84 or NAD83 coordinate system.

[illegible]

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT																													
Manufacturing Processes			Section E																												
1. Emission Point Description																															
A. Emission Point Designation (Ref. No.): <u>AA-002</u> B. Process Description: <u>Fugitive Dust Emissions from Roadways</u> C. Manufacturer: <u>N/A</u> D. Model: _____ E. Max. Design Capacity (specify units): <u>N/A</u> F. Status: ☒ Operating ☐ Proposed ☐ Under Construction G. Operating Schedule (Actual): <u>24</u> hrs/day <u>7</u> days/week <u>52</u> weeks/yr H. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction. _____																															
2. Raw Material Input																															
<table><tr><th>MATERIAL</th><th>QUANTITY/HR AVERAGE</th><th>QUANTITY/HR MAXIMUM</th><th>QUANTITY/YEAR MAXIMUM</th></tr><tr><td>70 Vehicles/day</td><td>1.5 miles per vehicle</td><td>105 miles/day</td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>				MATERIAL	QUANTITY/HR AVERAGE	QUANTITY/HR MAXIMUM	QUANTITY/YEAR MAXIMUM	70 Vehicles/day	1.5 miles per vehicle	105 miles/day																					
MATERIAL	QUANTITY/HR AVERAGE	QUANTITY/HR MAXIMUM	QUANTITY/YEAR MAXIMUM																												
70 Vehicles/day	1.5 miles per vehicle	105 miles/day																													
3. Product Output																															
<table><tr><th>MATERIAL</th><th>QUANTITY/HR AVERAGE</th><th>QUANTITY/HR MAXIMUM</th><th>QUANTITY/YEAR MAXIMUM</th></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>				MATERIAL	QUANTITY/HR AVERAGE	QUANTITY/HR MAXIMUM	QUANTITY/YEAR MAXIMUM																								
MATERIAL	QUANTITY/HR AVERAGE	QUANTITY/HR MAXIMUM	QUANTITY/YEAR MAXIMUM																												
¹ Based on maximum production of product grades expected to be in demand.																															

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT																	
Recordkeeping			Section M8																
1. Applicable Emission Point Description																			
A. Emission Point Designation (Ref. No.): AA-001 B. Emission Point Description: Landfill C. For what emission limit or standard does the recordkeeping demonstrate compliance? <u>For calculating emissions</u> D. Is there an applicable underlying requirement for the recordkeeping? ☒ Yes ☐ No If yes, what is that requirement (e.g., NSPS Subpart QQ, Permit to Construct issued....., etc.)? To evaluate the NMOC emissions to see if a Landfill Gas collection system is needed (NSPS Subpart XXX). To determine CO₂e for GHG reporting (40 CFR 98 Subpart HH)																			
2. Recordkeeping Information																			
A. Data/information recorded: <table border="1"><thead><tr><th>Parameter/Material</th><th>Units</th><th>Recordkeeping Frequency</th><th>Sampling and analysis method (e.g., EPA Method 24)</th></tr></thead><tbody><tr><td>Waste accepted</td><td>tons</td><td>daily/annually</td><td>Truck weight</td></tr><tr><td>CO₂e</td><td>tons</td><td>annually</td><td>LandGEM and methane conversion to CO₂e</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></tbody></table> B. Compliance is determined: ☒ Daily ☐ Weekly ☒ Annually ☐ Other: _____				Parameter/Material	Units	Recordkeeping Frequency	Sampling and analysis method (e.g., EPA Method 24)	Waste accepted	tons	daily/annually	Truck weight	CO ₂ e	tons	annually	LandGEM and methane conversion to CO ₂ e				
Parameter/Material	Units	Recordkeeping Frequency	Sampling and analysis method (e.g., EPA Method 24)																
Waste accepted	tons	daily/annually	Truck weight																
CO ₂ e	tons	annually	LandGEM and methane conversion to CO ₂ e																

[illegible]

FORM 5	MDEQ	MDEQ APPLICATION FOR AIR POLLUTION CONTROL PERMIT			
Applicable Requirements and Status					Section N
2. Current Applicable Requirements					
List all applicable state and federal requirements to the level of detail needed to identify each applicable emission standard and/or work practice standard and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Applicable provisions from any relevant Permit to Construct shall also be listed. Provide the compliance status as of the day the application is signed.					
Emission Point No.	APPLICABLE REQUIREMENT (Regulatory citation)	POLLUTANT	LIMITS/REQUIREMENTS	TEST METHOD/ COMPLIANCE MONITORING	COMPLIANCE STATUS (In/Out) ^{1,2}
AA-001	Subpart XXX - 40 CFR 60.760(a)	N/A	Emission Point AA-001 is subject to and shall comply with applicable requirements found in 40 CFR Part 60, Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification after July 17, 2014.	N/A	In
	Subpart XXX - 40 CFR 60.762(b)	NMOC	Calculate the non-methane organic compounds (NMOC) emission rate for the landfill using the procedures specified in §60.764. The NMOC emission rate must be recalculated annually, except as provided in §60.767(b)(1)(ii).	Calculations	In
	Subpart XXX - 40 CFR 60.762(b)(ii)	NMOC	Recalculate the NMOC emission rate annually using the procedures specified in §60.764(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 34 megagrams per year, or the landfill is closed	Calculation	In
	Subpart XXX - 40 CFR 60.764(a)(1) and (a)(2)(i)	NMOC	The landfill owner or operator must calculate the NMOC emission rate using either Equation 1 provided in paragraph (a)(1)(i) of this section or Equation 2 provided in paragraph (a)(1)(ii) of this section. Both Equation 1 and Equation 2 may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i) of this section, for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii) of this section, for part of the life of the landfill.	Calculation	In
	Subpart XXX - 40 CFR 60.764(a)(2)(i)	NMOC	If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 34 megagrams per year, then the landfill owner or operator must submit an NMOC emission rate report according to §60.767(b), and must recalculate the NMOC mass emission rate annually as required under §60.762(b).	Calculations	In
	Subpart XXX - 40 CFR 60.764(a)(3)(iii)	NMOC	If the resulting NMOC mass emission rate is less than 34 megagrams per year, then permittee must submit a periodic estimate of NMOC emissions in an NMOC emission rate report according to §60.767(b)(1), and must recalculate the NMOC mass emission rate annually as required under §60.762(b). The site-specific NMOC concentration must be retested every 5 years using the methods specified in 60.764(a)(3) .	Calculations	In

FORM 5	MDEQ	MDEQ APPLICATION FOR AIR POLLUTION CONTROL PERMIT			
Applicable Requirements and Status					Section N
2. Current Applicable Requirements					
List all applicable state and federal requirements to the level of detail needed to identify each applicable emission standard and/or work practice standard and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Applicable provisions from any relevant Permit to Construct shall also be listed. Provide the compliance status as of the day the application is signed.					
Emission Point No.	APPLICABLE REQUIREMENT (Regulatory citation)	POLLUTANT	LIMITS/REQUIREMENTS	TEST METHOD/ COMPLIANCE MONITORING	COMPLIANCE STATUS (In/Out) ^{1,2}
AA-001	Subpart XXX - 40 CFR 60.767(b)		For Emission Point AA-001, the permittee shall prepare and submit a report to the MDEQ detailing the total non-methane organic compounds (NMOC) mass emission rate.	Reporting	In
	Subpart XXX - 40 CFR 60.767(b)		(a) The initial report must be submitted within ninety (90) days after construction has commenced on the affected source. All subsequent reports must be submitted no later than one (1) calendar year after the most recent submission, except as provided in Part (c) of this condition.b) The report must contain an annual or 5-year estimate of the MNMOC value calculated using equations specified in 60.764(b) . (c) If the estimated MNMOC value as reported in an annual report to the MDEQ is less than 34 megagrams (Mg) per year in each of the next five (5) consecutive years, the permittee may elect to submit an estimate of the MNMOC value for the next 5-year period in lieu of annual reporting. This estimate must include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which the MNMOC value is estimated. All data and calculations upon which this estimate is based on must be provided to the MDEQ. This estimate must be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate must be submitted to the MDEQ. The revised estimate must cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate. (d) The report must include all applicable data, calculations, sample reports and measurements used to estimate annual or 5-year emissions.	Reporting	TBD
	Subpart XXX - 40 CFR 60.768(a)	Recordkeeping	The permittee must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered §60.762(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.	Recordkeeping	In

FORM 5	MDEQ	MDEQ APPLICATION FOR AIR POLLUTION CONTROL PERMIT			
Applicable Requirements and Status					Section N
2. Current Applicable Requirements					
List all applicable state and federal requirements to the level of detail needed to identify each applicable emission standard and/or work practice standard and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Applicable provisions from any relevant Permit to Construct shall also be listed. Provide the compliance status as of the day the application is signed.					
Emission Point No.	APPLICABLE REQUIREMENT (Regulatory citation)	POLLUTANT	LIMITS/REQUIREMENTS	TEST METHOD/ COMPLIANCE MONITORING	COMPLIANCE STATUS
					(In/Out) ^{1,2}
AA-001	Subpart HH - 40 CFR 98.	GHG	The facility will report CH ₄ generation and CH ₄ emissions from landfills and emissions of CO ₂ , CH ₄ , and N ₂ O from each stationary combustion unit following the requirements of subpart C.	Calculations	In
1 Per 11 Miss. Admin. Code Pt. 2, R. 6.2.C(8)(b)(1) for Title V sources, by specifying that the source is in compliance with the applicable requirement(s), I (the applicant) am certifying that I will continue to operate and maintain this source to assure compliance for the duration of the permit term.					
2 Per 11 Miss. Admin. Code Pt. 2, R. 6.2.C(8)(b)(3) for Title V sources, by specifying that the source is out of compliance with the applicable requirement(s), I (the applicant) am submitting a schedule, attached herein, which includes a description of the problems and proposed solutions in accordance with 11 Miss. Admin. Code Pt. 2, R. 6.2.C(8)(c).					

1. List of Insignificant Activities

List all insignificant activities identified in 11 Miss. Admin. Code Pt. 2, R. 6.7., with the exception of those in 11 Miss. Admin. Code Pt. 2, R.6.7.A.

11 Miss. Admin. Code Pt. 2, R. 6.7.A (See applicable subparagraphs below).

- (2) Diesel Fuel Storage Tanks - 1000 gallons each

2. Emissions Information

List the total emissions for each pollutant from the combined insignificant activities listed above in accordance with the Permit Application Instructions (*calculations not needed unless requested by DEQ*)

POLLUTANT	POTENTIAL TO EMIT	
	lb/hr	tons/yr
VOC	0.23	1.00
Total HAPs	0.23	1.00

APPENDIX B. EMISSION CALCULATIONS

**Canton Sanitary Landfill
Total Emissions Summary**

Source ID	Source Description	Pollutant	Uncontrolled Emissions	
			lb/hr	tpy
AA-001	Landfill Fugitives	VOC	3.74	16.38
		CO	0.45	1.98
		Toluene (Largest HAP)	2.22	9.73
		Combined HAPs	3.06	13.41
		CO ₂	-	11,122
		CH ₄	-	4,054
		Chlorodifluoromethane	-	0.057
		Dichlorodifluoromethane	-	0.978
		GHG	-	122,536
		NMOC	-	23.56 (Mg/yr)
AA-002	Fugitive Road Dust Emissions ¹	PM ₁₀	2.02	8.86
		PM _{2.5}	0.07	0.29

1. Fugitive emissions include emissions from paved and unpaved roads and emissions from earth moving, loading and unloading operations.

Landfill Name or Identifier: Canton Sanitary Landfill
Enter year of emissions inventory: 2061 (LandGEM peak emissions year)

LANDFILL FUGITIVE EMISSIONS: VOC & HAP						AA-001 Fugitives			
						VOC		HAP	
Gas / Pollutant	VOC	HAP	Other ^c	Landfill Emissions ^a (ton/yr)		ton/yr	lb/hr ^b	ton/yr	lb/hr ^b
Total landfill gas				1.518E+04					
Methane			Other	4.054E+03					
Carbon dioxide				1.112E+04					
NMOC				2.592E+01					
1,1,1-Trichloroethane (methyl chloroform) - HAP		HAP		3.237E-02		0.0000	0.000	0.0324	0.007
1,1,2,2-Tetrachloroethane - HAP/VOC	VOC	HAP		9.332E-02		0.0933	0.021	0.0933	0.021
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	VOC	HAP		1.201E-01		0.1201	0.027	0.1201	0.027
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	VOC	HAP		9.799E-03		0.0098	0.002	0.0098	0.002
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	VOC	HAP		2.051E-02		0.0205	0.005	0.0205	0.005
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	VOC	HAP		1.028E-02		0.0103	0.002	0.0103	0.002
2-Propanol (isopropyl alcohol) - VOC	VOC			1.519E+00		1.5191	0.347	0.0000	0.000
Acetone			Other	2.055E-01		0.0000	0.000	0.0000	0.000
Acrylonitrile - HAP/VOC	VOC	HAP		1.690E-01		0.1690	0.039	0.1690	0.039
<i>Benzene - No or Unknown Co-disposal - HAP/VOC</i>				<i>7.501E-02</i>					
<i>Benzene - Co-disposal - HAP/VOC</i>				<i>4.343E-01</i>					
TOTAL BENZENE	VOC	HAP		5.093E-01		0.5093	0.116	0.5093	0.116
Bromodichloromethane - VOC	VOC			2.567E-01		0.2567	0.059	0.0000	0.000
Butane - VOC	VOC			1.469E-01		0.1469	0.034	0.0000	0.000
Carbon disulfide - HAP/VOC	VOC	HAP		2.232E-02		0.0223	0.005	0.0223	0.005
Carbon monoxide			Other	1.982E+00		0.0000	0.000	0.0000	0.000
Carbon tetrachloride - HAP/VOC	VOC	HAP		3.110E-04		0.0003	0.000	0.0003	0.000
Carbonyl sulfide - HAP/VOC	VOC	HAP		1.488E-02		0.0149	0.003	0.0149	0.003
Chlorobenzene - HAP/VOC	VOC	HAP		1.422E-02		0.0142	0.003	0.0142	0.003
Chlorodifluoromethane			Other	5.682E-02		0.0000	0.000	0.0000	0.000
Chloroethane (ethyl chloride) - HAP/VOC	VOC	HAP		4.239E-02		0.0424	0.010	0.0424	0.010
Chloroform - HAP/VOC	VOC	HAP		1.810E-03		0.0018	0.000	0.0018	0.000
Chloromethane - VOC	VOC			3.062E-02		0.0306	0.007	0.0000	0.000
Dichlorobenzene - (HAP for para isomer/VOC)	VOC	HAP		1.560E-02		0.0156	0.004	0.0156	0.004
Dichlorodifluoromethane			Other	9.778E-01		0.0000	0.000	0.0000	0.000
Dichlorofluoromethane - VOC	VOC			1.353E-01		0.1353	0.031	0.0000	0.000
Dichloromethane (methylene chloride) - HAP		HAP		6.010E-01		0.0000	0.000	0.6010	0.137
Dimethyl sulfide (methyl sulfide) - VOC	VOC			2.449E-01		0.2449	0.056	0.0000	0.000
Ethane			Other	1.353E+01		0.0000	0.000	0.0000	0.000
Ethanol - VOC	VOC			6.288E-01		0.6288	0.144	0.0000	0.000
Ethyl mercaptan (ethanethiol) - VOC	VOC			7.223E-02		0.0722	0.016	0.0000	0.000
Ethylbenzene - HAP/VOC	VOC	HAP		2.468E-01		0.2468	0.056	0.2468	0.056
Ethylene dibromide - HAP/VOC	VOC	HAP		9.496E-05		0.0001	0.000	0.0001	0.000
Fluorotrichloromethane - VOC	VOC			5.277E-02		0.0528	0.012	0.0000	0.000
Hexane - HAP/VOC	VOC	HAP		2.875E-01		0.2875	0.066	0.2875	0.066
Hydrogen sulfide			Other	6.201E-01		0.0000	0.000	0.0000	0.000
Mercury (total) - HAP		HAP		2.940E-05		0.0000	0.000	0.0000	0.000
Methyl ethyl ketone - VOC	VOC			2.588E-01		0.2588	0.059	0.0000	0.000
Methyl isobutyl ketone - HAP/VOC	VOC	HAP		9.619E-02		0.0962	0.022	0.0962	0.022
Methyl mercaptan - VOC	VOC			6.079E-02		0.0608	0.014	0.0000	0.000
Pentane - VOC	VOC			1.203E-01		0.1203	0.027	0.0000	0.000
Perchloroethylene (tetrachloroethylene) - HAP		HAP		3.101E-01		0.0000	0.000	0.3101	0.071
Propane - VOC	VOC			2.451E-01		0.2451	0.056	0.0000	0.000
t-1,2-Dichloroethene - VOC	VOC			1.372E-01		0.1372	0.031	0.0000	0.000
<i>Toluene - No or Unknown Co-disposal - HAP/VOC</i>				<i>1.816E+00</i>					
<i>Toluene - Co-disposal - HAP/VOC</i>				<i>7.916E+00</i>					
TOTAL TOLUENE	VOC	HAP		9.732E+00		9.7323	2.222	9.7323	2.222
Trichloroethylene (trichloroethene) - HAP/VOC	VOC	HAP		1.860E-01		0.1860	0.042	0.1860	0.042
Vinyl chloride - HAP/VOC	VOC	HAP		2.306E-01		0.2306	0.053	0.2306	0.053
Xylenes - HAP/VOC	VOC	HAP		6.439E-01		0.6439	0.147	0.6439	0.147
Totals =						16.38	3.74	13.41	3.06

^a Based on LandGEM - Landfill Gas Emissions Model, Version 3.03 - worst-case emission year.
^b Hourly emissions estimated assuming annual rate divided by 8,760 hr/yr.
^c Non VOC/HAP pollutant emissions calculations shown in the next page.

Landfill Name or Identifier: Canton Sanitary Landfill

Enter year of emissions inventory: 2061 (LandGEM peak emissions year)

LANDFILL FUGITIVE EMISSIONS: OTHER THAN VOC/HAP

Emission	<i>Landfill Emissions^a (ton/yr)</i>	AA-001 Fugitives	
	<i>(tons/year)</i>	<i>(tons/year)</i>	<i>(lb/hour)^b</i>
Acetone	2.055E-01	0.205	0.047
Carbon monoxide	1.982E+00	1.982	0.453
Chlorodifluoromethane (CFC)	5.682E-02	0.057	0.013
Dichlorodifluoromethane (CFC)	9.778E-01	0.978	0.223
<i>Total CFCs</i>		<i>1.035</i>	<i>0.236</i>
Ethane	1.353E+01	13.527	3.088
Hydrogen sulfide	6.201E-01	0.620	0.142
Methane	4.054E+03	4,053.603	925.48

^a Based on LandGEM - Landfill Gas Emissions Model, Version 3.03 - worst-case emission year.

^b Hourly emissions estimated assuming annual rate divided by 8,760 hr/yr.

Landfill Name or Identifier: Canton Sanitary Landfill
Fugitive Dust from Unpaved Roads - AA-002

Unpaved Road Data¹

Surface material silt content, %	6.40		
Surface material moisture content, %	6.52		
Mean vehicle speed, mph	25		
Empirical constants	Pollutant	PM ₁₀	PM _{2.5}
	k	1.8	0.18
	a	1	1
	c	0.2	0.2
	d	0.5	0.5
Emission Factor for Exhaust, Brake Wear and Tire Wear, lb/VMT		0.00047	0.00036
No. of days in a year with at least 0.01 in precipitation, P	105		

Type of Vehicle	Vehicle Miles Traveled ³ , (VMT) /year	Emission Factor ² , lb/VMT	
		PM ₁₀	PM _{2.5}
Trucks	1,916	0.37	0.04

Unpaved Road Emissions

Total Emissions, tons/year	
PM ₁₀	PM _{2.5}
0.36	0.04

¹ Based on AP-42, Section 13.2.2, Unpaved Roads, November 2006. Surface material moisture content is obtained from AP-42, Chapter 6, Table 13.2.2-3 (average value). Surface material silt content (mean value) is obtained from Table 6-2 of WRAP Fugitive Dust Handbook, Countess Environmental, September 2006.

² PM emission factors determined by methodology from AP-42, Section 13.2.2, Unpaved Roads, Equation 1b (November 2006).

$$E = \frac{k (s/12)^a (S/30)^d}{(M/0.5)^c} - C$$

where k, a, b, c and d are empirical constants

E= size-specific emission factor, (lb/VMT)

s= surface material silt content, (%)

M= surface material moisture content, (%)

S= mean vehicle speed, (mph)

C= emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear, (lb/VMT)

The emission factors are extrapolated to annual average uncontrolled conditions per Equation 2 of AP-42, Section 13.2.2.

³ VMT/year is 38,325 (105 miles/day, conservatively assumed 365 days/year of operation). 95% of the road is paved and the remaining 5% has limestone; therefore, no dust. However, conservatively fugitive dust emissions from road with limestone are quantified.

Landfill Name or Identifier: Canton Sanitary Landfill
Fugitive Dust from Paved Roads - AA-002

Paved Road Data¹

Road surface silt loading ¹ , g/m ²	0.2	
Particle size multiplier (k) ¹	PM ₁₀	0.0022
	PM _{2.5}	0.00054

Type of Vehicle	Vehicle Miles Traveled ⁴ , (VMT)/year	Average Vehicle Weight ² , tons	Emission Factor ³ , lb/VMT	
			PM ₁₀	PM _{2.5}
Trucks	36,409	30.00	1.63E-02	4.01E-03

Paved Road Emissions

Total Emissions, tons/year	
PM ₁₀	PM _{2.5}
0.30	0.07

1. Based on AP-42, Section 13.2.1, Paved Roads, January 2011. For silt loading, no site-specific data is available. Therefore, the value from Table 13.2.1-2 for ubiquitous baseline with average daily traffic (ADT) ranging between 500 to 5,000 vehicles was utilized.

2. Based on Update Heavy-Duty Engine Emission Conversion Factors for MOBILE6: Analysis of BSFCs and Calculation of Heavy-Duty Engine Emission Conversion Factors, EPA420-P-98-015, May 1998.

3. PM emission factors determined by methodology from AP-42, Section 13.2.1, *Paved Roads*, Equation 1 (January, 2011)

$$E = k * (sL)^{0.91} * W^{1.02}$$

E= particulate emission factor, (lb/VMT)

k= Particle size multiplier for particle size range and units of interest from Table 13.2.1-1

sL= road surface silt loading from Table 13.2.1-2, grams per square meter (g/m²)

W= average weight of the vehicles traveling the road, tons

4. VMT/year is 38,325 (105 miles/day, conservatively assumed 365 days/year of operation). 95% of the road is paved and the remaining 5% has limestone; therefore, 95% of the VMT/yr was used to calculate fugitive emissions from paved roads.

Landfill Name or Identifier: Canton Sanitary Landfill
Earthmoving Equipment Operations - AA-002

Constant ¹	PM	PM ₁₀	PM _{2.5}
s	9	9	9
M	12	12	12
SF	1	0.75	0.017

Size specific emission factor ² (lb/VMT), E =	3.15	PM
	0.62	PM ₁₀
	0.01	PM _{2.5}

Total PM Emissions³ =	41.36	tpy
Total PM₁₀ Emissions³ =	8.21	tpy
Total PM_{2.5} Emissions³ =	0.19	tpy

Notes

- 1 s = surface silt material content, 9% obtained from AP-42 Table 13.2.4-1, for MSW Landfill cover
M = material moisture content, obtained from AP-42 Table 13.2.4-1 for MSW landfill cover
SF = scaling factor based on particle size, taken from AP-42 Table 11.9-1 Dragline (PM assumed equal to PM₁₀ + PM_{2.5})
- 2 Using AP-42, Table 11.9-1 for Bulldozing Overburden:
PM emissions = $((1.0(s)^{1.5}) / M^{1.4}) * SF$
- 3 Total potential emissions calculated based on 3 bulldozer operating for 8,760 hrs/yr (assumed conservatively).

Landfill Name or Identifier: Canton Sanitary Landfill
Dump Truck/Loader/Excavator Loading/Unloading Emissions - AA-002

Constant ¹	PM	PM ₁₀	PM _{2.5}
k	0.74	0.35	0.053
M	12	12	12
U	6	6	6

Size specific emission factor ² (lb/VMT), E =	2.44E-04	PM
	1.16E-04	PM ₁₀
	1.75E-05	PM _{2.5}

Total PM Emissions³ =	2.44E-03	tpy
Total PM₁₀ Emissions³ =	1.16E-03	tpy
Total PM_{2.5} Emissions³ =	1.75E-04	tpy

Notes

1 k = particle size multiplier, obtained from AP-42 Section 13.2.4.3

M = material moisture content, obtained from AP-42 Table 13.2.4-1 for MSW landfill

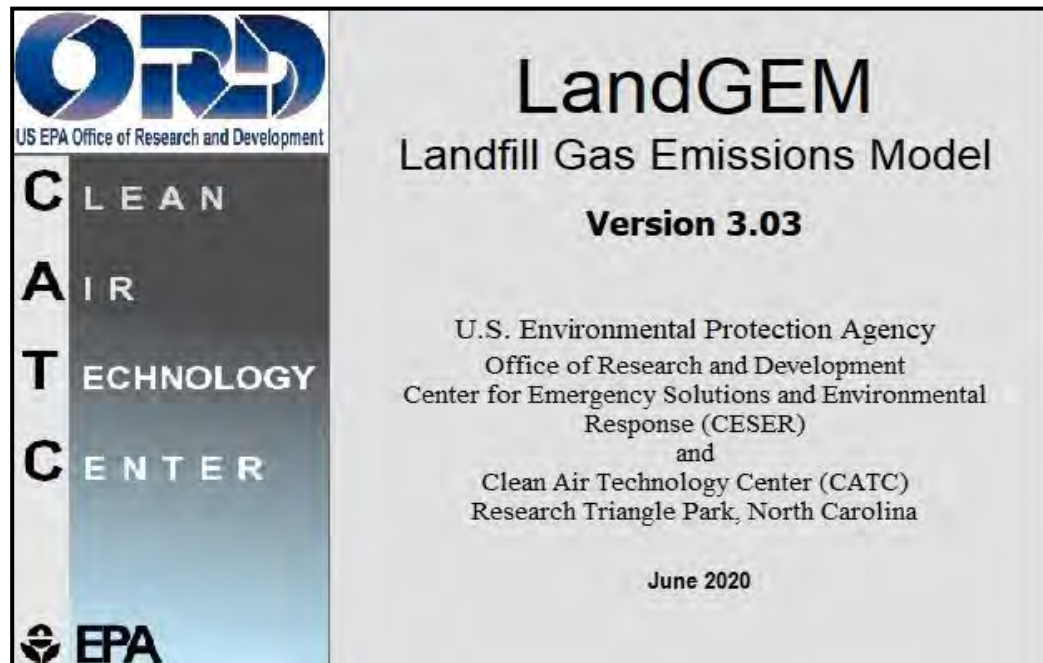
U = mean wind speed, mph

2 Using AP-42, Section 13.2.4-2:

$$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$$

3 Calculated by conservatively assuming 20,000 tons of material is moved per year:

PM emission, tpy = (Tons material moved per year) * (Emission factor, lb/ton) / 2,000 lb/ton



Summary Report

Landfill Name or Identifier: Canton Sanitary Landfill

Date: Sunday, September 5, 2021

Description/Comments:

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^n \sum_{j=0.1}^1 k L_o \left(\frac{M_i}{10} \right) e^{-k t_{ij}}$$

Where,

Q_{CH_4} = annual methane generation in the year of the calculation ($m^3/year$)

i = 1-year time increment

n = (year of the calculation) - (initial year of waste acceptance)

j = 0.1-year time increment

k = methane generation rate ($year^{-1}$)

L_o = potential methane generation capacity (m^3/Mg)

M_i = mass of waste accepted in the i^{th} year (Mg)

t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (decimal years, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at <http://www.epa.gov/ttnatw01/landfill/landflpg.html>.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	1987	
Landfill Closure Year (with 80-year limit)	2060	
Actual Closure Year (without limit)	2060	
Have Model Calculate Closure Year?	No	
Waste Design Capacity	3,940,031	<i>short tons</i>

MODEL PARAMETERS

Methane Generation Rate, k	0.040	<i>year⁻¹</i>
Potential Methane Generation Capacity, L ₀	100	<i>m³/Mg</i>
NMOC Concentration	595	<i>ppmv as hexane</i>
Methane Content	50	<i>% by volume</i>

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	Total landfill gas
Gas / Pollutant #2:	Methane
Gas / Pollutant #3:	Carbon dioxide
Gas / Pollutant #4:	NMOC

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
1987	26,829	29,512	0	0
1988	26,829	29,512	26,829	29,512
1989	26,829	29,512	53,658	59,024
1990	26,829	29,512	80,487	88,536
1991	26,829	29,512	107,316	118,048
1992	26,829	29,512	134,145	147,560
1993	26,829	29,512	160,975	177,072
1994	26,829	29,512	187,804	206,584
1995	3,142	3,456	214,633	236,096
1996	4,424	4,866	217,775	239,552
1997	29,532	32,485	222,198	244,418
1998	35,108	38,619	251,730	276,903
1999	20,884	22,972	286,838	315,522
2000	48,540	53,394	307,722	338,494
2001	60,929	67,022	356,262	391,888
2002	35,697	39,267	417,191	458,910
2003	30,191	33,210	452,888	498,177
2004	41,263	45,389	483,079	531,387
2005	39,222	43,144	524,342	576,776
2006	36,821	40,503	563,564	619,920
2007	39,477	43,425	600,385	660,423
2008	53,260	58,586	639,862	703,848
2009	38,157	41,973	693,122	762,434
2010	29,288	32,217	731,279	804,407
2011	40,655	44,720	760,567	836,624
2012	44,628	49,091	801,222	881,344
2013	42,858	47,144	845,850	930,435
2014	36,780	40,458	888,708	977,579
2015	33,313	36,644	925,488	1,018,037
2016	40,388	44,427	958,801	1,054,681
2017	29,070	31,977	999,189	1,099,108
2018	31,983	35,181	1,028,259	1,131,085
2019	33,961	37,357	1,060,242	1,166,266
2020	33,961	37,357	1,094,203	1,203,623
2021	33,961	37,357	1,128,164	1,240,980
2022	33,961	37,357	1,162,125	1,278,337
2023	33,961	37,357	1,196,085	1,315,694
2024	63,636	70,000	1,230,046	1,353,051
2025	63,636	70,000	1,293,683	1,423,051
2026	63,636	70,000	1,357,319	1,493,051

WASTE ACCEPTANCE RATES (Continued)

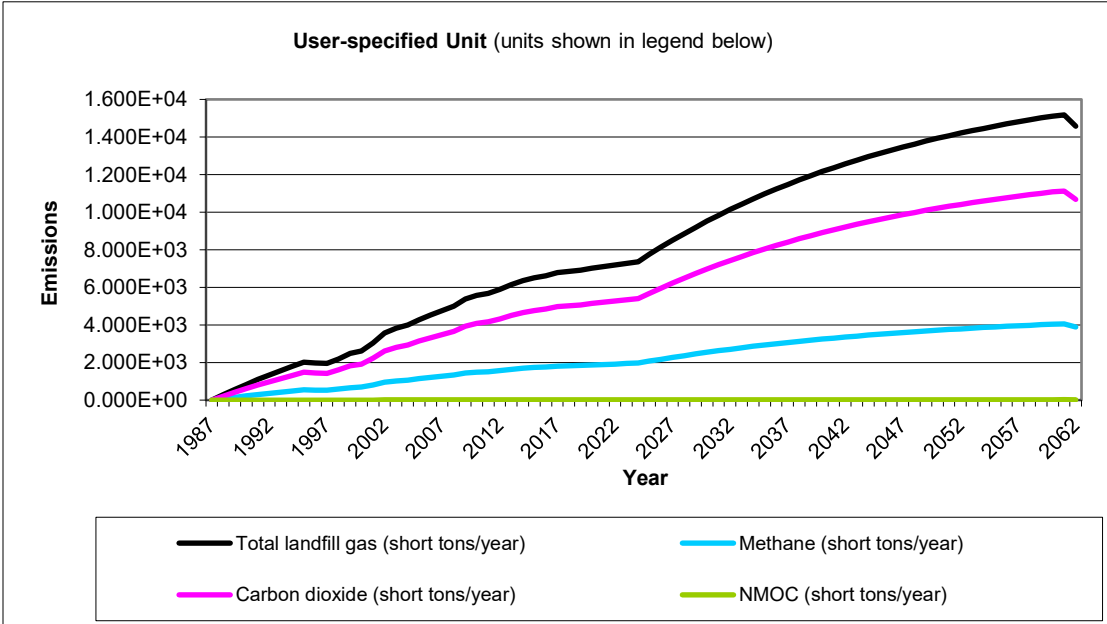
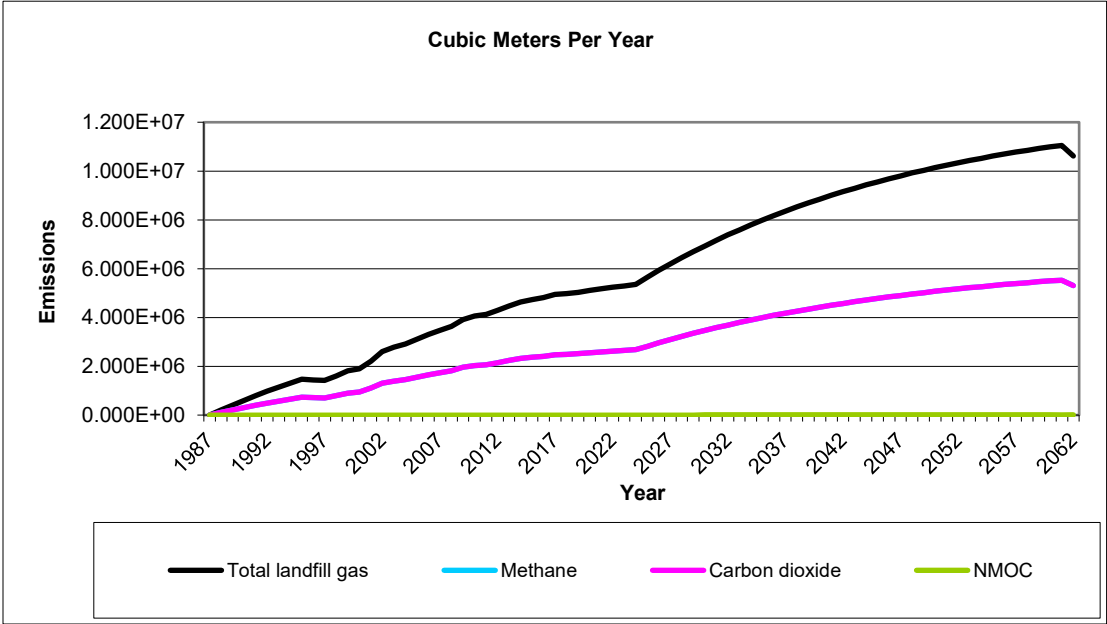
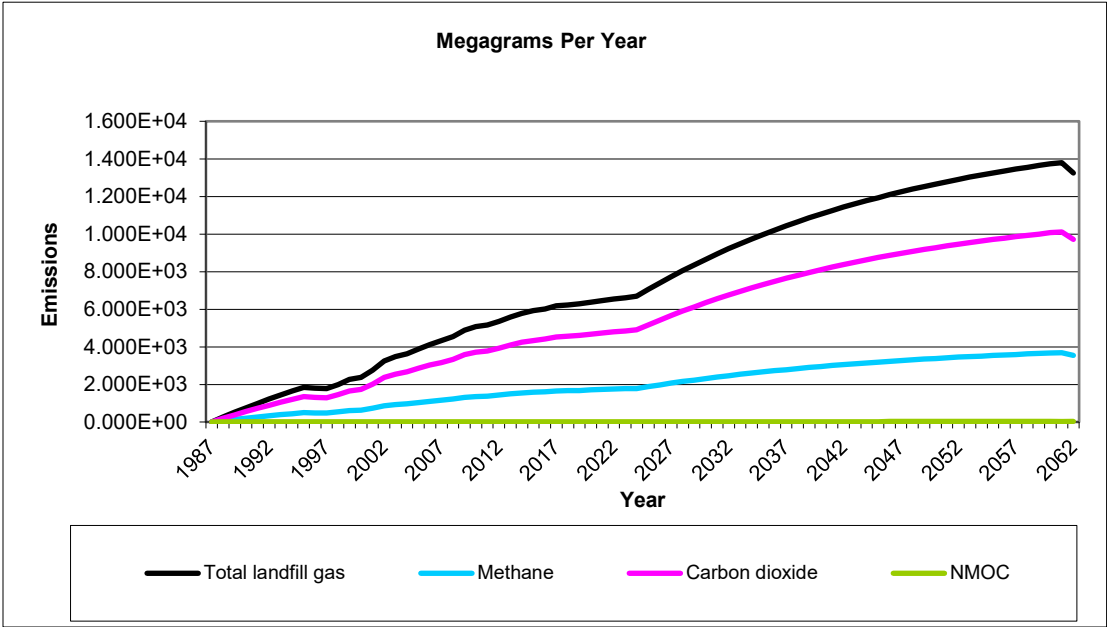
Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
2027	63,636	70,000	1,420,955	1,563,051
2028	63,636	70,000	1,484,592	1,633,051
2029	63,636	70,000	1,548,228	1,703,051
2030	63,636	70,000	1,611,865	1,773,051
2031	63,636	70,000	1,675,501	1,843,051
2032	63,636	70,000	1,739,137	1,913,051
2033	63,636	70,000	1,802,774	1,983,051
2034	63,636	70,000	1,866,410	2,053,051
2035	63,636	70,000	1,930,046	2,123,051
2036	63,636	70,000	1,993,683	2,193,051
2037	63,636	70,000	2,057,319	2,263,051
2038	63,636	70,000	2,120,955	2,333,051
2039	63,636	70,000	2,184,592	2,403,051
2040	63,636	70,000	2,248,228	2,473,051
2041	63,636	70,000	2,311,865	2,543,051
2042	63,636	70,000	2,375,501	2,613,051
2043	63,636	70,000	2,439,137	2,683,051
2044	63,636	70,000	2,502,774	2,753,051
2045	63,636	70,000	2,566,410	2,823,051
2046	63,636	70,000	2,630,046	2,893,051
2047	63,636	70,000	2,693,683	2,963,051
2048	63,636	70,000	2,757,319	3,033,051
2049	63,636	70,000	2,820,955	3,103,051
2050	63,636	70,000	2,884,592	3,173,051
2051	63,636	70,000	2,948,228	3,243,051
2052	63,636	70,000	3,011,865	3,313,051
2053	63,636	70,000	3,075,501	3,383,051
2054	63,636	70,000	3,139,137	3,453,051
2055	63,636	70,000	3,202,774	3,523,051
2056	63,636	70,000	3,266,410	3,593,051
2057	63,636	70,000	3,330,046	3,663,051
2058	63,636	70,000	3,393,683	3,733,051
2059	63,636	70,000	3,457,319	3,803,051
2060	60,891	66,980	3,520,955	3,873,051
2061	0	0	3,581,846	3,940,031
2062	0	0	3,581,846	3,940,031
2063	0	0	3,581,846	3,940,031
2064	0	0	3,581,846	3,940,031
2065	0	0	3,581,846	3,940,031
2066	0	0	3,581,846	3,940,031

Pollutant Parameters

Gas / Pollutant Default Parameters:				User-specified Pollutant Parameters:	
	Compound	Concentration (ppmv)	Molecular Weight	Concentration (ppmv)	Molecular Weight
Gases	Total landfill gas	4,000	0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC		86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41		
	1,1,2,2- Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		

[illegible]

Graphs



Results

Year	Total landfill gas			Methane		
	(Mg/year)	(m ³ /year)	(short tons/year)	(Mg/year)	(m ³ /year)	(short tons/year)
1987	0	0	0	0	0	0
1988	2.633E+02	2.108E+05	2.896E+02	7.032E+01	1.054E+05	7.736E+01
1989	5.162E+02	4.134E+05	5.678E+02	1.379E+02	2.067E+05	1.517E+02
1990	7.593E+02	6.080E+05	8.352E+02	2.028E+02	3.040E+05	2.231E+02
1991	9.928E+02	7.950E+05	1.092E+03	2.652E+02	3.975E+05	2.917E+02
1992	1.217E+03	9.746E+05	1.339E+03	3.251E+02	4.873E+05	3.576E+02
1993	1.433E+03	1.147E+06	1.576E+03	3.827E+02	5.736E+05	4.209E+02
1994	1.640E+03	1.313E+06	1.804E+03	4.380E+02	6.565E+05	4.818E+02
1995	1.839E+03	1.472E+06	2.023E+03	4.911E+02	7.362E+05	5.403E+02
1996	1.797E+03	1.439E+06	1.977E+03	4.801E+02	7.197E+05	5.281E+02
1997	1.770E+03	1.418E+06	1.947E+03	4.729E+02	7.088E+05	5.202E+02
1998	1.991E+03	1.594E+06	2.190E+03	5.318E+02	7.971E+05	5.849E+02
1999	2.257E+03	1.807E+06	2.483E+03	6.029E+02	9.037E+05	6.632E+02
2000	2.374E+03	1.901E+06	2.611E+03	6.340E+02	9.504E+05	6.974E+02
2001	2.757E+03	2.208E+06	3.033E+03	7.364E+02	1.104E+06	8.100E+02
2002	3.247E+03	2.600E+06	3.571E+03	8.672E+02	1.300E+06	9.540E+02
2003	3.470E+03	2.778E+06	3.817E+03	9.268E+02	1.389E+06	1.019E+03
2004	3.630E+03	2.907E+06	3.993E+03	9.696E+02	1.453E+06	1.067E+03
2005	3.892E+03	3.117E+06	4.282E+03	1.040E+03	1.558E+06	1.144E+03
2006	4.125E+03	3.303E+06	4.537E+03	1.102E+03	1.651E+06	1.212E+03
2007	4.324E+03	3.463E+06	4.757E+03	1.155E+03	1.731E+06	1.271E+03
2008	4.542E+03	3.637E+06	4.996E+03	1.213E+03	1.819E+06	1.335E+03
2009	4.887E+03	3.913E+06	5.375E+03	1.305E+03	1.957E+06	1.436E+03
2010	5.070E+03	4.059E+06	5.576E+03	1.354E+03	2.030E+06	1.490E+03
2011	5.158E+03	4.130E+06	5.674E+03	1.378E+03	2.065E+06	1.516E+03
2012	5.355E+03	4.288E+06	5.890E+03	1.430E+03	2.144E+06	1.573E+03
2013	5.583E+03	4.470E+06	6.141E+03	1.491E+03	2.235E+06	1.640E+03
2014	5.784E+03	4.632E+06	6.363E+03	1.545E+03	2.316E+06	1.700E+03
2015	5.919E+03	4.739E+06	6.510E+03	1.581E+03	2.370E+06	1.739E+03
2016	6.013E+03	4.815E+06	6.615E+03	1.606E+03	2.408E+06	1.767E+03
2017	6.174E+03	4.944E+06	6.791E+03	1.649E+03	2.472E+06	1.814E+03
2018	6.217E+03	4.978E+06	6.839E+03	1.661E+03	2.489E+06	1.827E+03
2019	6.287E+03	5.035E+06	6.916E+03	1.679E+03	2.517E+06	1.847E+03
2020	6.374E+03	5.104E+06	7.011E+03	1.703E+03	2.552E+06	1.873E+03
2021	6.457E+03	5.171E+06	7.103E+03	1.725E+03	2.585E+06	1.897E+03
2022	6.537E+03	5.235E+06	7.191E+03	1.746E+03	2.617E+06	1.921E+03
2023	6.614E+03	5.296E+06	7.276E+03	1.767E+03	2.648E+06	1.943E+03
2024	6.688E+03	5.356E+06	7.357E+03	1.786E+03	2.678E+06	1.965E+03
2025	7.050E+03	5.646E+06	7.755E+03	1.883E+03	2.823E+06	2.072E+03
2026	7.398E+03	5.924E+06	8.138E+03	1.976E+03	2.962E+06	2.174E+03
2027	7.733E+03	6.192E+06	8.506E+03	2.066E+03	3.096E+06	2.272E+03
2028	8.054E+03	6.449E+06	8.859E+03	2.151E+03	3.225E+06	2.366E+03
2029	8.363E+03	6.696E+06	9.199E+03	2.234E+03	3.348E+06	2.457E+03
2030	8.659E+03	6.934E+06	9.525E+03	2.313E+03	3.467E+06	2.544E+03
2031	8.944E+03	7.162E+06	9.839E+03	2.389E+03	3.581E+06	2.628E+03
2032	9.218E+03	7.381E+06	1.014E+04	2.462E+03	3.691E+06	2.708E+03
2033	9.481E+03	7.592E+06	1.043E+04	2.532E+03	3.796E+06	2.786E+03
2034	9.734E+03	7.794E+06	1.071E+04	2.600E+03	3.897E+06	2.860E+03
2035	9.976E+03	7.989E+06	1.097E+04	2.665E+03	3.994E+06	2.931E+03
2036	1.021E+04	8.176E+06	1.123E+04	2.727E+03	4.088E+06	3.000E+03

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m ³ /year)	(short tons/year)	(Mg/year)	(m ³ /year)	(short tons/year)
2037	1.043E+04	8.355E+06	1.148E+04	2.787E+03	4.177E+06	3.066E+03
2038	1.065E+04	8.527E+06	1.171E+04	2.845E+03	4.264E+06	3.129E+03
2039	1.086E+04	8.693E+06	1.194E+04	2.900E+03	4.347E+06	3.190E+03
2040	1.105E+04	8.852E+06	1.216E+04	2.953E+03	4.426E+06	3.248E+03
2041	1.125E+04	9.005E+06	1.237E+04	3.004E+03	4.503E+06	3.304E+03
2042	1.143E+04	9.152E+06	1.257E+04	3.053E+03	4.576E+06	3.358E+03
2043	1.161E+04	9.293E+06	1.277E+04	3.100E+03	4.647E+06	3.410E+03
2044	1.178E+04	9.429E+06	1.295E+04	3.145E+03	4.714E+06	3.460E+03
2045	1.194E+04	9.559E+06	1.313E+04	3.189E+03	4.780E+06	3.508E+03
2046	1.209E+04	9.685E+06	1.330E+04	3.231E+03	4.842E+06	3.554E+03
2047	1.224E+04	9.805E+06	1.347E+04	3.271E+03	4.902E+06	3.598E+03
2048	1.239E+04	9.920E+06	1.363E+04	3.309E+03	4.960E+06	3.640E+03
2049	1.253E+04	1.003E+07	1.378E+04	3.346E+03	5.016E+06	3.681E+03
2050	1.266E+04	1.014E+07	1.393E+04	3.382E+03	5.069E+06	3.720E+03
2051	1.279E+04	1.024E+07	1.407E+04	3.416E+03	5.120E+06	3.758E+03
2052	1.291E+04	1.034E+07	1.420E+04	3.449E+03	5.170E+06	3.794E+03
2053	1.303E+04	1.043E+07	1.433E+04	3.480E+03	5.217E+06	3.829E+03
2054	1.314E+04	1.052E+07	1.446E+04	3.511E+03	5.262E+06	3.862E+03
2055	1.325E+04	1.061E+07	1.458E+04	3.540E+03	5.306E+06	3.894E+03
2056	1.336E+04	1.070E+07	1.469E+04	3.568E+03	5.348E+06	3.925E+03
2057	1.346E+04	1.078E+07	1.480E+04	3.595E+03	5.388E+06	3.954E+03
2058	1.355E+04	1.085E+07	1.491E+04	3.621E+03	5.427E+06	3.983E+03
2059	1.365E+04	1.093E+07	1.501E+04	3.646E+03	5.464E+06	4.010E+03
2060	1.374E+04	1.100E+07	1.511E+04	3.669E+03	5.500E+06	4.036E+03
2061	1.380E+04	1.105E+07	1.518E+04	3.685E+03	5.524E+06	4.054E+03
2062	1.326E+04	1.061E+07	1.458E+04	3.541E+03	5.307E+06	3.895E+03
2063	1.274E+04	1.020E+07	1.401E+04	3.402E+03	5.099E+06	3.742E+03
2064	1.224E+04	9.798E+06	1.346E+04	3.268E+03	4.899E+06	3.595E+03
2065	1.176E+04	9.414E+06	1.293E+04	3.140E+03	4.707E+06	3.454E+03
2066	1.130E+04	9.045E+06	1.242E+04	3.017E+03	4.522E+06	3.319E+03
2067	1.085E+04	8.690E+06	1.194E+04	2.899E+03	4.345E+06	3.189E+03
2068	1.043E+04	8.349E+06	1.147E+04	2.785E+03	4.175E+06	3.064E+03
2069	1.002E+04	8.022E+06	1.102E+04	2.676E+03	4.011E+06	2.944E+03
2070	9.625E+03	7.707E+06	1.059E+04	2.571E+03	3.854E+06	2.828E+03
2071	9.248E+03	7.405E+06	1.017E+04	2.470E+03	3.703E+06	2.717E+03
2072	8.885E+03	7.115E+06	9.774E+03	2.373E+03	3.557E+06	2.611E+03
2073	8.537E+03	6.836E+06	9.390E+03	2.280E+03	3.418E+06	2.508E+03
2074	8.202E+03	6.568E+06	9.022E+03	2.191E+03	3.284E+06	2.410E+03
2075	7.880E+03	6.310E+06	8.669E+03	2.105E+03	3.155E+06	2.315E+03
2076	7.571E+03	6.063E+06	8.329E+03	2.022E+03	3.031E+06	2.225E+03
2077	7.275E+03	5.825E+06	8.002E+03	1.943E+03	2.913E+06	2.137E+03
2078	6.989E+03	5.597E+06	7.688E+03	1.867E+03	2.798E+06	2.054E+03
2079	6.715E+03	5.377E+06	7.387E+03	1.794E+03	2.689E+06	1.973E+03
2080	6.452E+03	5.166E+06	7.097E+03	1.723E+03	2.583E+06	1.896E+03
2081	6.199E+03	4.964E+06	6.819E+03	1.656E+03	2.482E+06	1.821E+03
2082	5.956E+03	4.769E+06	6.552E+03	1.591E+03	2.385E+06	1.750E+03
2083	5.722E+03	4.582E+06	6.295E+03	1.529E+03	2.291E+06	1.681E+03
2084	5.498E+03	4.403E+06	6.048E+03	1.469E+03	2.201E+06	1.615E+03
2085	5.282E+03	4.230E+06	5.811E+03	1.411E+03	2.115E+06	1.552E+03
2086	5.075E+03	4.064E+06	5.583E+03	1.356E+03	2.032E+06	1.491E+03
2087	4.876E+03	3.905E+06	5.364E+03	1.303E+03	1.952E+06	1.433E+03

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m ³ /year)	(short tons/year)	(Mg/year)	(m ³ /year)	(short tons/year)
2088	4.685E+03	3.752E+06	5.154E+03	1.251E+03	1.876E+06	1.377E+03
2089	4.501E+03	3.605E+06	4.952E+03	1.202E+03	1.802E+06	1.323E+03
2090	4.325E+03	3.463E+06	4.757E+03	1.155E+03	1.732E+06	1.271E+03
2091	4.155E+03	3.327E+06	4.571E+03	1.110E+03	1.664E+06	1.221E+03
2092	3.992E+03	3.197E+06	4.392E+03	1.066E+03	1.598E+06	1.173E+03
2093	3.836E+03	3.072E+06	4.219E+03	1.025E+03	1.536E+06	1.127E+03
2094	3.685E+03	2.951E+06	4.054E+03	9.844E+02	1.476E+06	1.083E+03
2095	3.541E+03	2.835E+06	3.895E+03	9.458E+02	1.418E+06	1.040E+03
2096	3.402E+03	2.724E+06	3.742E+03	9.087E+02	1.362E+06	9.996E+02
2097	3.269E+03	2.617E+06	3.596E+03	8.731E+02	1.309E+06	9.604E+02
2098	3.141E+03	2.515E+06	3.455E+03	8.389E+02	1.257E+06	9.228E+02
2099	3.017E+03	2.416E+06	3.319E+03	8.060E+02	1.208E+06	8.866E+02
2100	2.899E+03	2.321E+06	3.189E+03	7.744E+02	1.161E+06	8.518E+02
2101	2.785E+03	2.230E+06	3.064E+03	7.440E+02	1.115E+06	8.184E+02
2102	2.676E+03	2.143E+06	2.944E+03	7.148E+02	1.071E+06	7.863E+02
2103	2.571E+03	2.059E+06	2.828E+03	6.868E+02	1.029E+06	7.555E+02
2104	2.470E+03	1.978E+06	2.717E+03	6.599E+02	9.891E+05	7.259E+02
2105	2.374E+03	1.901E+06	2.611E+03	6.340E+02	9.503E+05	6.974E+02
2106	2.280E+03	1.826E+06	2.509E+03	6.091E+02	9.131E+05	6.701E+02
2107	2.191E+03	1.755E+06	2.410E+03	5.853E+02	8.773E+05	6.438E+02
2108	2.105E+03	1.686E+06	2.316E+03	5.623E+02	8.429E+05	6.185E+02
2109	2.023E+03	1.620E+06	2.225E+03	5.403E+02	8.098E+05	5.943E+02
2110	1.943E+03	1.556E+06	2.138E+03	5.191E+02	7.781E+05	5.710E+02
2111	1.867E+03	1.495E+06	2.054E+03	4.987E+02	7.475E+05	5.486E+02
2112	1.794E+03	1.436E+06	1.973E+03	4.792E+02	7.182E+05	5.271E+02
2113	1.724E+03	1.380E+06	1.896E+03	4.604E+02	6.901E+05	5.064E+02
2114	1.656E+03	1.326E+06	1.822E+03	4.423E+02	6.630E+05	4.866E+02
2115	1.591E+03	1.274E+06	1.750E+03	4.250E+02	6.370E+05	4.675E+02
2116	1.529E+03	1.224E+06	1.682E+03	4.083E+02	6.120E+05	4.492E+02
2117	1.469E+03	1.176E+06	1.616E+03	3.923E+02	5.880E+05	4.315E+02
2118	1.411E+03	1.130E+06	1.552E+03	3.769E+02	5.650E+05	4.146E+02
2119	1.356E+03	1.086E+06	1.491E+03	3.621E+02	5.428E+05	3.984E+02
2120	1.303E+03	1.043E+06	1.433E+03	3.479E+02	5.215E+05	3.827E+02
2121	1.252E+03	1.002E+06	1.377E+03	3.343E+02	5.011E+05	3.677E+02
2122	1.202E+03	9.629E+05	1.323E+03	3.212E+02	4.814E+05	3.533E+02
2123	1.155E+03	9.251E+05	1.271E+03	3.086E+02	4.626E+05	3.395E+02
2124	1.110E+03	8.889E+05	1.221E+03	2.965E+02	4.444E+05	3.262E+02
2125	1.067E+03	8.540E+05	1.173E+03	2.849E+02	4.270E+05	3.134E+02
2126	1.025E+03	8.205E+05	1.127E+03	2.737E+02	4.103E+05	3.011E+02
2127	9.845E+02	7.883E+05	1.083E+03	2.630E+02	3.942E+05	2.893E+02

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m ³ /year)	(short tons/year)	(Mg/year)	(m ³ /year)	(short tons/year)
1987	0	0	0	0	0	0
1988	1.930E+02	1.054E+05	2.122E+02	4.496E-01	1.254E+02	4.946E-01
1989	3.783E+02	2.067E+05	4.162E+02	8.816E-01	2.460E+02	9.698E-01
1990	5.565E+02	3.040E+05	6.121E+02	1.297E+00	3.617E+02	1.426E+00
1991	7.276E+02	3.975E+05	8.003E+02	1.695E+00	4.730E+02	1.865E+00
1992	8.920E+02	4.873E+05	9.812E+02	2.079E+00	5.799E+02	2.286E+00
1993	1.050E+03	5.736E+05	1.155E+03	2.447E+00	6.826E+02	2.691E+00
1994	1.202E+03	6.565E+05	1.322E+03	2.800E+00	7.813E+02	3.080E+00
1995	1.348E+03	7.362E+05	1.482E+03	3.140E+00	8.761E+02	3.454E+00
1996	1.317E+03	7.197E+05	1.449E+03	3.070E+00	8.564E+02	3.377E+00
1997	1.298E+03	7.088E+05	1.427E+03	3.024E+00	8.435E+02	3.326E+00
1998	1.459E+03	7.971E+05	1.605E+03	3.400E+00	9.485E+02	3.740E+00
1999	1.654E+03	9.037E+05	1.820E+03	3.855E+00	1.075E+03	4.240E+00
2000	1.740E+03	9.504E+05	1.914E+03	4.054E+00	1.131E+03	4.459E+00
2001	2.021E+03	1.104E+06	2.223E+03	4.708E+00	1.314E+03	5.179E+00
2002	2.379E+03	1.300E+06	2.617E+03	5.545E+00	1.547E+03	6.099E+00
2003	2.543E+03	1.389E+06	2.797E+03	5.926E+00	1.653E+03	6.518E+00
2004	2.660E+03	1.453E+06	2.926E+03	6.199E+00	1.729E+03	6.819E+00
2005	2.853E+03	1.558E+06	3.138E+03	6.648E+00	1.855E+03	7.312E+00
2006	3.023E+03	1.651E+06	3.325E+03	7.044E+00	1.965E+03	7.749E+00
2007	3.169E+03	1.731E+06	3.486E+03	7.385E+00	2.060E+03	8.124E+00
2008	3.329E+03	1.819E+06	3.662E+03	7.757E+00	2.164E+03	8.533E+00
2009	3.581E+03	1.957E+06	3.940E+03	8.346E+00	2.328E+03	9.180E+00
2010	3.715E+03	2.030E+06	4.087E+03	8.658E+00	2.415E+03	9.524E+00
2011	3.780E+03	2.065E+06	4.158E+03	8.809E+00	2.458E+03	9.690E+00
2012	3.925E+03	2.144E+06	4.317E+03	9.145E+00	2.551E+03	1.006E+01
2013	4.092E+03	2.235E+06	4.501E+03	9.534E+00	2.660E+03	1.049E+01
2014	4.239E+03	2.316E+06	4.663E+03	9.879E+00	2.756E+03	1.087E+01
2015	4.338E+03	2.370E+06	4.771E+03	1.011E+01	2.820E+03	1.112E+01
2016	4.407E+03	2.408E+06	4.848E+03	1.027E+01	2.865E+03	1.130E+01
2017	4.525E+03	2.472E+06	4.977E+03	1.054E+01	2.942E+03	1.160E+01
2018	4.556E+03	2.489E+06	5.012E+03	1.062E+01	2.962E+03	1.168E+01
2019	4.608E+03	2.517E+06	5.069E+03	1.074E+01	2.996E+03	1.181E+01
2020	4.671E+03	2.552E+06	5.139E+03	1.089E+01	3.037E+03	1.197E+01
2021	4.732E+03	2.585E+06	5.206E+03	1.103E+01	3.077E+03	1.213E+01
2022	4.791E+03	2.617E+06	5.270E+03	1.116E+01	3.115E+03	1.228E+01
2023	4.848E+03	2.648E+06	5.332E+03	1.130E+01	3.151E+03	1.243E+01
2024	4.902E+03	2.678E+06	5.392E+03	1.142E+01	3.187E+03	1.256E+01
2025	5.167E+03	2.823E+06	5.684E+03	1.204E+01	3.359E+03	1.324E+01
2026	5.422E+03	2.962E+06	5.964E+03	1.264E+01	3.525E+03	1.390E+01
2027	5.667E+03	3.096E+06	6.234E+03	1.321E+01	3.684E+03	1.453E+01
2028	5.903E+03	3.225E+06	6.493E+03	1.375E+01	3.837E+03	1.513E+01
2029	6.129E+03	3.348E+06	6.742E+03	1.428E+01	3.984E+03	1.571E+01
2030	6.346E+03	3.467E+06	6.981E+03	1.479E+01	4.126E+03	1.627E+01
2031	6.555E+03	3.581E+06	7.211E+03	1.528E+01	4.261E+03	1.680E+01
2032	6.756E+03	3.691E+06	7.431E+03	1.574E+01	4.392E+03	1.732E+01
2033	6.949E+03	3.796E+06	7.643E+03	1.619E+01	4.517E+03	1.781E+01
2034	7.134E+03	3.897E+06	7.847E+03	1.662E+01	4.638E+03	1.829E+01
2035	7.312E+03	3.994E+06	8.043E+03	1.704E+01	4.753E+03	1.874E+01
2036	7.483E+03	4.088E+06	8.231E+03	1.744E+01	4.864E+03	1.918E+01

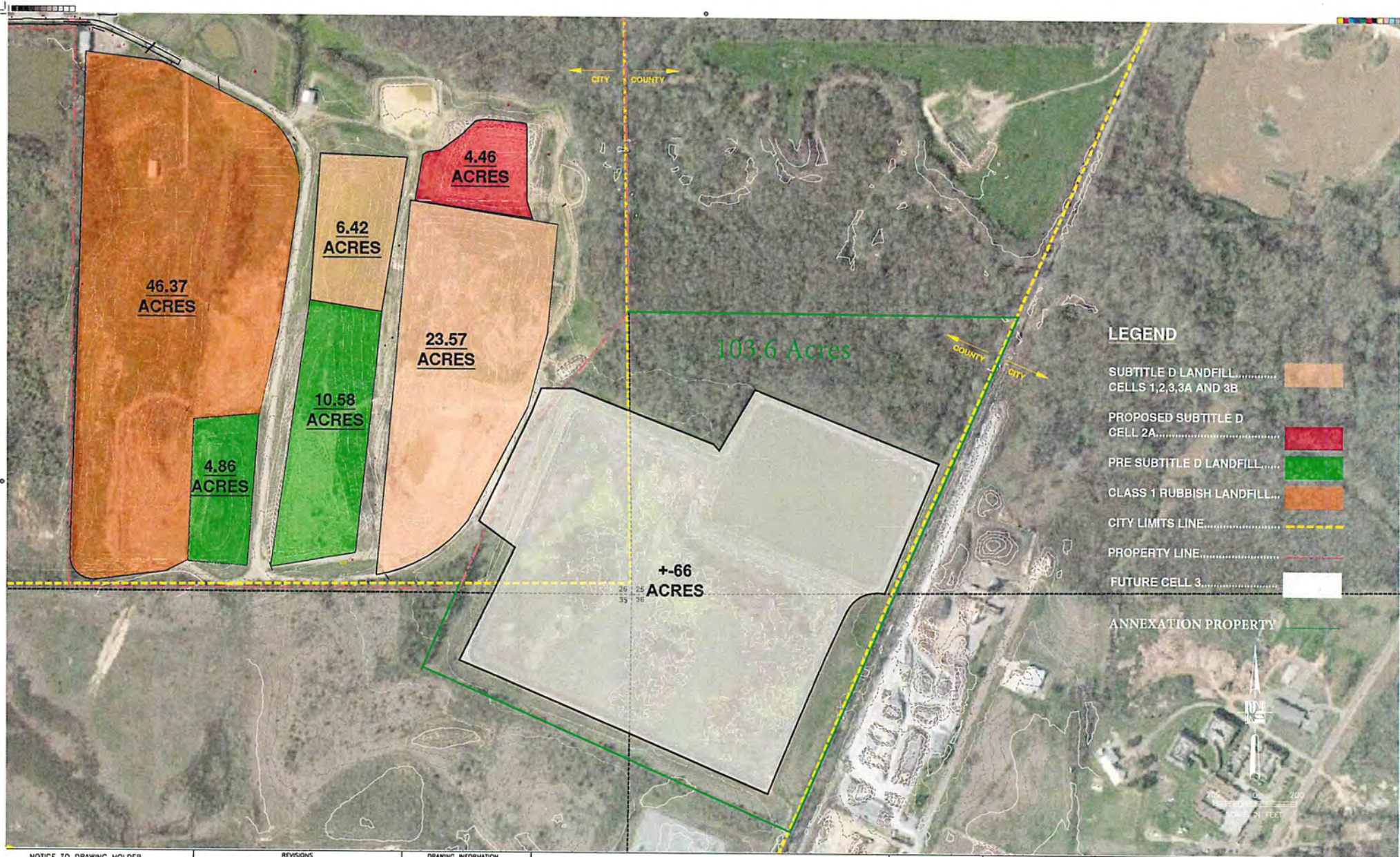
Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m ³ /year)	(short tons/year)	(Mg/year)	(m ³ /year)	(short tons/year)
2037	7.647E+03	4.177E+06	8.412E+03	1.782E+01	4.971E+03	1.960E+01
2038	7.805E+03	4.264E+06	8.585E+03	1.819E+01	5.074E+03	2.001E+01
2039	7.956E+03	4.347E+06	8.752E+03	1.854E+01	5.172E+03	2.039E+01
2040	8.102E+03	4.426E+06	8.912E+03	1.888E+01	5.267E+03	2.077E+01
2041	8.242E+03	4.503E+06	9.066E+03	1.921E+01	5.358E+03	2.113E+01
2042	8.377E+03	4.576E+06	9.214E+03	1.952E+01	5.446E+03	2.147E+01
2043	8.506E+03	4.647E+06	9.356E+03	1.982E+01	5.530E+03	2.180E+01
2044	8.630E+03	4.714E+06	9.493E+03	2.011E+01	5.610E+03	2.212E+01
2045	8.749E+03	4.780E+06	9.624E+03	2.039E+01	5.688E+03	2.243E+01
2046	8.864E+03	4.842E+06	9.750E+03	2.065E+01	5.762E+03	2.272E+01
2047	8.974E+03	4.902E+06	9.871E+03	2.091E+01	5.834E+03	2.300E+01
2048	9.080E+03	4.960E+06	9.988E+03	2.116E+01	5.903E+03	2.327E+01
2049	9.181E+03	5.016E+06	1.010E+04	2.139E+01	5.969E+03	2.353E+01
2050	9.279E+03	5.069E+06	1.021E+04	2.162E+01	6.032E+03	2.378E+01
2051	9.373E+03	5.120E+06	1.031E+04	2.184E+01	6.093E+03	2.403E+01
2052	9.463E+03	5.170E+06	1.041E+04	2.205E+01	6.152E+03	2.426E+01
2053	9.550E+03	5.217E+06	1.050E+04	2.225E+01	6.208E+03	2.448E+01
2054	9.633E+03	5.262E+06	1.060E+04	2.245E+01	6.262E+03	2.469E+01
2055	9.713E+03	5.306E+06	1.068E+04	2.263E+01	6.314E+03	2.490E+01
2056	9.790E+03	5.348E+06	1.077E+04	2.281E+01	6.364E+03	2.509E+01
2057	9.863E+03	5.388E+06	1.085E+04	2.298E+01	6.412E+03	2.528E+01
2058	9.934E+03	5.427E+06	1.093E+04	2.315E+01	6.458E+03	2.546E+01
2059	1.000E+04	5.464E+06	1.100E+04	2.331E+01	6.503E+03	2.564E+01
2060	1.007E+04	5.500E+06	1.107E+04	2.346E+01	6.545E+03	2.581E+01
2061	1.011E+04	5.524E+06	1.112E+04	2.356E+01	6.573E+03	2.592E+01
2062	9.715E+03	5.307E+06	1.069E+04	2.264E+01	6.315E+03	2.490E+01
2063	9.334E+03	5.099E+06	1.027E+04	2.175E+01	6.068E+03	2.392E+01
2064	8.968E+03	4.899E+06	9.864E+03	2.090E+01	5.830E+03	2.299E+01
2065	8.616E+03	4.707E+06	9.478E+03	2.008E+01	5.601E+03	2.209E+01
2066	8.278E+03	4.522E+06	9.106E+03	1.929E+01	5.382E+03	2.122E+01
2067	7.954E+03	4.345E+06	8.749E+03	1.853E+01	5.171E+03	2.039E+01
2068	7.642E+03	4.175E+06	8.406E+03	1.781E+01	4.968E+03	1.959E+01
2069	7.342E+03	4.011E+06	8.076E+03	1.711E+01	4.773E+03	1.882E+01
2070	7.054E+03	3.854E+06	7.760E+03	1.644E+01	4.586E+03	1.808E+01
2071	6.778E+03	3.703E+06	7.455E+03	1.579E+01	4.406E+03	1.737E+01
2072	6.512E+03	3.557E+06	7.163E+03	1.517E+01	4.233E+03	1.669E+01
2073	6.257E+03	3.418E+06	6.882E+03	1.458E+01	4.067E+03	1.604E+01
2074	6.011E+03	3.284E+06	6.612E+03	1.401E+01	3.908E+03	1.541E+01
2075	5.776E+03	3.155E+06	6.353E+03	1.346E+01	3.755E+03	1.480E+01
2076	5.549E+03	3.031E+06	6.104E+03	1.293E+01	3.607E+03	1.422E+01
2077	5.331E+03	2.913E+06	5.865E+03	1.242E+01	3.466E+03	1.367E+01
2078	5.122E+03	2.798E+06	5.635E+03	1.194E+01	3.330E+03	1.313E+01
2079	4.922E+03	2.689E+06	5.414E+03	1.147E+01	3.199E+03	1.262E+01
2080	4.729E+03	2.583E+06	5.201E+03	1.102E+01	3.074E+03	1.212E+01
2081	4.543E+03	2.482E+06	4.997E+03	1.059E+01	2.954E+03	1.165E+01
2082	4.365E+03	2.385E+06	4.802E+03	1.017E+01	2.838E+03	1.119E+01
2083	4.194E+03	2.291E+06	4.613E+03	9.773E+00	2.726E+03	1.075E+01
2084	4.029E+03	2.201E+06	4.432E+03	9.390E+00	2.620E+03	1.033E+01
2085	3.871E+03	2.115E+06	4.259E+03	9.021E+00	2.517E+03	9.924E+00
2086	3.720E+03	2.032E+06	4.092E+03	8.668E+00	2.418E+03	9.534E+00
2087	3.574E+03	1.952E+06	3.931E+03	8.328E+00	2.323E+03	9.161E+00

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m ³ /year)	(short tons/year)	(Mg/year)	(m ³ /year)	(short tons/year)
2088	3.434E+03	1.876E+06	3.777E+03	8.001E+00	2.232E+03	8.801E+00
2089	3.299E+03	1.802E+06	3.629E+03	7.688E+00	2.145E+03	8.456E+00
2090	3.170E+03	1.732E+06	3.487E+03	7.386E+00	2.061E+03	8.125E+00
2091	3.045E+03	1.664E+06	3.350E+03	7.097E+00	1.980E+03	7.806E+00
2092	2.926E+03	1.598E+06	3.219E+03	6.818E+00	1.902E+03	7.500E+00
2093	2.811E+03	1.536E+06	3.092E+03	6.551E+00	1.828E+03	7.206E+00
2094	2.701E+03	1.476E+06	2.971E+03	6.294E+00	1.756E+03	6.923E+00
2095	2.595E+03	1.418E+06	2.855E+03	6.047E+00	1.687E+03	6.652E+00
2096	2.493E+03	1.362E+06	2.743E+03	5.810E+00	1.621E+03	6.391E+00
2097	2.396E+03	1.309E+06	2.635E+03	5.582E+00	1.557E+03	6.141E+00
2098	2.302E+03	1.257E+06	2.532E+03	5.363E+00	1.496E+03	5.900E+00
2099	2.211E+03	1.208E+06	2.433E+03	5.153E+00	1.438E+03	5.668E+00
2100	2.125E+03	1.161E+06	2.337E+03	4.951E+00	1.381E+03	5.446E+00
2101	2.041E+03	1.115E+06	2.246E+03	4.757E+00	1.327E+03	5.233E+00
2102	1.961E+03	1.071E+06	2.157E+03	4.570E+00	1.275E+03	5.027E+00
2103	1.884E+03	1.029E+06	2.073E+03	4.391E+00	1.225E+03	4.830E+00
2104	1.811E+03	9.891E+05	1.992E+03	4.219E+00	1.177E+03	4.641E+00
2105	1.740E+03	9.503E+05	1.914E+03	4.054E+00	1.131E+03	4.459E+00
2106	1.671E+03	9.131E+05	1.838E+03	3.895E+00	1.087E+03	4.284E+00
2107	1.606E+03	8.773E+05	1.766E+03	3.742E+00	1.044E+03	4.116E+00
2108	1.543E+03	8.429E+05	1.697E+03	3.595E+00	1.003E+03	3.955E+00
2109	1.482E+03	8.098E+05	1.631E+03	3.454E+00	9.637E+02	3.800E+00
2110	1.424E+03	7.781E+05	1.567E+03	3.319E+00	9.259E+02	3.651E+00
2111	1.368E+03	7.475E+05	1.505E+03	3.189E+00	8.896E+02	3.508E+00
2112	1.315E+03	7.182E+05	1.446E+03	3.064E+00	8.547E+02	3.370E+00
2113	1.263E+03	6.901E+05	1.389E+03	2.944E+00	8.212E+02	3.238E+00
2114	1.214E+03	6.630E+05	1.335E+03	2.828E+00	7.890E+02	3.111E+00
2115	1.166E+03	6.370E+05	1.283E+03	2.717E+00	7.580E+02	2.989E+00
2116	1.120E+03	6.120E+05	1.232E+03	2.611E+00	7.283E+02	2.872E+00
2117	1.076E+03	5.880E+05	1.184E+03	2.508E+00	6.998E+02	2.759E+00
2118	1.034E+03	5.650E+05	1.138E+03	2.410E+00	6.723E+02	2.651E+00
2119	9.936E+02	5.428E+05	1.093E+03	2.315E+00	6.460E+02	2.547E+00
2120	9.547E+02	5.215E+05	1.050E+03	2.225E+00	6.206E+02	2.447E+00
2121	9.173E+02	5.011E+05	1.009E+03	2.137E+00	5.963E+02	2.351E+00
2122	8.813E+02	4.814E+05	9.694E+02	2.054E+00	5.729E+02	2.259E+00
2123	8.467E+02	4.626E+05	9.314E+02	1.973E+00	5.505E+02	2.170E+00
2124	8.135E+02	4.444E+05	8.949E+02	1.896E+00	5.289E+02	2.085E+00
2125	7.816E+02	4.270E+05	8.598E+02	1.821E+00	5.081E+02	2.004E+00
2126	7.510E+02	4.103E+05	8.261E+02	1.750E+00	4.882E+02	1.925E+00
2127	7.215E+02	3.942E+05	7.937E+02	1.681E+00	4.691E+02	1.849E+00

APPENDIX C. SITE MAP



NOTICE TO DRAWING HOLDER

L-SCHAFER, INC., HEREAFTER REFERRED TO AS THE USER HAS PREPARED AND FURNISHED THIS DRAWING TO THE USER FOR USE ON THIS PROJECT ONLY. THIS DRAWING SHOULD BE USED ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THIS DRAWING, WITHOUT WRITTEN PERMISSION OR ADAPTATION BY THE ENGINEER, SHALL BE AT THE USER'S SOLE RISK AND THE USER SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RELATING THEREFROM.

REVISIONS			DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	

NS PROJECT NO.: NS.7907.005
FILENAME:
SCALE: AS NOTED
SURVEYED BY: KLS SURVEYING
DESIGN: D.M.R. DATE: 6/2016
DRAWN: R.T.R. DATE: 6/2016
CHECKED: D.M.R. DATE: 6/2016
QA/QC: DATE: 8/2016

CANTON SANITARY LANDFILL
CITY OF CANTON, MISSISSIPPI
MADISON COUNTY, MISSISSIPPI

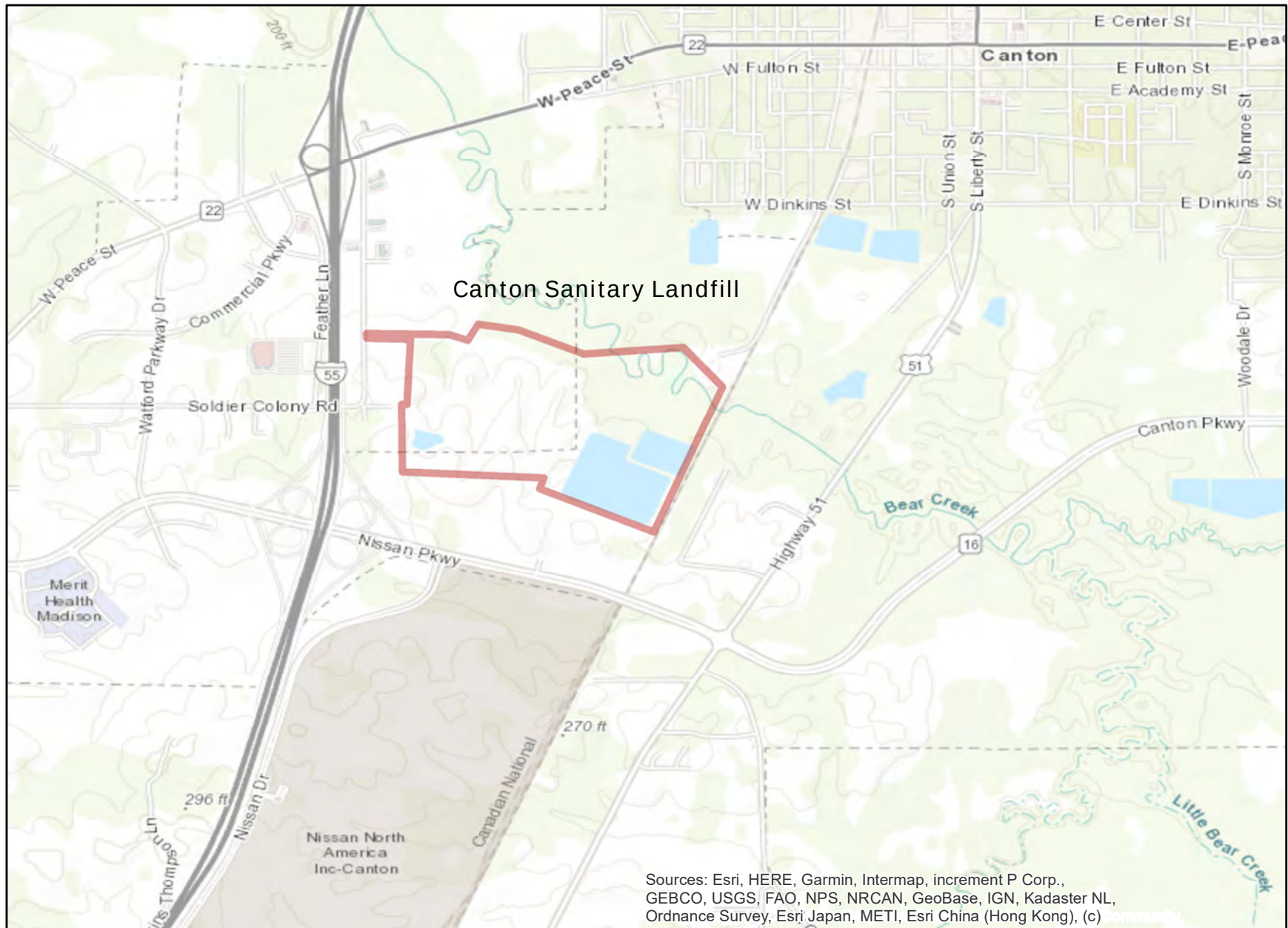


CURRENT SITE MAP
EXHIBIT

WORKING NUMBER:	DRAWING NUMBER:
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APPENDIX D. TOPOGRAPHIC MAP

Canton Sanitary Landfill - Topography



0 0.225 0.45 0.9 1.35 1.8 Miles

APPENDIX E. WASTE COLLECTION RATE (CURRENT & PROJECTED)

**Canton Sanitary Landfill, 08/16/2021 (Rev. 2)
Airspace Calculation with Lateral Expansion**

Year	U.S. Tons	Notes
1987	29,512	Receipts reported in annual SWMP Report
1988	29,512	Receipts reported in Annual SWMP Report
1989	29,512	Receipts reported in Annual SWMP Report
1990	29,512	Receipts reported in Annual SWMP Report
1991	29,512	Receipts reported in Annual SWMP Report
1992	29,512	Receipts reported in Annual SWMP Report
1993	29,512	Receipts reported in Annual SWMP Report
1994	29,512	Receipts reported in Annual SWMP Report
1995	3,456	Receipts reported in Annual SWMP Report
1996	4,866	Receipts reported in Annual SWMP Report
1997	32,485	Receipts reported in Annual SWMP Report
1998	38,619	Receipts reported in Annual SWMP Report
1999	22,972	Receipts reported in Annual SWMP Report
2000	53,394	Receipts reported in Annual SWMP Report
2001	67,022	Receipts reported in Annual SWMP Report
2002	39,267	Receipts reported in Annual SWMP Report
2003	33,210	Receipts reported in Annual SWMP Report
2004	45,389	Receipts reported in Annual SWMP Report
2005	43,144	Receipts reported in Annual SWMP Report
2006	40,503	Receipts reported in Annual SWMP Report
2007	43,425	Receipts reported in Annual SWMP Report
2008	58,586	Receipts reported in Annual SWMP Report
2009	41,973	Receipts reported in Annual SWMP Report
2010	32,217	Receipts reported in Annual SWMP Report
2011	44,720	Receipts reported in Annual SWMP Report
2012	49,091	Receipts reported in Annual SWMP Report
2013	47,144	Receipts reported in Annual SWMP Report
2014	40,458	Receipts reported in Annual SWMP Report
2015	36,644	Receipts reported in Annual SWMP Report
2016	44,427	Receipts reported in Annual SWMP Report
2017	31,977	Receipts reported in Annual SWMP Report
2018	35,181	Receipts reported in Annual SWMP Report
2019	37,357	Receipts reported in Annual SWMP Report
2020	37,357	Receipts reported in Annual SWMP Report
2021	37,357	Projected Current Permit Area Receipts
2022	37,357	Projected Current Permit Area Receipts
2023	37,357	Projected Current Permit Area Receipts (16,811 U.S. Tons); Projected Lagoon Expansion Area Receipts (20,546 U.S. Tons)
2024	70,000	Projected Lagoon Lateral Expansion Area Receipts
2025	70,000	Projected Lagoon Lateral Expansion Area Receipts
2026	70,000	Projected Lagoon Lateral Expansion Area Receipts
2027	70,000	Projected Lagoon Lateral Expansion Area Receipts
2028	70,000	Projected Lagoon Lateral Expansion Area Receipts
2029	70,000	Projected Lagoon Lateral Expansion Area Receipts
2030	70,000	Projected Lagoon Lateral Expansion Area Receipts
2031	70,000	Projected Lagoon Lateral Expansion Area Receipts
2032	70,000	Projected Lagoon Lateral Expansion Area Receipts
2033	70,000	Projected Lagoon Lateral Expansion Area Receipts
2034	70,000	Projected Lagoon Lateral Expansion Area Receipts
2035	70,000	Projected Lagoon Lateral Expansion Area Receipts
2036	70,000	Projected Lagoon Lateral Expansion Area Receipts
2037	70,000	Projected Lagoon Lateral Expansion Area Receipts
2038	70,000	Projected Lagoon Lateral Expansion Area Receipts
2039	70,000	Projected Lagoon Lateral Expansion Area Receipts
2040	70,000	Projected Lagoon Lateral Expansion Area Receipts
2041	70,000	Projected Lagoon Lateral Expansion Area Receipts
2042	70,000	Projected Lagoon Lateral Expansion Area Receipts
2043	70,000	Projected Lagoon Lateral Expansion Area Receipts
2044	70,000	Projected Lagoon Lateral Expansion Area Receipts
2045	70,000	Projected Lagoon Lateral Expansion Area Receipts
2046	70,000	Projected Lagoon Lateral Expansion Area Receipts
2047	70,000	Projected Lagoon Lateral Expansion Area Receipts
2048	70,000	Projected Lagoon Lateral Expansion Area Receipts
2049	70,000	Projected Lagoon Lateral Expansion Area Receipts
2050	70,000	Projected Lagoon Lateral Expansion Area Receipts
2051	70,000	Projected Lagoon Lateral Expansion Area Receipts
2052	70,000	Projected Lagoon Lateral Expansion Area Receipts
2053	70,000	Projected Lagoon Lateral Expansion Area Receipts
2054	70,000	Projected Lagoon Lateral Expansion Area Receipts
2055	70,000	Projected Lagoon Lateral Expansion Area Receipts
2056	70,000	Projected Lagoon Lateral Expansion Area Receipts
2057	70,000	Projected Lagoon Lateral Expansion Area Receipts
2058	70,000	Projected Lagoon Lateral Expansion Area Receipts
2059	70,000	Projected Lagoon Lateral Expansion Area Receipts
2060	66,980	Projected Lagoon Lateral Expansion Area Receipts
Total MSW	3,940,031	U.S. Tons in current permit area and proposed lagoon lateral expansion area
Total MSW	3,574,337	Metric Tons in current permit area and proposed lagoon lateral expansion area
Total MSW	6,566,718	Cubic Yards in current permit area and proposed lagoon lateral expansion area
Total MSW	5,020,617	Cubic Meters in current permit area and proposed lagoon lateral expansion area

Notes:

1 cubic yard of MSW = 0.6 compacted U.S. tons

Area of existing permitted MSW landfill = 49.89 Acres

Area of proposed Lagoon Lateral Expansion = 53.83 Acres

Lagoon Lateral Expansion Capacity = 2,607,526 U.S. Tons