



**ENVIRONMENTAL
INFORMATION
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March 21, 2023

Ms. Amy Tempus-Doom
Division for Air Quality - Permit Review Branch
300 Sower Blvd., 2nd Floor
Frankfort, KY 40601
Submitted Electronically – Kentucky Business One Stop Portal

RE: Benson Valley Landfill – Franklin County, KY
Source I.D. No. 21-073-00053
Title V Operating Permit V-18-013 – Renewal Application

Dear Ms. Tempus-Doom:

The Benson Valley Landfill located in Frankfort, Kentucky was issued a Title V Operating Permit Renewal on September 30, 2018. 401 KAR 52:020 Section 12 and Condition G.2.a require submittal of a timely and complete renewal application six months before permit expiration. For Benson Valley Landfill, that date corresponds to March 30, 2023.

Enclosed is a pdf of the application with the Responsible Official signature. The application consists of the following:

- Emissions Calculation Updates for significant activities and an updated list of insignificant activities;
- Application forms;
- New applicable federal requirements: 40 CFR Part 62 (Federal Plan), Subpart OOO and 40 CFR 63, Subpart AAAA (Revised Landfill NESHAP); and
- List of non-applicable state and federal requirements for permit shield coverage.

Environmental Information Logistics is submitting the application on behalf of the landfill owner, Benson Valley Landfill General Partnership. If you have any questions or comments, please call me at (630) 209-3931 or Chip Simmons of Benson Valley at (502) 401-8891.

Sincerely,
Environmental Information Logistics, LLC

A handwritten signature in blue ink that reads "Emily M. Nelson".

Emily M. Nelson
Senior Project Manager

cc: Chip Simmons, Benson Valley Landfill

Benson Valley Landfill
SOURCE I.D. #21-073-00053

Application for Renewal of a Title V Permit

Frankfort
Franklin County, Kentucky

March 2023

Prepared by:

Environmental Information Logistics, LLC
130 E. Main Street
Caledonia, MI 49316

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INTRODUCTION

Benson Valley Landfill General Partnership (BVLGP) owns and operates the Benson Valley Landfill (Benson Valley), a municipal solid waste landfill located in Frankfort, Franklin County, Kentucky. Franklin County has been designated as attainment for all criteria pollutants.

On September 30, 2018, the Kentucky Department for Environmental Protection issued a Title 5 Operating Permit (Air Quality General Permit) for the facility. The permit expires on September 30, 2023 and per General Condition G.2.a, a renewal application is due six months prior to the expiration date of the permit (i.e. by March 30, 2023). BVLGP is requesting a renewal of the Title 5 Air Quality General Permit, with appropriate updates, clarifications and modifications, in accordance with 401 KAR 52:020 Section 12.

The current permit includes the following significant emission units:

| <u>Emissions Unit No.</u> | <u>Emissions Unit Description</u> |
|----------------------------------|--|
| 002 | Municipal Solid Waste (MSW) Landfill |
| 002 | Landfill Flare |
| 003 | Paved and Unpaved Haul Roads |
| 004 | Site Construction |

There are no new significant emissions units to add for this renewal application. Please note that the Emissions Unit Numbers for the MSW Landfill and the Landfill flare are duplicated (002), which appears to be an error since other landfill Title 5 permits have separate ID numbers for these units. For the renewal permit, please change MSW Landfill Emissions Unit Number to 001.

One significant change to the facility's gas management is the current construction and planned 2023 operation of a third part Renewable Natural Gas (RNG) plant. KDEP issued a federally enforceable permit for non-major sources to Ameresco Benson Valley RNG LLC on November 7, 2021 (Permit No. F-21-028). The permit allows the construction and operation of an RNG plant for beneficial use of the landfill gas produced by Benson Valley Landfill. The RNG plant is considered a separate source from the landfill. As a result of this project, it is expected that the majority of the gas produced by the landfill will be processed and sent to an interstate natural gas transmission pipeline. Emissions from the site's open flare will decrease as a result.

The following insignificant emissions units were identified in the current permit:

- Diesel Storage Tanks (10,000 gallons)
- Diesel Storage Tanks (10,000 gallons)
- Diesel Storage Tank (1,000 gallons)
- Diesel Storage Tank (1,000 gallons)
- Diesel Storage Tank - contractor – 10,000 gallons)
- Two Maintenance Cold Cleaners
- Leachate Storage Tank (108,000 gallons)
- Leachate Storage Tank (108,000 gallons)
- Leachate Storage Tank (150,000 gallons)

All of the above-listed insignificant emissions units are still present at the facility; none have been removed.

A summary of additional requested updates to the current permit are provided in this application. These include:

- Emissions calculation updates for the landfill and haul roads (Appendix A);
- New applicable regulations (40 CFR 62 Subpart OOO and revised 40 CFR 63 Subpart AAAA); and
- List of non-applicable state and federal requirements for permit shield coverage.

Application forms are provided in Section 2. A site map is included in Appendix C, and a process flow diagram is provided in Appendix D.

Newly Applicable/Revised Federal Regulations

40 CFR 62, Subpart OOO (Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014): On May 21, 2021, the Federal Register published the federal plan requirements for municipal solid waste (MSW) landfills that commenced construction before July 17, 2014, such as Benson Valley, and are in states where a state plan has not been approved, such as Kentucky. The rule, 40 CFR 62, Subpart OOO (Federal Plan), went into effect on June 21, 2021. This closes the loop to allow landfills in Kentucky to smoothly transition into the requirements of the revised NESHAP. Benson Valley is considered a Legacy Controlled Landfill (as defined in §62.16730), and as such, was not required to submit several reports or comply with the “Increments of Progress” in §62.16712 of the Federal Plan.

The Landfill NESHAP (40 CFR 63 Subpart AAAA) revisions were promulgated on March 26, 2020 and became effective September 27, 2021. All of the operational standards, compliance and monitoring requirements of the Federal Plan (§62.16717, §62.16720 & §62.16722, respectively) are now superseded by their equivalent NESHAP counterpart (§63.1958, §63.1960 & §63.1961, respectively). Additionally, selective recordkeeping and reporting requirements of the Federal Plan (§62.16724(h), (k) & (q) and §62.16726(e)) are also now superseded by their equivalent provisions of the revised Landfill NESHAP (§63.1981(h), (j) & (k) and §63.1983(e), respectively).

Only the relevant provisions of the Federal Plan which have not been superseded by the Landfill NESHAP should be incorporated. These include the following regulatory citations:

- §62.16710(a) – Scope
- §62.16711(a), (d) – (f) & (h) – Designated Facilities
- §62.16714(a), (b), (c)(2) – (4) & (f) – Standards for MSW Landfill Emissions
- §62.16718(b) – (e) – Test Methods
- §62.16724(d)(6) & (7), (e) – (g), (j) & (l) - Reporting
- §62.16726(a) – (d), (e)(6) & (h) – (j) – Recordkeeping
- §62.16728 – Specifications for Active Systems
- §62.16730 – Definitions

40 CFR 63, Subpart AAAA (Revised – National Emissions Standards for Hazardous Air Pollutants – Municipal Solid Waste Landfills): As stated previously, on March 26, 2020 the EPA promulgated substantial revisions to the Landfill NESHAP (40 CFR 63 Subpart AAAA). The intent was to incorporate the monitoring, recordkeeping, reporting and compliance provisions of the Landfill NSPS (40 CFR 60 Subparts WWW and XXX) into the revised Landfill NESHAP and make the NESHAP the primary air compliance regulation for landfill compliance. These provisions become effective after September 27, 2021. Also on March 26, 2020 the EPA revised the Landfill NSPS to provide a sunset date for 40 CFR 60 Subpart WWW once the MSW landfill “*Becomes subject to the more stringent requirements in an approved and effective state or federal plan that implements subpart Cf of this part*” (see §60.750(d)(1)). On May 21, 2021, the Federal Register published the federal plan requirements for municipal solid waste (MSW) landfills that commenced construction before July 17, 2014. Benson Valley is subject to the Federal Plan as stated above. Since the NESHAP is now primarily the governing federal air regulation for landfills, the renewal permit issued for Benson Valley should incorporate the revised NESHAP and remove all prior references to 40 CFR 60 Subpart WWW.

APPLICATION FORMS

The following application forms are included in this section:

- DEP Form 7007AI – Administrative Information
- DEP Form 7007N – Emissions, Stacks and Controls Information
- DEP Form 7007V – Applicable Requirements & Compliance Activities
- DEP Form 7007CC – Compliance Certification
- DEP Form 7007DD – Insignificant Activities
- DEP Form 7007GG – Control Equipment
- DEP Form 7007HH – Haul Roads

DEP FORM 7007AI

Division for Air Quality

300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007AI

Administrative Information

- Section AI.1: Source Information
- Section AI.2: Applicant Information
- Section AI.3: Owner Information
- Section AI.4: Type of Application
- Section AI.5: Other Required Information
- Section AI.6: Signature Block
- Section AI.7: Notes, Comments, and Explanations

Additional Documentation

Additional Documentation attached

Source Name: Benson Valley Landfill General Partnership

KY EIS (AFS) #: 21- 073-00053

Permit #: V-18-013

Agency Interest (AI) ID: 1372

Date: 3/20/2023

Section AI.1: Source Information

| | | | | |
|--------------------------|----------------------------|-------------------------|------------------|-----------------|
| Physical Location | Street: | <u>2157 Highway 151</u> | | |
| Address: | City: | <u>Frankfort</u> | County: | <u>Franklin</u> |
| | | | Zip Code: | <u>40601</u> |
| Mailing Address: | Street or P.O. Box: | <u>2157 Highway 151</u> | | |
| | City: | <u>Frankfort</u> | State: | <u>KY</u> |
| | | | Zip Code: | <u>40601</u> |

Standard Coordinates for Source Physical Location

Longitude: 38.0756 (decimal degrees) **Latitude:** -84.5858 (decimal degrees)

Primary (NAICS) Category: Solid Waste Landfill **Primary NAICS #:** 562212

Classification (SIC) Category:

Refuse Systems

Primary SIC #:

4953

Briefly discuss the type of business conducted at this site:

This site is a permitted municipal solid waste landfill.

Description of Area Surrounding

- Rural Area Industrial Park Residential Area
- Urban Area Industrial Area Commercial Area

Is any part of the source located on federal land?

- Yes
- No

Number of Employees:

8

Approximate distance to nearest residence or commercial property:

Approx. 100 feet

Property Area:

Approx. 202

Is this source portable?

- Yes
- No

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

NPDES/KPDES:

- Currently Hold Need N/A

Solid Waste:

- Currently Hold Need N/A

RCRA:

- Currently Hold Need N/A

UST:

- Currently Hold Need N/A

Type of Regulated Waste Activity:

- Mixed Waste Generator Generator Recycler Other: _____
- U.S. Importer of Hazardous Waste Transporter Treatment/Storage/Disposal Facility N/A

Section A1.2: Applicant Information

Applicant Name: Benson Valley Landfill General Partnership

Title: (if individual) _____

Mailing Address: **Street or P.O. Box:** 2157 Highway 151

City: Frankfort **State:** KY **Zip Code:** 40601

Email: (if individual) _____

Phone: (502) 227-7257

Technical Contact

Name: Chip Simmons

Title: Environmental Manager

Mailing Address: **Street or P.O. Box:** 2157 Highway 151

City: Frankfort **State:** KY **Zip Code:** 40601

Email: CSimmons2@republicservices.com

Phone: (502) 401-8891

Air Permit Contact for Source

Name: Emily Nelson

Title: Senior Project Manager

Mailing Address: **Street or P.O. Box:** 4463 Hilltop Dr.

City: New Franklin **State:** OH **Zip Code:** 44203

Email: enelson@eilllc.com

Phone: (630) 209-3931

Section AI.3: Owner Information

Owner same as applicant

Name: _____

Title: _____

Mailing Address: **Street or P.O. Box:** _____
City: _____ **State:** _____ **Zip Code:** _____

Email: _____

Phone: _____

List names of owners and officers of the company who have an interest in the company of 5% or more.

Name

Position

Section AI.4: Type of Application

Current Status: Title V Conditional Major State-Origin General Permit Registration None

Name Change Initial Registration Significant Revision Administrative Permit Amendment

Requested Action: Renewal Permit Revised Registration Minor Revision Initial Source-wide Operating Permit
(check all that apply)

502(b)(10)Change Extension Request Addition of New Facility Portable Plant Relocation Notice

Revision Off Permit Change Landfill Alternate Compliance Submittal Modification of Existing Facilities

Ownership Change Closure

Requested Status: Title V Conditional Major State-Origin PSD NSR Other: _____

Is the source requesting a limitation of potential emissions? Yes No

| | |
|--|--|
| <p>Pollutant:</p> <p><input type="checkbox"/> Particulate Matter _____</p> <p><input type="checkbox"/> Volatile Organic Compounds (VOC) _____</p> <p><input type="checkbox"/> Carbon Monoxide _____</p> <p><input type="checkbox"/> Nitrogen Oxides _____</p> <p><input type="checkbox"/> Sulfur Dioxide _____</p> <p><input type="checkbox"/> Lead _____</p> | <p>Requested Limit:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
| <p>Pollutant:</p> <p><input type="checkbox"/> Single HAP _____</p> <p><input type="checkbox"/> Combined HAPs _____</p> <p><input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F) _____</p> <p><input type="checkbox"/> Carbon Dioxide _____</p> <p><input type="checkbox"/> Greenhouse Gases (GHG) _____</p> <p><input type="checkbox"/> Other _____</p> | <p>Requested Limit:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |

For New Construction:

Proposed Start Date of Construction: _____ **Proposed Operation Start-Up Date:** (MM/YYYY) _____
(MM/YYYY)

For Modifications:

Proposed Start Date of Modification: _____ **Proposed Operation Start-Up Date:** (MM/YYYY) _____
(MM/YYYY)

Applicant is seeking coverage under a permit shield. Yes No **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

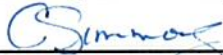
Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- | | |
|--|--|
| <input type="checkbox"/> DEP7007A Indirect Heat Exchangers and Turbines | <input checked="" type="checkbox"/> DEP7007CC Compliance Certification |
| <input type="checkbox"/> DEP7007B Manufacturing or Processing Operations | <input checked="" type="checkbox"/> DEP7007DD Insignificant Activities |
| <input type="checkbox"/> DEP7007C Incinerators and Waste Burners | <input type="checkbox"/> DEP7007EE Internal Combustion Engines |
| <input type="checkbox"/> DEP7007F Episode Standby Plan | <input type="checkbox"/> DEP7007FF Secondary Aluminum Processing |
| <input type="checkbox"/> DEP7007J Volatile Liquid Storage | <input checked="" type="checkbox"/> DEP7007GG Control Equipment |
| <input type="checkbox"/> DEP7007K Surface Coating or Printing Operations | <input checked="" type="checkbox"/> DEP7007HH Haul Roads |
| <input type="checkbox"/> DEP7007L Mineral Processes | <input type="checkbox"/> Confidentiality Claim |
| <input type="checkbox"/> DEP7007M Metal Cleaning Degreasers | <input type="checkbox"/> Ownership Change Form |
| <input checked="" type="checkbox"/> DEP7007N Source Emissions Profile | <input type="checkbox"/> Secretary of State Certificate |
| <input type="checkbox"/> DEP7007P Perchloroethylene Dry Cleaning Systems | <input type="checkbox"/> Flowcharts or diagrams depicting process |
| <input type="checkbox"/> DEP7007R Emission Offset Credit | <input type="checkbox"/> Digital Line Graphs (DLG) files of buildings, roads, etc. |
| <input type="checkbox"/> DEP7007S Service Stations | <input checked="" type="checkbox"/> Site Map |
| <input type="checkbox"/> DEP7007T Metal Plating and Surface Treatment Operations | <input type="checkbox"/> Map or drawing depicting location of facility |
| <input checked="" type="checkbox"/> DEP7007V Applicable Requirements and Compliance Activities | <input type="checkbox"/> Safety Data Sheet (SDS) |
| <input type="checkbox"/> DEP7007Y Good Engineering Practice and Stack Height Determination | <input type="checkbox"/> Emergency Response Plan |
| <input type="checkbox"/> DEP7007AA Compliance Schedule for Non-complying Emission Units | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> DEP7007BB Certified Progress Report | |

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.



Authorized Signature

Chip Simmons

Type or Printed Name of Signatory

3.21.23

Date

Environmental Manager

Title of Signatory

*Responsible official as defined by 401 KAR 52:001.

DEP FORM 7007N

Division for Air Quality

300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007N

Source Emissions Profile

- Section N.1: Emission Summary
- Section N.2: Stack Information
- Section N.3: Fugitive Information
- Section N.4: Notes, Comments, and Explanations

Additional Documentation

Complete DEP7007AI

Source Name: Benson Valley Landfill General Partnership

KY EIS (AFS) #: 21- 073-00053

Permit #: V-18-013

Agency Interest (AI) ID: 1372

Date: 3/20/2023

N.1: Emission Summary

| Emission Unit # | Emission Unit Name | Process ID | Process Name | Control Device Name | Control Device ID | Stack ID | Maximum Design Capacity (SCC Units/hour) | Pollutant | Uncontrolled Emission Factor (lb/SCC Units) | Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance) | Capture Efficiency (%) | Control Efficiency (%) | Hourly Emissions | | Annual Emissions | |
|-----------------|--------------------|------------|--------------|---------------------|-------------------|----------|--|-----------|---|---|------------------------|------------------------|--------------------------------|------------------------------|----------------------------------|--------------------------------|
| | | | | | | | | | | | | | Uncontrolled Potential (lb/hr) | Controlled Potential (lb/hr) | Uncontrolled Potential (tons/yr) | Controlled Potential (tons/yr) |
| See | Attachment | for | N1 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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Attachment for KDEP Form 7007 N1

| Emission Unit # | Emission Unit Name | Process ID | Process Name | Control Device Name | Control Device ID | Stack ID | Maximum Design Capacity (SCC Units/hour) | Pollutant | Uncontrolled Emission Factor (lb/SCC Units) | Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance) | Capture Efficiency (%) | Control Efficiency (%) | Hourly Emissions | | Annual Emissions | |
|-----------------|---------------------------------------|---------------------|---|----------------------------------|-----------------------------------|----------------------------------|--|-----------------|---|---|------------------------|--------------------------------|--------------------------------|------------------------------|----------------------------------|--------------------------------|
| | | | | | | | | | | | | | Uncontrolled Potential (lb/hr) | Controlled Potential (lb/hr) | Uncontrolled Potential (tons/yr) | Controlled Potential (tons/yr) |
| 002 | Open Flare | 1 | LFG Combustion | N/A - flare IS a control device | N/A | ST-002 | 3,000 cfm | NOx | 20 lbs/mmscf | KDEP EIS | N/A | N/A | 3.60 | 3.60 | 15.77 | 15.77 |
| | | | | | | | | CO | 185 lbs/mmscf | | | | 33.30 | 33.30 | 145.85 | 145.85 |
| | | | | | | | | VOC | 40.16 lbs/mmscf | | | | 0.84 | 0.02 | 3.69 | 0.07 |
| | | | | | | | | PM | 8.5 lbs/mmscf | | | | 1.53 | 1.53 | 6.70 | 6.70 |
| | | | | | | | | SO ₂ | 83.03 lbs/mmscf** | | | | 14.95 | 14.95 | 65.46 | 65.46 |
| 002 | MSW Landfill | 1 | Landfilling of MSW Waste | Open Flare | 002 | ST-002 | 17,703,340 yd ³ | VOC | 133.98 lbs/mmscf produced | KDEP EIS | 75.00% | 98.00% | 17.76 | 4.44 | 38.89 | 19.45 |
| 003 | Unpaved and Paved Haul Roads (MSW LF) | 1 | Paved Roads | Dust Suppression (Water Truck) | WT- Water Truck | N/A - Fugitive | 26,800 VMT | PM2.5 | 0.044 lb/VMT | KDEP EIS | N/A | 40.00% | N/A | N/A | 0.590 | 0.354 |
| | | | PM10 | | | | | 0.2989 lb/VMT | 90.00% | | | 4.005 | | | 0.401 | |
| | | PM | 0.2989 lb/VMT | | | | | 40.00% | 4.005 | | | 0.401 | | | | |
| | | PM2.5 | 1.149 lb/VMT | | | | | 70.00% | 24.895 | | | 14.937 | | | | |
| | | PM10 | 2.07 lb/VMT | | | | | 70.00% | 44.850 | | | 13.455 | | | | |
| | | PM | 7.66 lb/VMT | | | | | 70.00% | 165.965 | | | 49.790 | | | | |
| | | PM2.5 | 1.4295 lb/VMT | | | | | 40.00% | 5.904 | | | 3.542 | | | | |
| | | PM10 | 2.92 lb/VMT | | | | | 70.00% | 12.060 | | | 3.618 | | | | |
| | | PM | 9.53 lb/VMT | | | | | 70.00% | 39.359 | | | 11.808 | | | | |
| | | 004 | Site Construction Material Handling: Aggregate, Clay, Fill, Cover | | | | | 1 | Aggregate | | | Dust Suppression (Water Truck) | | | WT- Water Truck | N/A - Fugitive |
| PM10 | .01 lbs/ton material processed | | | 70.00% | 0.02 | 0.006 | | | | | | | | | | |
| PM | .0212 lbs/ton material processed | | | 70.00% | 0.0424 | 0.01272 | | | | | | | | | | |
| PM2.5 | .000075 lbs/ton material processed | | | 75.00% | 0.00103125 | 0.000257813 | | | | | | | | | | |
| PM10 | .0002 lbs/ton material processed | | | 75.00% | 0.00275 | 0.0006875 | | | | | | | | | | |
| 2 | Clay | | | 27,500 tons/year | PM | .0005 lbs/ton material processed | 75.00% | 0.006875 | 0.00171875 | | | | | | | |
| | PM2.5 | | | | .00006 lbs/ton material processed | 75.00% | 0.0105 | 0.002625 | | | | | | | | |
| | PM10 | | | | .0002 lbs/ton material processed | 75.00% | 0.035 | 0.00875 | | | | | | | | |
| | PM | | | | .0004 lbs/ton material processed | 75.00% | 0.07 | 0.0175 | | | | | | | | |
| | PM2.5 | | | | .00006 lbs/ton material processed | 75.00% | 0.00009 | 0.0000225 | | | | | | | | |
| 3 | Fill | | | 350,000 tons/year | PM10 | .0002 lbs/ton material processed | 75.00% | 0.035 | 0.00875 | | | | | | | |
| | PM | | | | .0004 lbs/ton material processed | 75.00% | 0.07 | 0.0175 | | | | | | | | |
| | PM2.5 | | | | .00006 lbs/ton material processed | 75.00% | 0.00009 | 0.0000225 | | | | | | | | |
| | PM10 | | | | .0002 lbs/ton material processed | 75.00% | 0.0003 | 0.000075 | | | | | | | | |
| | PM | | | | .0004 lbs/ton material processed | 75.00% | 0.0003 | 0.000075 | | | | | | | | |
| 4 | Cover | 3,000 tons/year | PM2.5 | .0002 lbs/ton material processed | 75.00% | 0.0003 | 0.000075 | | | | | | | | | |
| | PM10 | | .0002 lbs/ton material processed | 75.00% | 0.0003 | 0.000075 | | | | | | | | | | |
| | PM | | .0004 lbs/ton material processed | 75.00% | 0.0003 | 0.000075 | | | | | | | | | | |
| | PM2.5 | | 0.225 lb/VMT | 40.00% | | | | | | | | | | | | |
| | PM10 | | 0.75 lb/VMT | 70.00% | | | | | | | | | | | | |
| 5 | Loading & Unloading | No Limits In Permit | PM | 1.5 lb/VMT | 70.00% | | | | | | | | | | | |
| | PM | | 1.5 lb/VMT | 70.00% | | | | | | | | | | | | |

*Updated value based on projected future haul road distances to planned cells in the next five years.

**Updated based on site-specific sulfur values measured over the last several years.

Section N.2: Stack Information

UTM Zone:

| Stack ID | Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack | Stack Physical Data | | | Stack UTM Coordinates | | Stack Gas Stream Data | | |
|----------|--|--------------------------|-------------|---------------------|-----------------------|-------------|-----------------------|------------------|------------------------|
| | | Equivalent Diameter (ft) | Height (ft) | Base Elevation (ft) | Northing (m) | Easting (m) | Flowrate (acfm) | Temperature (°F) | Exit Velocity (ft/sec) |
| FLS-1 | Emissions Unit 002 (MSW Landfill) and Emissions Unit 002 (Flare) | 1 | 30 | 845 msl | | | 3000 cfm | 1200 deg. F | |
| | | | | | | | | | |
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Section N.3: Fugitive Information

UTM Zone:

| Emission Unit # | Emission Unit Name | Process ID | Area Physical Data | | Area UTM Coordinates | | Area Release Data | |
|-----------------|-------------------------------------|------------|-------------------------------------|-------------------------------------|------------------------|-----------------------|------------------------------------|-------------------------------|
| | | | Length of the X Side <i>(ft)</i> | Length of the Y Side <i>(ft)</i> | Northing <i>(m)</i> | Easting <i>(m)</i> | Release Temperature <i>(°F)</i> | Release Height <i>(ft)</i> |
| 002 | MSW Landfill | 1 | | | | | | |
| 003 | Paved Haul Roads | 1 | | | | | | |
| 003 | Unpaved Haul Roads | 2 | | | | | | |
| 003 | Construction Vehicles | 3 | | | | | | |
| 004 | Site construction/material handling | 1 | | | | | | |
| 004 | Site construction/material handling | 2 | | | | | | |
| 004 | Site construction/material handling | 3 | | | | | | |
| 004 | Site construction/material handling | 4 | | | | | | |
| 004 | Site construction/material handling | 5 | | | | | | |

DEP FORM 7007V

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|--|--|---|---------------------------------|---|
| Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999 | <h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.1: Emission and Operating Limitation(s)</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.2: Monitoring Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.3: Recordkeeping Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.4: Reporting Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.5: Testing Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.6: Notes, Comments, and Explanations</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Additional Documentation</td> </tr> <tr> <td style="padding: 5px;"> <input type="checkbox"/> Complete DEP7007AI </td> </tr> </table> | Additional Documentation | <input type="checkbox"/> Complete DEP7007AI |
| Additional Documentation | | | | |
| <input type="checkbox"/> Complete DEP7007AI | | | | |

Source Name: Benson Valley Landfill General Partnership

KY EIS (AFS) #: 21- 073-00053

Permit #: V-18-013

Agency Interest (AI) ID: 1372

Date: 3/20/2023

Section V.1: Emission and Operating Limitation(s)

| Emission Unit # | Emission Unit Description | Applicable Regulation or Requirement | Pollutant | Emission Limit (if applicable) | Voluntary Emission Limit or Exemption (if applicable) | Operating Requirement or Limitation (if applicable) | Method of Determining Compliance with the Emission and Operating Requirement(s) |
|-----------------|---------------------------|--|-------------------|---|---|---|---|
| 002 | Open Flare | 401 KAR 63:015 | Opacity | Visible emissions shall not exceed 20% opacity for > 3 minutes during any one day | | | Visual observations |
| 002 | Open Flare | 40 CFR Part 62 Subpart OOO & 40 CFR 60.18; 40 CFR 63 Subpart AAAA & 40 CFR 63.11 | Visible Emissions | VE < 5 minutes in 2 hours | | | Visual observations |
| 002 | Landfill | 40 CFR Part 63 Subpart AAAA | NMOC | Multiple Requirements | | | Wellhead readings and surface monitoring |
| INSIGNIFICANT | Leachate Tanks | 40 CFR 60 Subpart Kb | VOC | Vapor pressure < 3.5 kPa | | | Leachate is mostly water; negligible vapor pressure |
| 003 | Haul Roads | 401 KAR 63:010 | Fugitive Dust | No fugitive VE Past Property Line | | | Daily visual observations when site is open |

| Emission Unit # | Emission Unit Description | Applicable Regulation or Requirement | Pollutant | Emission Limit (if applicable) | Voluntary Emission Limit or Exemption (if applicable) | Operating Requirement or Limitation (if applicable) | Method of Determining Compliance with the Emission and Operating Requirement(s) |
|-----------------|---------------------------|--------------------------------------|---------------|--------------------------------|---|---|---|
| 004 | Site Construction | 401 KAR 63:010 | Fugitive Dust | Prevent airborne PM | | | Daily visual observations when site is open |
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Section V.2: Monitoring Requirements

| Emission Unit # | Emission Unit Description | Pollutant | Applicable Regulation or Requirement | Parameter Monitored | Description of Monitoring |
|-----------------|--|-------------------|--------------------------------------|-------------------------|--|
| 002 | Open Flare | Visible Emissions | 401 KAR 63:015 | Visible Emissions | Weekly VE observations |
| 002 | Open Flare | N/A | 40 CFR 63 Subpart AAAAA | Flow and Flame Presence | Measure flow and flame presence continuously |
| 002 | MSW Landfill | NMOC | 40 CFR 63 Subpart AAAAA | NMOC | Well head readings monthly, cover integrity monitoring monthly, and quarterly surface emissions monitoring |
| 003 & 004 | Paved & Unpaved Haul Roads, Site Construction | Fugitive PM | 401 KAR 63:010 | Fugitive Dust | Daily visual observations when site is open |
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Section V.3: Recordkeeping Requirements

| Emission Unit # | Emission Unit Description | Pollutant | Applicable Regulation or Requirement | Parameter Recorded | Description of Recordkeeping |
|-----------------|---|-------------------|--------------------------------------|-------------------------|---|
| 002 | Open Flare | Visible Emissions | 401 KAR 63:015 | Visible Emissions | Keep record of weekly VE observations |
| 002 | Open Flare | N/A | 40 CFR 63 Subpart AAAAA | Flow and Flame Presence | Record flow and flame presence every 15 minutes |
| 002 | MSW Landfill | NMOC | 40 CFR 63 Subpart AAAAA | NMOC | Wellhead readings and surface monitoring (electronic) |
| 003 & 004 | Paved & Unpaved Haul Roads, Site Construction | Fugitive PM | 401 KAR 63:010 | Fugitive Dust | Keep records of daily fugitive dust observations |
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Section V.4: Reporting Requirements

| Emission Unit # | Emission Unit Description | Pollutant | Applicable Regulation or Requirement | Parameter Reported | Description of Reporting |
|------------------------|---|-------------------|---|---------------------------|--|
| 002 | Open Flare | Visible Emissions | 401 KAR 63:015 | Visible Emissions | Semiannual Title 5 Operating Report |
| 002 | Open Flare | N/A | 40 CFR 63 Subpart AAAAA | Flow and Flame Presence | Semiannual Title 5 Operating Report & Semiannual NESHAP Report |
| 002 | MSW Landfill | NMOC | 40 CFR 63 Subpart AAAAA | NMOC | Semiannual Title 5 Operating Report & Semiannual NESHAP Report |
| 003 & 004 | Paved & Unpaved Haul Roads, Site Construction | Fugitive PM | 401 KAR 63:010 | Fugitive Dust | Semiannual Title 5 Operating Report |
| ALL | ALL | ALL | 401 KAR 52:020 | ALL | Annual Emissions Report |
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Section V.5: Testing Requirements

| Emission Unit # | Emission Unit Description | Pollutant | Applicable Regulation or Requirement | Parameter Tested | Description of Testing |
|-----------------|---------------------------|-----------|--------------------------------------|--------------------------------------|--|
| 002 | Open Flare | NMOC | 40 CFR 60.18 & 40 CFR 63.11 | VE, Exit Velocity, Net Heating Value | One-time initial performance test using EPA Method 22, a calibrated flow meter, and, EPA Method 3 |
| 002 | MSW Landfill | Sulfur | 401 KAR 50:045 | Sulfur | Collect annual sulfur sample for lab analysis. Conduct stain tube analysis quarterly for sulfur content. |
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DEP FORM 7007CC

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|---|---|--|---|---|
| 002 | Section B, Condition 1.a.A - B., 1.d, 1.h-j (Operating Limitations/Compliance Demonstration), 40 CFR 60.752(b), 60.755(b) & 60.759(a) & (b) | Municipal Solid Waste (MSW) Landfill | Design gas system to meet NSPS criteria; install wells in areas requiring control; calculate max gas flow rate | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 1.a.C & D, 1.e, 1.f, 3.a & b., 4.a & c. i - iii, 5.e (Op Limit/Comp Demon., Testing, Monitoring Reqmts, Records), 40 CFR 60.753, 60.755 & 60.758 | Landfill Gas Collection System | Monitor all wells monthly for pressure, O2 or N2, temp. w/allowable methods. Correct exceedances. Keep records. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 1.b.i & c (Operating Limitations), 40 CFR 60.752(b), 60.753, 60.755 & 60.756 | Landfill Gas Open Flare and Gas Collection System | Control collected gas w/ open flare, encl. comb. or treat. syst. Operate in accordance w/NSPS | Reported annually in emissions report | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, 1.g, 7.a, b, e & h (Operating Limits/Control Equipment), 40 CFR 60.753(e) & (f) & 60.755(e) | Landfill Gas Open Flare | NSPS applies at all times except during SSM events. Operate with flame present; close valves within 1 hour if flare inoperable | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 1.k (Operating Limitations), 40 CFR 61.154 | Municipal Solid Waste (MSW) Landfill | Cover asbestos waste w/6 in. non-asbestos material by end of working day | None | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 1.l & 5.j (Operating Limitations, recordkeeping), 40 CFR 63.6, 63.1960 | Municipal Solid Waste (MSW) Landfill | Develop a written Startup, Shutdown and Malfunction Plan; maintain on site. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|---|---|---|---|---|
| 002 | Section B, Condition 1.m (Operating Limitations), 40 CFR 60 Subpart XXX | Municipal Solid Waste (MSW) Landfill | Obtain air permit incorporating Subpart XXX requirements if site expands landfill | N/A | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 2.a, 3.e & f, 4.d (Emissions Limits, Testing, Monitoring Reqmts), 40 CFR 60.753(d), 60.755(c) | Municipal Solid Waste (MSW) Landfill | Surface CH4 ems < 500 ppm except during SSM events. Monitor quarterly, follow Method 21 procedures | <500 ppm | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 2.b & 3.g (Emissions Limits, Testing), 40 CFR 60 Subpart WWW, 40 CFR 60.18 | Landfill Gas Open Flare | No VE except for 5 minutes in 2 hours | None observed during Initial NSPS Performance Test | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 2.c, 4.f & 5.1 (Emissions Limits, Monitoring & Recordkeeping), 401 KAR 63:015 Section 3 | Landfill Gas Open Flare | Flare PM < 20% opacity except for 3 minutes/day; Weekly VE Survey; Method 9 if VE detected > limits | None observed | N/A - Title 5 Air Operating Permit Renewal Application |
| N/A | Section B, Condition 1.b.ii-iii, 3.c, 7.d (Operational Limits, Testing, Control Equipment), 40 CFR 60.752(b)(2)(iii)(b) & (c) | LFG Enclosed Combustor & Treatment Systems or Other Control Equipment | Control System D.E. 98% or NMOC Outlet Concentration < 20 ppm as hexane, 3% O2, or Other | N/A | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 3.d, h & 7.f (Testing, Control Equip.), 40 CFR 60 Subpart WWW, 40 CFR 60.18 | Landfill Gas Open Flare | Calculate net heating value of gas using Method 3C, three samples over 1/2 hour | N/A - net heating value was greater than required minimum value | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|--|--------------------------------------|--|--|---|
| 002 | Section B, Condition 3.i, j & 7.f (Testing, Control Equip.), 40 CFR 60 Subpart WWW, 40 CFR 60.18 | Landfill Gas Open Flare | Calculate exit velocity; maximum cannot exceed limits of 40 CFR 60.18 | N/A - exit velocity met 60.18 requirements | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 3.k, 6.k & 6.l (Testing & Reporting), 401 KAR 50:045 | Municipal Solid Waste (MSW) Landfill | Sample for H2S quarterly with stain tubes & annual with analytical samples (3) - Submit results | N/A | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 3.l (Testing) | Municipal Solid Waste (MSW) Landfill | Notify appropriate field agency 5 days prior to performing a surface scan. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| All | Section B, Condition 3.m (Testing) | All | Conduct Performance Testing required by Division using reference methods in 401 KAR 50:015. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 4.b (Monitoring), 40 CFR 60.755(c)(5) | Municipal Solid Waste (MSW) Landfill | Conduct monthly cover integrity monitoring & implement repairs as needed | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 4.e & 5.k (Monitoring & Recordkeeping) | Municipal Solid Waste (MSW) Landfill | Measure liquid levels quarterly in all gas wells; maintain records & calculations as specified in permit | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|---|--------------------------------------|--|---|---|
| 002 | Section B, Condition 5.a. & b.i (Specific Recordkeeping Requirements), 40 CFR 60.758(a) & (b) | Municipal Solid Waste (MSW) Landfill | Maintain design capacity, solid waste, well density, performance test, control specifications | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Conditions 5.b.ii, c.ii, 7.c.i, 7.i (Recordkeeping, Control Equip), 40 CFR 60.758(b)(4), 60.756(b) & (c) | Landfill Gas Open Flare | Use heat sensing device to detect flame, keep records of flame presence | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 5.b.ii, c.i, 7.c.ii (Recordkeeping, Control Equip), 40 CFR 60.758(b)(4), 60.756(b) & (c) | Landfill Gas Open Flare | Install & maintain gas flow device recording flow to control device every 15 minutes; keep records of flow | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 5.d (Recordkeeping), 40 CFR 60.758(d) | Municipal Solid Waste (MSW) Landfill | Keep as-built map of existing and future gas system. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 5.f - h (Recordkeeping), 40 CFR 61.154 & 61.151 | Municipal Solid Waste (MSW) Landfill | Maintain WSR for asbestos receipts & map of disposal areas. Comply w/61.151 upon site closure. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 6.a - c (Reporting), 40 CFR 60.756(e), 60.757(a), (b) & (c) | Municipal Solid Waste (MSW) Landfill | Submit Initial Design Capacity, NMOC Reports, alt. op. procedures for systems not meeting 60.759 | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|---|--|---|---|---|
| 002 | Section B, Condition 6.e & j (Reporting), 40 CFR 60.757(f), 40 CFR 63.1980 & 63.10(d) | Municipal Solid Waste (MSW) Landfill | Submit semiannual NSPS, SSM reports & SSM non-procedures | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 6.j.i.2 & 3 (Specific Recordkeeping Requirements), 40 CFR 63.10(d) & 63.1965 | Municipal Solid Waste (MSW) Landfill | Deviation if more than one 15 minute data point is missing per hour, or if SSM plan not followed. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 6.f (Reporting), 40 CFR 60.8 & 60.757(g) | Landfill Gas Open Flare | Within 180 days of startup conduct/submit performance test. Include items in test report. | Within required 60.18 limits | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 6.g & i (Reporting), 40 CFR 61.154 | Municipal Solid Waste (MSW) Landfill | Notify agency of improperly enclosed asbestos, discrepancies; 45 day disturbance. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 002 | Section B, Condition 7.g (Control Equipment), 40 CFR 60.18(d) | Landfill Gas Open Flare | Monitor flare in accordance with 40 CFR 60 Subpart WWW | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 003 & 004 | Section B, Condition 1.a & b (Operating Limitations), 401 KAR 63:010 | Paved and Unpaved Haul Roads & Site Construction/Operation | Take reasonable precautions to prevent fugitive PM from becoming airborne. | None | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|---|--|---|--|---|
| 003 & 004 | Section B, Conditions 2 & 4 (Emissions Limitations, Testing Requirements), 401 KAR 63:010 | Paved and Unpaved Haul Roads & Site Construction/Operation | No VE leaving property. Perform VE for dust daily when site is operating | None | N/A - Title 5 Air Operating Permit Renewal Application |
| 003 & 004 | Section B, Condition 3 (Testing Requirements), 401 KAR 50:045 | Paved and Unpaved Haul Roads & Site Construction/Operation | Conduct performance testing as required by KDEP | None | N/A - Title 5 Air Operating Permit Renewal Application |
| 003 & 004 | Section B, Condition 5 (Specific Recordkeeping Requirements), 401 KAR 52:020 | Paved and Unpaved Haul Roads & Site Construction/Operation | Maintain log when dust suppression equipment is used; maintain records of VE inspections of lot line. | None | N/A - Title 5 Air Operating Permit Renewal Application |
| 003 & 004 | Section B, Condition 7 (Specific Recordkeeping Requirements), 401 KAR 52:020 | Paved and Unpaved Haul Roads & Site Construction/Operation | Keep appropriate equipment for dust suppression on site and in working order. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| ALL | Section D, Source Emission Limitations and Testing Requirements | ALL | Compliance is based on emissions and processing rates for 12 consecutive months | Emissions will be submitted in the annual inventory. | N/A - Title 5 Air Operating Permit Renewal Application |
| All | Section E - Source Control Equipment Requirements | All emission units | Maintain affected facility & pollution control equipment to minimize emissions | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|--|--------------------------------------|--|---|---|
| General | Section F, Conditions 1-4, 7 & 8, KAR 52:020 | All emission units | Recordkeeping, agency inspection requirements & emissions exceedance notifications | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| General | Section F, Conditions 5 & 6, KAR 52:020 | All emission units | Submission of semi-annual and annual reports | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| General | Section F, Condition 9, KAR 52:020 | All emission units | Submission of Annual Compliance Certification | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| General | Section F, Condition 10, 401 KAR 52:020 | All emission units | Submit annual emission report | As indicated on the annual report | N/A - Title 5 Air Operating Permit Renewal Application |
| General | Section G, Multiple requirements | All emission units | General Reqmnt's for permit modification, reopening, renewal, source testing, ozone & risk management regs | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |
| 004 | Updates to Landfill NESHAP (40 CFR 63 Subpart AAAAA) effective 9/27/21 | Municipal Solid Waste (MSW) Landfill | Multiple - permit will be updated during next renewal cycle. | Not Applicable | N/A - Title 5 Air Operating Permit Renewal Application |

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or requirement | Actual Emissions or status of requirement | The method used for determining compliance over the reporting period, and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|--|---------------------------|-----------------------------|---|---|
| | | | | | N/A - Title 5 Air Operating Permit Renewal Application |
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Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units Subject to Future Compliance Dates

10b) Emission Units Subject to Future Compliance Dates. *The following emission units will achieve compliance on a timely basis and maintain compliance with future compliance dates as they become applicable during the permit term. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Future Compliance Schedule | Emission Unit Description | Reason for Future Compliance Date |
|--------------------------|--|--------------------------------------|--|
| 004 | Section B, Condition 6.d (Reporting), 40 CFR 60.757: Submit closure report within 30 days of waste cessation | Municipal Solid Waste (MSW) Landfill | This condition only becomes applicable upon closure of the landfill, which did not occur during the reporting time frame. |
| 004 | Section B, Condition 6.h (Reporting), 40 CFR 61.154: submit copy of records of asbestos disposal location to Agency upon closure of landfill | Municipal Solid Waste (MSW) Landfill | This condition only becomes applicable upon closure of the landfill, which did not occur during the reporting time frame. |
| 004 | Section H, Alternate Operating Scenario 1, 40 CFR 60.757: Submit equipment removal report once NMOC < 50 Mg/year | Municipal Solid Waste (MSW) Landfill | This condition only becomes applicable upon closure of the landfill, and demonstration that NMOC emissions have been reduced to less than 50 Mg/year through specified testing. Note: The Federal Plan (40 CFR 62 Subpart OOO) which became applicable to the facility on 6/21/2021 has a lower threshold of 34 mg/year NMOC to remove controls permanently. |
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Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units Not in Continuous Compliance

10c)(1) Emission Units Not in Continuous Compliance. *The following emission units were not in continuous compliance with each permit term or condition and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Permit Term, Condition, or Applicable Regulation | Emission Unit Description | Permit Limit or Requirement | Actual Emissions or Status of Requirement | The method used for determining compliance over the reporting period, and whether compliance was continuous or intermittent. (such as test methods, monitoring procedures, recordkeeping and reporting) |
|--------------------------|--|---------------------------|-----------------------------|---|---|
| N/A | | | | | This form is being submitted to complete the facility's air operating permit renewal application (Title 5) |
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Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units Not in Continuous Compliance (continued)

10c)(2) Emission Units Not in Continuous Compliance. *For the emission units and requirements listed in 10c)(1) that were not in continuous compliance since the last reporting period, state the duration, magnitude, and reason or reasons for non-compliance. Each row of 10c)(2) must relate to the corresponding row of 10c)(1). If additional space is required, reproduce this page as needed.*

| Emission Unit/Permit ID# | Description of duration, magnitude, and reason(s) for non-compliance and corrective steps taken or planned. |
|--------------------------|---|
| N/A | This form is being submitted to complete the facility's air operating permit renewal application (Title 5) |
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DEP FORM 7007DD

Division for Air Quality
 300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007DD

Insignificant Activities

- Section DD.1: Table of Insignificant Activities
- Section DD.2: Signature Block
- Section DD.3: Notes, Comments, and Explanations

Source Name: Benson Valley Landfill General Partnership

KY EIS (AFS) #: 21- 073-00053

Permit #: V-18-013

Agency Interest (AI) ID: 1372

Date: 3/20/2023

Section DD.1: Table of Insignificant Activities

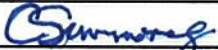
*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

| Insignificant Activity # | Description of Activity including Rated Capacity | Serial Number or Other Unique Identifier | Applicable Regulation(s) | Calculated Emissions |
|--------------------------|--|--|--------------------------|----------------------|
| 1 | Diesel Storage Tank (10,000 gallons) | | 401 KAR 59:050 | |
| 2 | Diesel Storage Tank (10,000 gallons) | | 401 KAR 59:050 | |
| 3 | Diesel Storage Tank (1,000 gallons) | | 401 KAR 59:050 | |
| 4 | Diesel Storage Tank (1,000 gallons) | | 401 KAR 59:050 | |
| 5 | Diesel Storage Tank (10,000 gallons) | Contractor | | |

| Insignificant Activity # | Description of Activity including Rated Capacity | Serial Number or Other Unique Identifier | Applicable Regulation(s) | Calculated Emissions |
|--------------------------|--|--|--------------------------|----------------------|
| 6 | Two Maintenance Cold Cleaners | | None | |
| 7 | Leachate Storage Tank (108,000 gallons) | | None | |
| 8 | Leachate Storage Tank (108,000 gallons) | | None | |
| 9 | Leachate Storage Tank (150,000 gallons) | | None | |
| | | | | |
| | | | | |

Section DD.2: Signature Block

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

| | | |
|------------|---|--|
| |  | <u>3.21.23</u> |
| By: | _____ Authorized Signature | _____ Date |
| | <u>Chip Simmons</u> Type/Print Name of Signatory | <u>Environmental Manager</u> Title of Signatory |

DEP FORM 7007GG

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007GG
Control Equipment

Additional Documentation

- Complete Sections GG.1 through GG.12, as applicable
- Attach manufacturer's specifications for each control device
- Complete DEP7007AI

Source Name: Benson Valley Landfill General Partnership

KY EIS (AFS) #: 21- 073-00053

Permit #: V-18-013

Agency Interest (AI) ID: 1372

Date: 3/20/2023

Section GG.1: General Information - Control Equipment

| Control Device ID # | Control Device Name | Cost | Manufacturer | Model Name/ Serial # | Date Installed | Inlet Gas Stream Data For <u>All</u> Control Devices | | | | | Inlet Gas Stream Data For Condensers, Adsorbers, Afterburners, Incinerators, Oxidizers Only | | | Equipment Operational Data For <u>All</u> Control Devices | | |
|---------------------|---------------------|------|--------------|----------------------|----------------|--|-------------------------|--------------------------------|--|-----------------------------------|---|-----------------|----------|---|----------------------------------|-----------------------|
| | | | | | | Temperature (°F) | Flowrate (scfm @ 68 °F) | Average Particle Diameter (µm) | Particle Density (lb/ft ³) or Specific Gravity | Gas Density (lb/ft ³) | Gas Moisture Content (%) | Gas Composition | Fan Type | Pressure Drop Range (in. H ₂ O) | Pollutants Collected/ Controlled | Pollutant Removal (%) |
| Emissions Unit 002 | Open Flare | | John Zink | | 2013 | 1200 | 3000 | N/A | N/A | 0.0744 | | | | 1 - 10 in. H ₂ O | NMOC, CH ₄ | 98% |
| | | | | | | | | | | | | | | | | |
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| Section GG.2: Flare Source Information | | | | | | |
|---|---|---|--|---|---|--|
| Control Device ID # | Identify all Emission Units and Control Devices that Feed to Flare | Type of Flare <small>(e.g. steam-assisted, air-assisted, nonassisted)</small> | Process Gas Flowrate <small>(acfm)</small> | Net Heating Value of Stream(s) <small>(Btu/scf)</small> | Removal Efficiency <small>(%)</small> | Flare Rated Capacity <small>(MMBtu/hr)</small> |
| Emissions Unit 002 | Emissions Unit 002 - MSW Landfill | Non-assisted | 3000 scfm | Between 450 - 550 BTU/scf | 98% (Methane, NMOC) | 80.651 |
| | | | | | | |
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DEP FORM 7007HH

Division for Air Quality

300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007HH

Haul Roads

- _____ Section HH.1: Haul Roads
- _____ Section HH.2: Yard Area
- _____ Section HH.3: Notes, Comments, and Explanations

Additional Documentation

- ___ Complete DEP7007AI, DEP7007N and DEP7007V
- ___ SDS for dust suppressant

Source Name: Benson Valley Landfill General Partnership

KY EIS (AFS) #: 21- 073-00053

Permit #: V-18-013

Agency Interest (AI) ID: 1372

Date: 3/20/2023

Section HH.1: Haul Roads

HH.1A Unpaved Haul Roads:

Average Number of Days in a Year with 0.01 inches of Precipitation (P): 125 Days

Mean Vehicle Weight (W): 23 Tons

Surface Material Silt Content (s): 6.4 %

Haul Road Length: 3.90 (ROUND TRIP) Miles

Maximum Vehicle Miles Traveled in a Year: 43,333 Miles

Describe the dust control method for unpaved haul road(s):
 (If dust control suppressants will be utilized, attach the approved Safety Data Sheet(s), as applicable.)

The site utilizes a water truck to control emissions on haul roads.

Emission factor: See Attachment for Form 7007N for emissions factors used by KDEP for this facility's emissions inventories.

HH.1B Paved Haul Roads:

DEP7007HH

Average Number of Days in a Year with 0.01 inches of Precipitation (P): 125 Days

Mean Vehicle Weight (W): 23 Tons

Road Surface Silt Loading (sL): 7.4 (G/M²)

Haul Road Length: 2.41 (ROUND TRIP) Miles

Maximum Vehicle Miles Traveled in a Year: 26,800 Miles

Describe the dust control method for paved haul road(s):
(If dust control suppressants will be utilized, attach the approved Safety Data Sheet(s), as applicable.)

The site utilizes a water truck to control emissions on haul roads.

Section HH.2: Yard Area (Aggregate Handling And Storage Piles):

Average Number of Days in a Year with 0.01 inches of Precipitation (P): 125 Days

Mean Wind Speed (U): 5 MPH

Material Moisture Content (M): Depends on cover type %

Describe the dust control method for yard area:
(If dust control suppressants will be utilized, attach the approved Safety Data Sheet(s), as applicable.)

LIST OF NON-APPLICABLE REQUIREMENTS

In Section 4 of DEP Form AI (Other Required Information), a space is provided for the applicant to provide the KDEP with a list of non-applicable requirements on a separate attachment, for which the applicant is requesting permit shield coverage. The list below summarizes the requirements which the applicant has identified as non-applicable:

State Regulations Not Applicable to the Benson Valley Landfill

Per a review of the Kentucky Administrative Regulations for Air Quality, the following state regulations were deemed to be not applicable:

| Emission Unit ID No., or activity to which requirement does <u>not</u> apply | Citation | Brief description of requirement | Why the requirement does not apply |
|---|-----------------|---|--|
| All Activities | 401 KAR 50:020 | Air Quality Control Regions | Not Applicable |
| All Activities | 401 KAR 50:066 | Conformity of transportation plans, programs and projects | Not Applicable |
| All Activities | 401 KAR 51:052 | Review of new sources in nonattainment areas | Franklin County is in attainment for all criteria pollutants |
| All Activities | 401 KAR 51:150 | NOx requirements for stationary internal combustion engines | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 51:160 | NOx requirements for large utility and industrial boilers | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 51:170 | NOx requirements for cement kilns | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 51:180 | NOx credits for early reduction and emergency | Source not subject to NOx SIP Call |
| All Activities | 401 KAR 51:190 | Banking and trading NOx Allowances | Source not subject to NOx SIP Call |
| All Activities | 401 KAR 51:195 | NOx Opt-In Provisions | Source not subject to NOx Trading Budget program |
| All Activities | 401 KAR 51:210 | CAIR NOx Annual Trading Program | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 51:220 | CAIR NOx Ozone Season Trading Program | No emissions unit of this type are at the facility |
| | 401 KAR 51:230 | CAIR SO2 Ozone Season | No emissions unit of this |

| Emission Unit ID No., or activity to which requirement does <u>not</u> apply | Citation | Brief description of requirement | Why the requirement does not apply |
|---|----------------------|---|--|
| All Activities | | Trading Program | type are at the facility |
| All Activities | 401 KAR 52:030 | Federally enforceable permits for non-major sources | Source is not eligible for this permit since it is required to obtain a Title 5 operating permit. |
| All Activities | 401 KAR 52:040 | State-origin permits | Source is not eligible for this permit since it is required to obtain a Title 5 operating permit. |
| All Activities | 401 KAR 52:060 | Acid Rain Permits | Source is not subject to acid rain permitting. |
| All Activities | 401 KAR 52:070 | Registration of designated sources | Source is not eligible for a registration since it is required to obtain a Title 5 operating permit. |
| All Activities | 401 KAR 52:090 | Prohibitory rule for hot mix asphalt plants | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 58:005 | Accreditation of Asbestos Professionals | Facility does not conduct asbestos abatement operations. |
| All Activities | 401 KAR 58:010 | Local Education Agencies | Regulation only applies to local education agencies |
| All Activities | 401 KAR 58:040 | Requirements for Asbestos Abatement Entities | Facility does not conduct asbestos abatement operations. |
| All Activities | 401 KAR 59:001 – 760 | New Source Standards | Different source category |
| All Activities | 401 KAR 61:001 – 175 | Existing Source Standards | Different source category |
| All Activities | 401 KAR 63:025 | Asphalt Paving Operations | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 63:031 | Leaks from Gasoline Tank Trucks | No emissions unit of this type are at the facility |
| All Activities | 401 KAR 65 | Mobile Source Related Emissions | Stationary Source |
| All Activities | 401 KAR 68 | Chemical Accident Prevention | Source does not store chemicals in quantities which trigger the applicability of 40 CFR Part 68 |

Federal Regulations Not Applicable to the Benson Valley Landfill

Per a review of the Code of Federal Regulations, the following federal regulations were deemed to be not applicable:

| Unit Ref. No., or activity to which requirement does not apply | Citation | Brief description of requirement | Why the requirement does not apply |
|---|--|--|---|
| All Activities | 40 CFR 53 | Ambient Air Reference & Equivalent Methods | Part 53 imposes no emissions limits |
| All Activities | 40 CFR 54 | Prior notice of citizen suits | Part 54 imposes no emissions limits |
| All Activities | 40 CFR 55 | Outer Continental Shelf Regulations | Not subject to OCS regulations |
| All Activities | 40 CFR 56 | Regional Consistency | Part 56 imposes no emissions limits |
| All Activities | 40 CFR 57 | Primary Nonferrous Smelters | Not a nonferrous smelter |
| All Activities | 40 CFR 58 | Ambient Air Quality Surveillance | Part 58 imposes no emissions limits |
| All Activities | 40 CFR 59 | National Volatile Organic Compound Emission Standards for Consumer and Commercial Products | No applicable source categories or processes |
| All Activities | 40 CFR 60 – New Source Performance Standards, Subparts Cb – Ce & D – VVV, Subparts AAAA – UUUUa | New Source Performance Standards for multiple source categories | Different source category. For NSPS Subpart Kb, the vapor pressure of leachate (which is mostly comprised of water) in the storage tanks are expected to be below the applicable control threshold. |
| All Activities | 40 CFR 61 Subparts B – L, Subparts N – Z, and Subparts AA – FF | National Air Emissions Standards for multiple source categories | Different source category |
| All Activities | 40 CFR 62 Subparts A - LLL | State Plans for Designated Facilities | No applicable Part 62 regulations with the exception of Subpart OOO – Federal Plan (MSW Landfills) |
| All Activities | 40 CFR 63 Subparts B – Z, AA – YY, CCC – XXX, CCCC - YYYY, AAAAAA – ZZZZZ, AAAAAA – ZZZZZZ, and AAAAAAA – HHHHHHHH | MACT standard for multiple source categories. | Different source category |

| Unit Ref. No., or activity to which requirement does not apply | Citation | Brief description of requirement | Why the requirement does not apply |
|---|-------------------------------|--|---|
| LFG Gas Emissions | 40 CFR Part 64 | Compliance Assurance Monitoring (CAM) | Compliance Assurance Monitoring (CAM) is not applicable since the source is subject to an NSPS promulgated after November 15, 1990 (Landfill NSPS – 40 CFR 60 Subpart Cf) |
| All Activities | 40 CFR Part 65 | Consolidated Federal Air Rule | Not Applicable |
| All Activities | 40 CFR Part 66 | Assessment and Collection of Noncompliance Penalties by EPA | Not Applicable |
| All Activities | 40 CFR Part 67 | EPA Approval of State Noncompliance Penalty Program | Not Applicable |
| All Activities | 40 CFR Parts 68 | Chemical Accident Prevention Provisions | Source does not store chemicals in quantities which trigger the applicability of this regulation. |
| All Activities | 40 CFR Part 69 | Special Exemptions from Requirements of the Clean Air Act | No Claimed Exemptions |
| All Activities | 40 CFR Part 71 | Federal Operating Permit Program | Source is located in a state delegated to administer the Part 70 permitting program |
| All Activities | 40 CFR Part 72 – 78 | Acid Rain Regulations | No emissions unit of this type are at the facility |
| All Activities | 40 CFR Parts 79 – 80, 85 - 88 | Fuels Regulations, Vehicular Standards | Not Applicable |
| All Activities | 40 CFR Part 81 | Area Designations | Part 81 imposes no emissions limits |
| All Activities | 40 CFR Part 91 | Control of emissions from Marine Spark Ignition Engines | Source does not operate marine vessels. |
| All Activities | 40 CFR Part 92 | Control of Air Pollution from Locomotives and Locomotive Engines | Source does not operate locomotives or locomotive engines. |
| All Activities | 40 CFR Part 93 | Transportation and General Conformity | Not Applicable |

| Unit Ref. No., or activity to which requirement does not apply | Citation | Brief description of requirement | Why the requirement does not apply |
|---|---------------------|---|--|
| All Activities | 40 CFR Part 94 | Control of emissions from Marine Compression Ignition Engines | Source does not operate marine vessels. |
| All Activities | 40 CFR Part 95 | Mandatory Patent Licenses | Not Applicable |
| All Activities | 40 CFR Part 96 & 97 | Federal and State NOX Budget Trading Programs and CAIR Programs | No emissions unit of this type are at the facility |

APPENDIX A

Updated Emissions Calculations – Significant Activities

Benson Valley Landfill
Landfill Gas and NMOC Emissions Combined from Two Model Runs

| Year | LFG Flow BV 1 cfm | LFG Flow BV2 cfm | LFG Flow Combined cfm | NMOC Ems BV 1 Mg/year | NMOC Ems BV2 Mg/year | NMOC Ems Combined Mg/year |
|------|-------------------------|------------------------|-----------------------------|-----------------------------|----------------------------|---------------------------------|
| 1971 | 0 | | 0 | 0.00 | | 0.00 |
| 1972 | 23 | | 23 | 0.75 | | 0.75 |
| 1973 | 46 | | 46 | 1.47 | | 1.47 |
| 1974 | 68 | | 68 | 2.17 | | 2.17 |
| 1975 | 89 | | 89 | 2.83 | | 2.83 |
| 1976 | 109 | | 109 | 3.47 | | 3.47 |
| 1977 | 128 | | 128 | 4.09 | | 4.09 |
| 1978 | 146 | | 146 | 4.68 | | 4.68 |
| 1979 | 164 | | 164 | 5.25 | | 5.25 |
| 1980 | 181 | | 181 | 5.79 | | 5.79 |
| 1981 | 197 | | 197 | 6.32 | | 6.32 |
| 1982 | 213 | | 213 | 6.82 | | 6.82 |
| 1983 | 228 | | 228 | 7.31 | | 7.31 |
| 1984 | 243 | | 243 | 7.77 | | 7.77 |
| 1985 | 257 | | 257 | 8.22 | | 8.22 |
| 1986 | 270 | | 270 | 8.65 | | 8.65 |
| 1987 | 283 | | 283 | 9.06 | | 9.06 |
| 1988 | 295 | | 295 | 9.46 | | 9.46 |
| 1989 | 307 | | 307 | 9.84 | | 9.84 |
| 1990 | 319 | | 319 | 10.20 | | 10.20 |
| 1991 | 330 | | 330 | 10.55 | | 10.55 |
| 1992 | 340 | | 340 | 10.89 | | 10.89 |
| 1993 | 350 | | 350 | 11.22 | | 11.22 |
| 1994 | 360 | | 360 | 11.53 | | 11.53 |
| 1995 | 370 | | 370 | 11.83 | | 11.83 |
| 1996 | 379 | | 379 | 12.12 | | 12.12 |
| 1997 | 387 | | 387 | 12.39 | | 12.39 |
| 1998 | 395 | | 395 | 12.66 | | 12.66 |
| 1999 | 403 | | 403 | 12.91 | | 12.91 |
| 2000 | 511 | | 511 | 16.37 | | 16.37 |
| 2001 | 605 | | 605 | 19.36 | | 19.36 |
| 2002 | 688 | | 688 | 22.03 | | 22.03 |
| 2003 | 799 | | 799 | 25.59 | | 25.59 |
| 2004 | 840 | | 840 | 26.88 | | 26.88 |
| 2005 | 847 | | 847 | 27.11 | | 27.11 |
| 2006 | 864 | | 864 | 27.65 | | 27.65 |
| 2007 | 890 | | 890 | 28.50 | | 28.50 |
| 2008 | 905 | | 905 | 28.97 | | 28.97 |
| 2009 | 921 | | 921 | 29.49 | | 29.49 |
| 2010 | 958 | | 958 | 30.67 | | 30.67 |
| 2011 | 991 | | 991 | 31.74 | | 31.74 |
| 2012 | 1,003 | | 1,003 | 32.11 | | 32.11 |
| 2013 | 1,015 | | 1,015 | 32.49 | | 32.49 |
| 2014 | 1,031 | | 1,031 | 32.99 | | 32.99 |
| 2015 | 1,051 | | 1,051 | 33.65 | | 33.65 |
| 2016 | 1,094 | | 1,094 | 35.01 | | 35.01 |
| 2017 | 1,126 | | 1,126 | 36.04 | | 36.04 |
| 2018 | 1,174 | | 1,174 | 37.57 | | 37.57 |
| 2019 | 1,200 | | 1,200 | 38.43 | | 38.43 |
| 2020 | 1,219 | | 1,219 | 39.02 | | 39.02 |
| 2021 | 1,234 | | 1,234 | 39.49 | | 39.49 |
| 2022 | 1,250 | | 1,250 | 40.00 | | 40.00 |
| 2023 | 1,264 | | 1,264 | 40.46 | | 40.46 |

| Year | LFG Flow BV 1 cfm | LFG Flow BV2 cfm | LFG Flow Combined cfm | NMOC Ems BV 1 Mg/year | NMOC Ems BV2 Mg/year | NMOC Ems Combined Mg/year |
|-------------|-------------------------|------------------------|-----------------------------|-----------------------------|----------------------------|---------------------------------|
| 2024 | 1,311 | | 1,311 | 41.95 | | 41.95 |
| 2025 | 1,355 | | 1,355 | 43.38 | | 43.38 |
| 2026 | 1,398 | | 1,398 | 44.75 | | 44.75 |
| 2027 | 1,439 | | 1,439 | 46.07 | | 46.07 |
| 2028 | 1,479 | | 1,479 | 47.33 | | 47.33 |
| 2029 | 1,517 | | 1,517 | 48.55 | | 48.55 |
| 2030 | 1,553 | | 1,553 | 49.72 | | 49.72 |
| 2031 | 1,588 | | 1,588 | 50.84 | | 50.84 |
| 2032 | 1,622 | | 1,622 | 51.92 | | 51.92 |
| 2033 | 1,654 | | 1,654 | 52.96 | | 52.96 |
| 2034 | 1,686 | | 1,686 | 53.95 | | 53.95 |
| 2035 | 1,716 | | 1,716 | 54.91 | | 54.91 |
| 2036 | 1,744 | | 1,744 | 55.83 | | 55.83 |
| 2037 | 1,772 | | 1,772 | 56.71 | | 56.71 |
| 2038 | 1,798 | | 1,798 | 57.56 | | 57.56 |
| 2039 | 1,824 | | 1,824 | 58.38 | | 58.38 |
| 2040 | 1,848 | | 1,848 | 59.16 | | 59.16 |
| 2041 | 1,872 | | 1,872 | 59.92 | | 59.92 |
| 2042 | 1,894 | | 1,894 | 60.64 | | 60.64 |
| 2043 | 1,916 | | 1,916 | 61.33 | | 61.33 |
| 2044 | 1,937 | | 1,937 | 62.00 | | 62.00 |
| 2045 | 1,957 | | 1,957 | 62.64 | | 62.64 |
| 2046 | 1,976 | | 1,976 | 63.26 | | 63.26 |
| 2047 | 1,995 | | 1,995 | 63.85 | | 63.85 |
| 2048 | 2,013 | | 2,013 | 64.42 | | 64.42 |
| 2049 | 2,030 | | 2,030 | 64.97 | | 64.97 |
| 2050 | 2,046 | | 2,046 | 65.49 | | 65.49 |
| 2051 | 2,062 | 0 | 2,062 | 66.00 | 0.00 | 66.00 |
| 2052 | 1,981 | 96 | 2,077 | 63.41 | 3.07 | 66.48 |
| 2053 | 1,903 | 188 | 2,092 | 60.92 | 6.02 | 66.95 |
| 2054 | 1,829 | 277 | 2,106 | 58.53 | 8.86 | 67.40 |
| 2055 | 1,757 | 362 | 2,119 | 56.24 | 11.59 | 67.83 |
| 2056 | 1,688 | 444 | 2,132 | 54.03 | 14.20 | 68.24 |
| 2057 | 1,622 | 522 | 2,144 | 51.92 | 16.72 | 68.64 |
| 2058 | 1,558 | 598 | 2,156 | 49.88 | 19.14 | 69.02 |
| 2059 | 1,497 | 670 | 2,168 | 47.92 | 21.46 | 69.38 |
| 2060 | 1,438 | 740 | 2,179 | 46.04 | 23.69 | 69.74 |
| 2061 | 1,382 | 807 | 2,189 | 44.24 | 25.83 | 70.07 |
| 2062 | 1,328 | 871 | 2,199 | 42.50 | 27.89 | 70.40 |
| 2063 | 1,276 | 933 | 2,209 | 40.84 | 29.87 | 70.71 |
| 2064 | 1,226 | 897 | 2,122 | 39.24 | 28.70 | 67.94 |
| 2065 | 1,178 | 862 | 2,039 | 37.70 | 27.58 | 65.27 |

Maximum Fugitive NMOC Emissions:

$$70.71 \frac{\text{Mg}}{\text{year}} \times 25\% \times 1.1 \frac{\text{tons}}{\text{Mg}} = 19.45 \frac{\text{tons NMOC}}{\text{year}} = 4.44 \text{ lbs/hr NMOC}$$

Uncontrolled VOC Emissions Factor: **133.98 lbs/mmscf**

Benson Valley LF Update SO2 Emissions Factor

Maximum Gas Flow Rate: 3000 cfm
 180000 scfh
 0.18 mmscf/hour
 Maximum Operating Hours 8760 hours
 H₂S 500 ppm (Highest Tested Value = 497 ppm in 2021)

Calculate Actual Emissions for Criteria Pollutants

SO2

| | | | | | | | | | | | | |
|-----------|-----------|-------|-----------------------|---------|--------|------|--------------|---|----------|---|----------------|----------------|
| 500 | ppm H2S x | 64 | <u>mol. Wt. SO2</u> x | 180,000 | scfh x | 8760 | <u>hrs</u> x | = | actual | = | | |
| 1,000,000 | | 385.4 | scf/lb-mole | | | | yr | | 2000 lbs | | 65.5 tons/year | 14.95 lbs/hour |

Calculate new EIQ Emissions factor (lbs/mmscf)

83.03 lbs/mmscf LFG

APPENDIX B

Emissions Calculations – Insignificant Activities

**Benson Valley Landfill Title V Renewal Application
Updated Refuse Truck Haul Road Fugitive Emissions**

Refuse Trucks:

| | |
|--|---------|
| Length of Haul Road, roundtrip miles (paved) | 2.41 |
| Length of Haul Road, roundtrip miles (unpaved) | 3.90 |
| Annual Amount Hauled (all waste), tons | 200,000 |
| Avg. Weight of Material per Load, tons | 18 |
| Annual Vehicle Miles Traveled (refuse trucks paved), VMT = | 26,800 |
| Annual Vehicle Miles Traveled (refuse trucks unpaved), VMT = | 43,333 |

Paved Road Emissions

| | | | |
|--|-------|---|--------|
| KDEP EIQ Emission Factor, lb./VMT | PM | = | 0.2989 |
| KDEP EIQ Emission Factor, lb./VMT | PM10 | = | 0.2989 |
| KDEP EIQ Emission Factor, lb./VMT | PM2.5 | = | 0.044 |
| Overall Control Efficiency % (PM/PM10) | | = | 90% |
| Overall Control Efficiency % (PM2.5) | | = | 40% |
| Actual Emissions, Tons/yr. | PM | = | 0.40 |
| Actual Emissions, Tons/yr. | PM10 | = | 0.40 |
| Actual Emissions, Tons/yr. | PM2.5 | = | 0.35 |

Unpaved Road Emissions

| | | | |
|--|-------|---|-------|
| KDEP EIQ Emission Factor, lb./VMT | PM | = | 7.66 |
| KDEP EIQ Emission Factor, lb./VMT | PM10 | = | 2.07 |
| KDEP EIQ Emission Factor, lb./VMT | PM2.5 | = | 1.149 |
| Overall Control Efficiency % (PM/PM10) | | = | 70% |
| Overall Control Efficiency % (PM2.5) | | = | 40% |
| Actual Emissions, Tons/yr. | PM | = | 49.79 |
| Actual Emissions, Tons/yr. | PM10 | = | 13.46 |
| Actual Emissions, Tons/yr. | PM2.5 | = | 14.94 |

SUMMARY OF EMISSIONS (TPY):

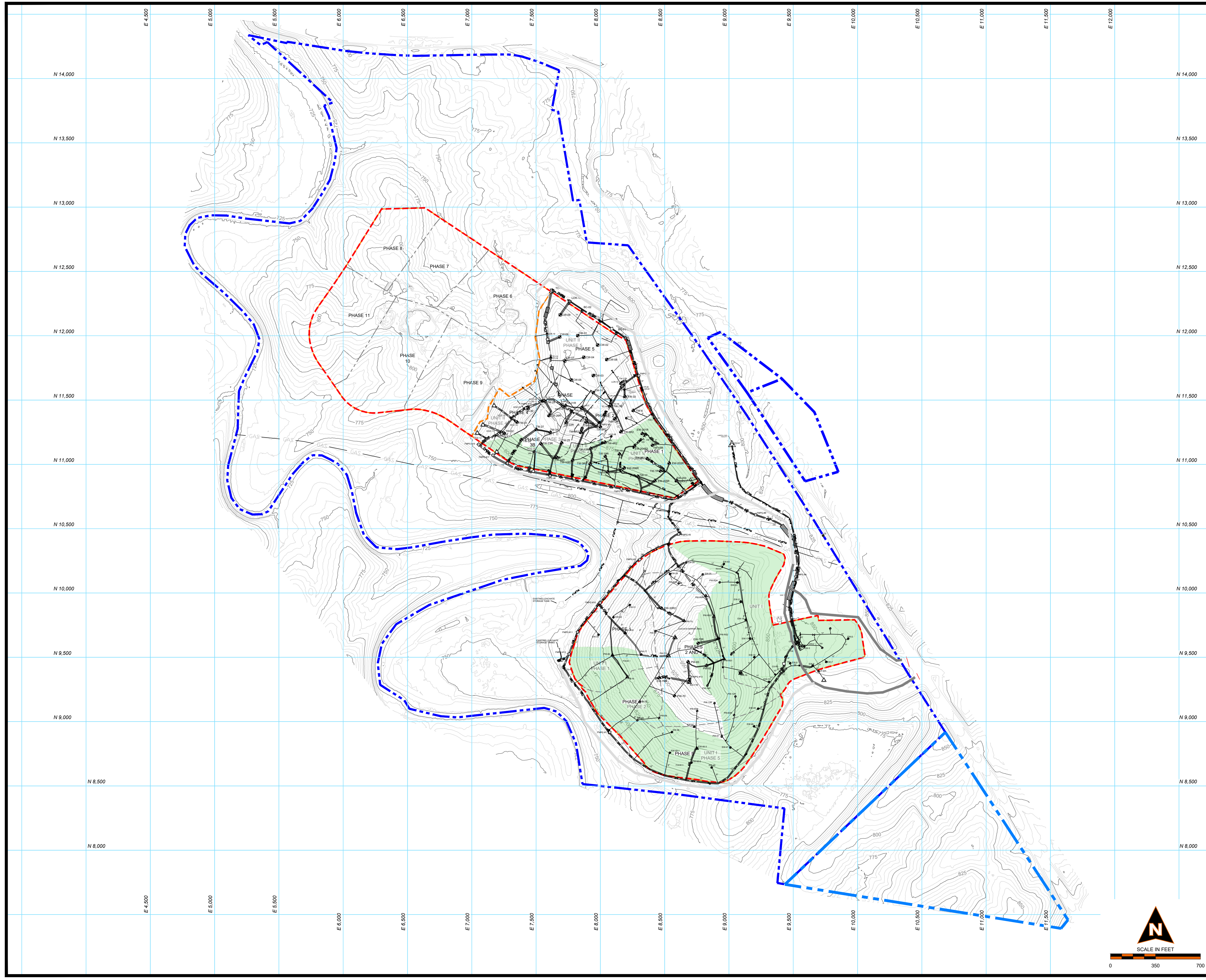
| | |
|-------|-------|
| PM | 50.19 |
| PM10 | 13.86 |
| PM2.5 | 15.29 |

NOTE: Emissions Factors are from 2021 EIQ; pre-populated by KDEP.

APPENDIX C

Site Plan Map

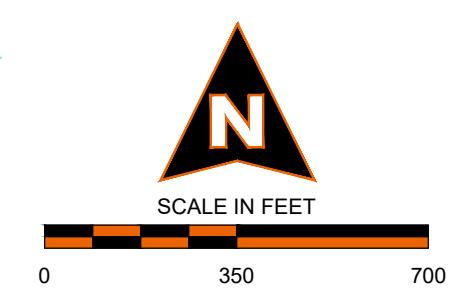
Z:\SHARED\BEL\BENSON VALLEY\2023\2023_242-TITLE V\DWGS\PLAN\01 PLAN VIEW.DWG, 3/15/2023



LEGEND

- FACILITY PROPERTY BOUNDARY
- PERMITTED LIMITS OF WASTE
- CONSTRUCTED LIMITS OF WASTE
- EXISTING AERIAL CONTOUR
- EXISTING CELL LIMITS
-
-
- EXISTING ELECTRIC LINE
- EXISTING FORCEMAIN
- EXISTING AIRLINE
- EXISTING TOE DRAIN
- EXISTING LFG EXTRACTION WELL / WELLHEAD
- EXISTING COMBINATION WELL
- EXISTING HEADER ACCESS RISER
- EXISTING CONTROL VALVE
- EXISTING BLIND FLANGE
- EXISTING ROCK SUMP
- EXISTING AIR RELEASE VALVE
- EXISTING CONDENSATE SUMP
- EXISTING LEACHATE ROCK SUMP
- EXISTING REMOTE WELLHEAD
- EXISTING EQUIPMENT WITH PRESSURE GAUGE
- EXISTING CAP FOR LATERAL ABANDONMENT
- EXISTING CMP ROAD CROSSING
- EXISTING FORCEMAIN CLEANOUT
- EXISTING CAISSON WELL LOCATIONS
- AREA OF CERTIFIED FINAL COVER
- EXISTING PAVED ROADWAYS
- EXISTING UNPAVED ROADWAYS

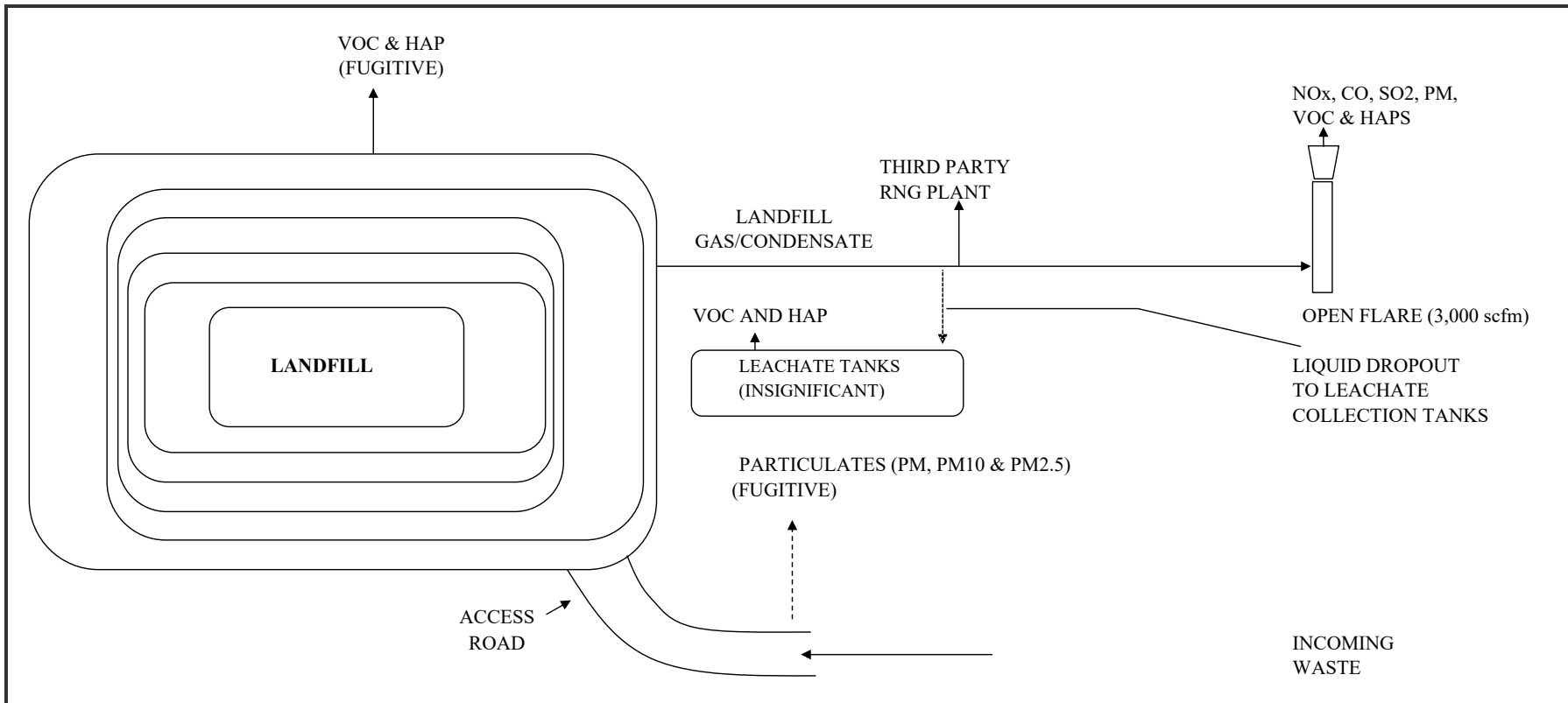
- NOTES:**
1. EXISTING AERIAL TOPOGRAPHY PROVIDED BY COOPER AERIAL SURVEYS.
 2. EXISTING AS-BUILT SURVEY DATA PROVIDED BY WEAVER CONSULTANTS GROUP INC. DATED OCTOBER 13, 2022



| | | | |
|-------------------------|--------------------------|------------------------------|-----------|
| BENSON VALLEY LF | | | |
| TITLE V | | | |
| PLAN VIEW | | | |
| | PROJECT NUMBER: 2023.242 | | DRAWING: |
| | ENG: DD | AERIAL SURVEY DATE: 12/29/22 | 01 |
| | CAD: BKG | SUBMITTAL DATE: 3/01/23 | |
| | CHK: DD | PLOT DATE: 3/15/23 | |
| | REV: DATE | DESCRIPTION | |
| | | | OF 01 |

APPENDIX D

Process Flow Diagram



| | | |
|---|------------------|--|
| | | BENSON VALLEY LANDFILL TITLE 5 RENEWAL APPLICATION FRANKFORT, KENTUCKY |
| DES BY: LLN | DATE: MARCH 2023 | |
| PREPARED BY: Environmental Information Logistics, LLC 130 E. Main Street Caledonia, MI 49316 | | PROCESS FLOW DIAGRAM LANDFILL AND MISCELLANEOUS SOURCES |