

Town of Perinton Conservation Board



High Acres Landfill & Recycling Center 2022 Annual Update

April 4, 2023

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Tom Hasek | Waste Management of NY, LLC
David Cross | Waste Management of NY, LLC
Nicole Simonetti | Waste Management of NY, LLC
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Steven Wilsey | GHD Services, Inc.
Bryan Szalda | GHD Services, Inc.

Barton
& **Loguidice**



Facility Regulatory Permits/Approvals

- ▶ 6 NYCRR Part 360 - Solid Waste Management Facilities (DEC)
- ▶ 6 NYCRR Part 200 - Prevention and Control of Air Contamination and Air Pollution (DEC)
- ▶ 6 NYCRR Part 612, 613, 614 - Petroleum Storage and Handling (DEC)
- ▶ 40 CFR Part 61 - National Emissions Standards for Hazardous Air Pollutants (DEC)
- ▶ Town of Perinton Special Use Permit
- ▶ Town of Macedon Special Use Permit
- ▶ State Pollutant Discharge Elimination System Permit (SPDES) (DEC)
- ▶ Sewer Use Permit (Monroe County Department of Environmental Services - Division of Pure Waters)
- ▶ Air Permits 6 NYCRR Part 201 and USEPA Title V
- ▶ Freshwater Wetlands Permit and 401 Water Quality Certification (DEC)
- ▶ Section 404 Wetland Permit (U.S. Army Corps of Engineers)
- ▶ Full Time NYSDEC on-site monitor who oversees the operation and provides a daily inspection report. Daily reports submitted to Towns).

47-1564 (198-9)
(Automated 9/07)

NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
6 NYCRR Part 360-2
SOLID WASTE MANAGEMENT FACILITY INSPECTION REPORT
(For use at Mixed Solid Waste Landfills, Industrial/Commercial Waste Monofills, or Ash Residue Monofills)

FACILITY NAME: High Acres Landfill	LOCATION: Perinton(T), Monroe(C)	FACILITY ID#: 28 S 32	DATE: 02/09/23	TIME:
INSPECTOR'S NAME: Dave Kay	CODE: M	PERSONS INTERVIEWED: Pat O'Dell		
REGION: 8	WEATHER CONDITIONS: CL.rain; 30°-40°F; W; 5-10 ESE.E SE	DEC PERMIT NUMBER: 8-9908-00162/00032		
SHEET 1	CONTINUATION SHEET OF 2	PART(S) 360- 2	attached	

Violations of Part 360 are Subject to Applicable Civil, Administrative, and Criminal Sanctions Set Forth in ECL Article 17 and as Appropriate, the Clean Water and Air Acts. Additional and/or Multiple Violations May be Described on the Attached Continuation Sheet. This form is a record of conditions which are observed in the field at the time of inspection. Items marked "N" indicate No Inspection and do not mean no violation has occurred.

PART 360 PERMIT ORDER ON CONSENT REGISTERED EXEMPT COMPLAINT CLOSED

FACILITY MANAGEMENT

- Solid waste management facility is authorized and management occurs within approved area. 360-1.7(a) (1); (b); 360-1.8(h) (5)
- Incoming waste is monitored by a control program for unauthorized waste and solid waste materials accepted are approved for management at the facility. 360-1.14(a) (1)
 - Manufacture/Low Level Radioactive Waste 360-1.6(b); 360-2.17(m)
 - Control Program. 360-1.14(a) (1)
 - Department Approved Facility for Specific Wastes. 360-1.14(a)
 - Bulk Liquids. 360-2.17 (k)
 - Whole Tires. 360-2.17(v)
- Lead Acid Batteries. 360-2.17 (w)
- Control, maintain and operate facility components and equipment in accordance with the permit and their intended use.
 - Maintenance of Facility Components/ Site Grading. 360-1.14(f) (1); 360-2.17 (h); (u)
 - Adequate Equipment. 360-1.14(f) (2)
- Operational Records are available where required:
 - Unauthorized Solid Waste Records. 360-1.14(f) (3)
 - Self Inspection Records. 360-1.14(f) (2)
 - Facility Application Records. 360-1.14(f) (3)
 - Monitoring Records. 360-1.14(f) (4)
 - Facility Closure Records. 360-1.14(f) (1)
 - Fill Progression Records. 360-2.9 (e)
 - Primary Leachate Collection and Removal System Logs. 360-2.9(f) (3)
 - Asbestos Waste Site Plan. 360-2.17 (g) (2)
 - Random waste collection vehicle inspection records. 360-2.17(h)

OPERATION CONTROL

- Solid waste, including blowing filter, is sufficiently confined and controlled. 360-1.14(a)
- Dust is effectively controlled and does not constitute an odorous nuisance. 360-1.14(a)
- Odorous vector populations are prevented or controlled, and vector breeding areas are prevented. 360-1.14(a)
- Colors are effectively controlled so that they do not constitute a nuisance. 360-1.14(a)

WATER

- Solid waste is prevented from entering surface waters and/or groundwater. 360-1.14(b) (1)
- Leachate is minimized through drainage control or other means and is prevented from entering surface waters. 360-1.14(b) (2); 360-2.17 (a)

ACCESS

- Access to the facility is strictly and continuously controlled by fencing, gates signs, natural barriers, or other suitable means. 360-1.14(d)
- Concrete roads are available. 360-1.14(a); 360-2.17(v)

WASTE HANDLING

- Solid waste is spread in layers 2 feet or less in thickness, proper compaction is achieved with 3 passes of appropriately sized equipment and the working face area is the smallest practicable. 360-2.17(b) (1)
- Left hand side not exceed 10 feet, slope is at least 1 percent and no more than 33 percent, and wastes are placed and graded in accordance with fill progression plan. 360-2.17(b) (2)
- Solid waste preparation measures and/or precautions are provided:
 - Stabilized/dewatered sludges. 360-2.17(m)
 - Asbestos Waste. 360-2.17 (g) (3)
 - Tires. 360-2.17 (r)

COVER

- Daily cover material is suitable in quality, of proper compacted thickness, and is applied and maintained where and when required to control vectors, fire, odors, blowing filter and dewatering. 360-2.17 (c) (1)
- Intermediate cover is suitable in quality, of proper compacted thickness, and is applied and maintained where and when required. 360-2.17 (c) (2)
- Final cover system material is suitable in quality, of proper compacted thickness, and is applied and maintained. 360-2.17 (c) (3)

MONITORING

- Monitoring wells are intact. 360-2.17 (a); 360-2.17 (a); (b) (v); (c) (1)
- Decomposition gases are monitored and controlled. 360-2.17 (f); 360-2.9 (c) (1)

OTHER
CFR Continuation Sheet identify any other violations

I hereby Acknowledge receipt of the Facility Copy of this report

Please Print _____
Signature _____
Not Requested OK



High Acres Landfill & Recycling Center Complex



- ▶ Organics Composting
 - ▶ St. John Fisher, U of R, Nazareth
- ▶ Yard Waste Compost facility
- ▶ 9.6-MW Onsite Renewable Energy Facility
 - ▶ 10,000 homes powered by facility
- ▶ 250 Acres Award Winning Nature Area includes 4 miles of hiking trails
 - ▶ RIT Outdoor Classroom
 - ▶ Wildlife Habitat Council Certifications
- ▶ First Responders and Law Enforcement Training Facilities
- ▶ Residential Drop-off Facility
- ▶ High Acres Sports Complex



Operations Update



- ▶ Landfill permitted footprint: 320.4 acres
- ▶ 3,500 tons per day- Permitted Capacity
- ▶ No aged waste placed in Perinton in 2022

- ▶ Remaining Projected Site Life 28 years (2050)

Landfill (in Town of Perinton) Airspace Summary as of Dec 31st, 2022	
Total Permitted Capacity (CY)	30,823,531
Airspace Consumed (CY)	23,250,381
Airspace Remaining (CY)	7,529,338

▶ 2022 Operations

2022 Operations		
Tons of solid waste managed	938,151	-
Tons of solid waste managed by rail	520,530	-
Tons of sludge managed	37,333	3.47%
Tons of yard waste managed	14,143	
Tons of organics managed	356.71	
Gallons of Leachate collected and discharged to MCPOTW	41,575,027	
Total Landfill Gas Flared (SCFM)	2,095,910 SCFM	
Landfill gas beneficially used to produce green energy (SCFM)	1,566,241 SCFM	





VOLUME (tons)

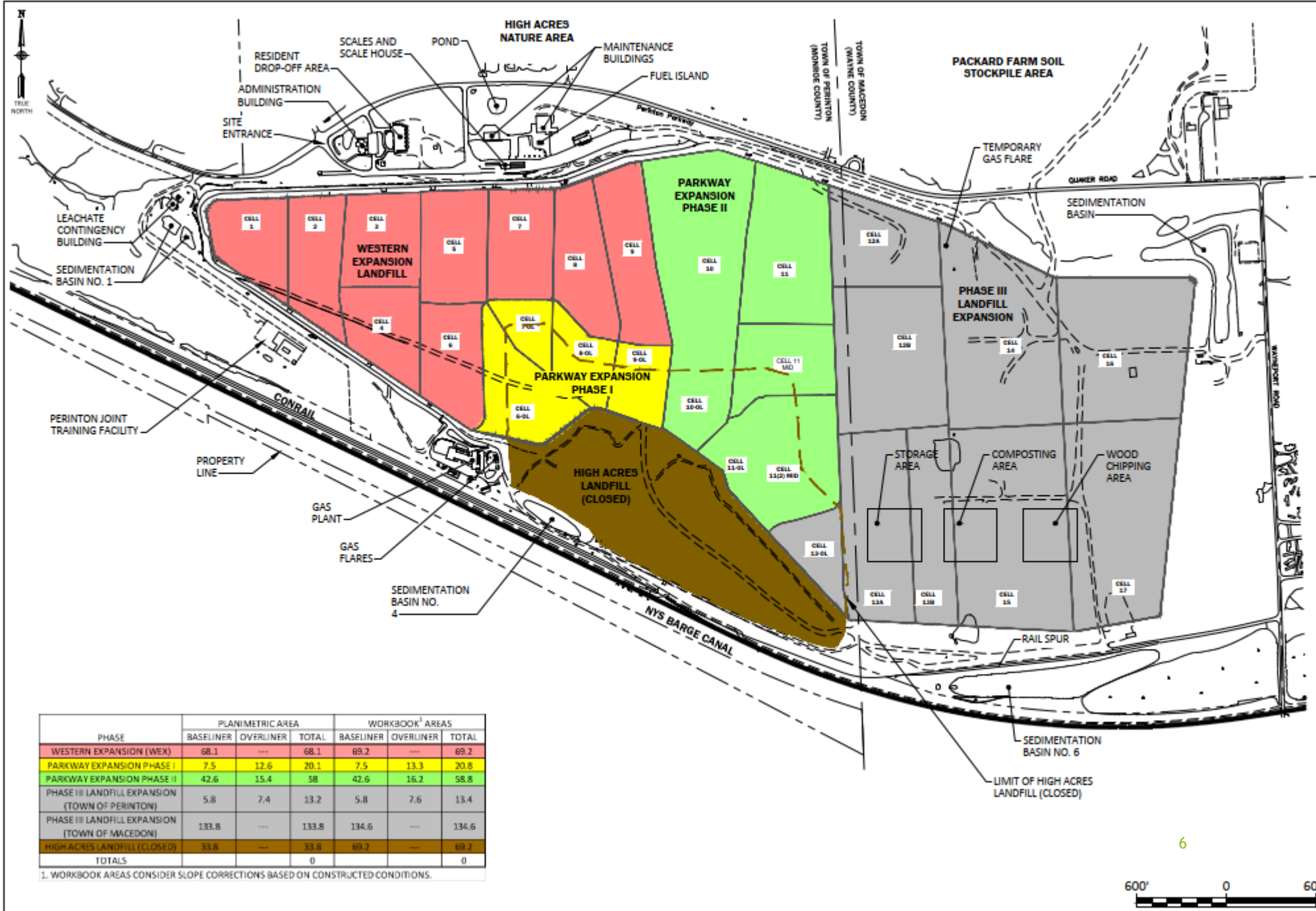
High Acres NYSDEC Permitted Capacity:

**MSW- 3,500 TPD x 307
days= 1,074,500**

**AOC- 1,050 TPD x 307
days= 322,350**

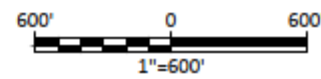
520,530 tons MSW via Rail

2022	MSW	AOC	TOTAL
Q1	208,923	51,098	260,021
Q2	222,568	54,517	277,085
Q3	230,862	49,288	280,150
Q4	275,797	49,218	325,015
<u>TOTAL</u>	<u>938,151</u>	<u>204,121</u>	<u>1,142,271</u>



PHASE	PLANIMETRIC AREA			WORKBOOK ¹ AREAS		
	BASELINER	OVERLINER	TOTAL	BASELINER	OVERLINER	TOTAL
WESTERN EXPANSION (WEK)	68.1	---	68.1	69.2	---	69.2
PARKWAY EXPANSION PHASE I	7.5	12.6	20.1	7.5	13.3	20.8
PARKWAY EXPANSION PHASE II	42.6	15.4	58	42.6	16.2	58.8
PHASE III LANDFILL EXPANSION (TOWN OF PERINTON)	5.8	7.4	13.2	5.8	7.6	13.4
PHASE III LANDFILL EXPANSION (TOWN OF MACEDON)	133.8	---	133.8	134.6	---	134.6
HIGH ACRES LANDFILL (CLOSED)	33.8	---	33.8	69.2	---	69.2
TOTALS			0			0

1. WORKBOOK AREAS CONSIDER SLOPE CORRECTIONS BASED ON CONSTRUCTED CONDITIONS.



WASTE MANAGEMENT
HIGH ACRES LANDFILL
SITE PLAN

B&L
443 Electronics Parkway
Liverpool, NY
13088
Barton & Logulione, D.P.C.

Date
MAY 2021
Scale
1" = 600'
Figure Number
1
Project Number
1242.015.021

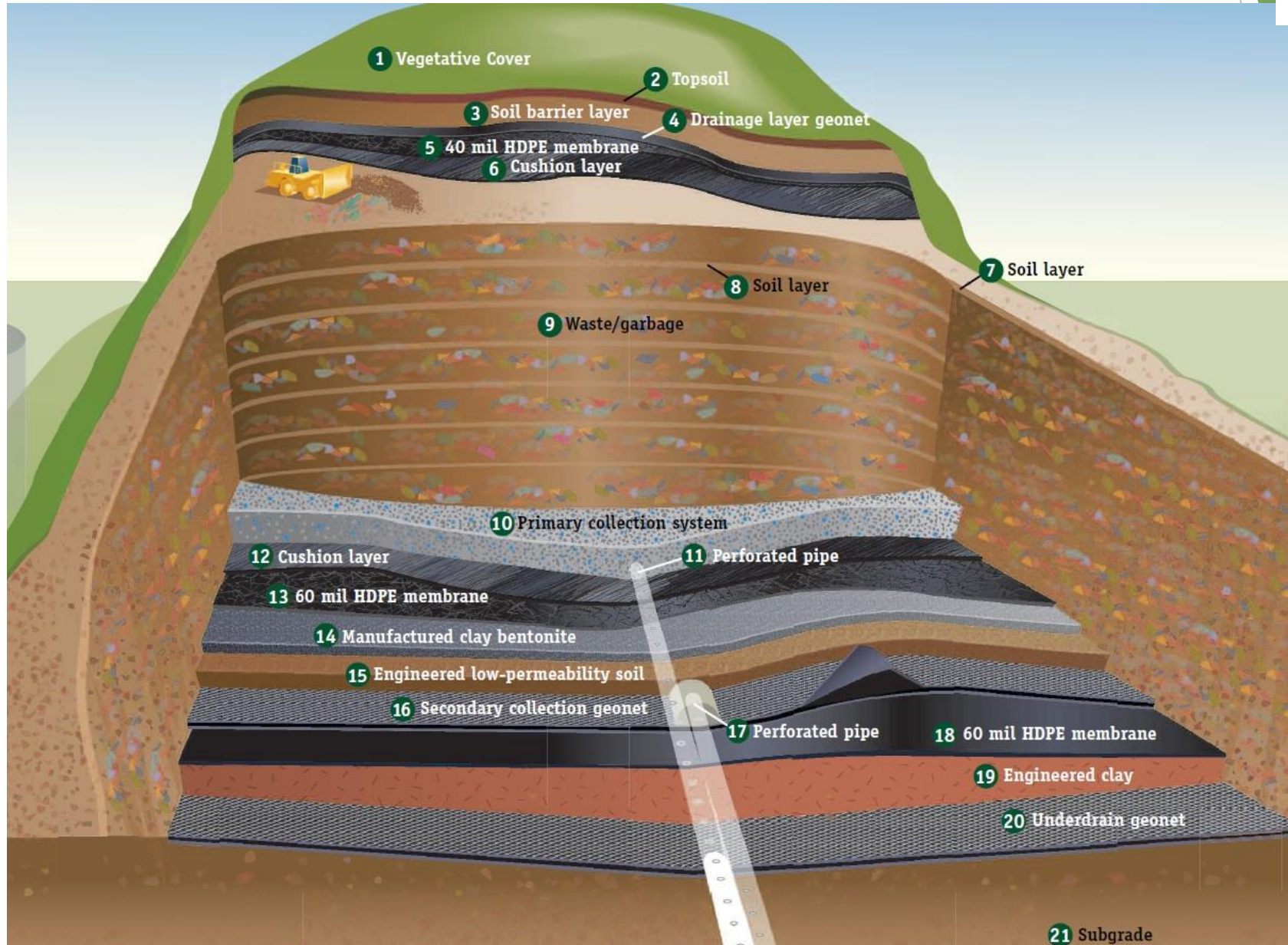
TOWNS OF PERINTON AND MACEDON
MORRIS AND WAYNE COUNTIES, NEW YORK

Landfill Development History

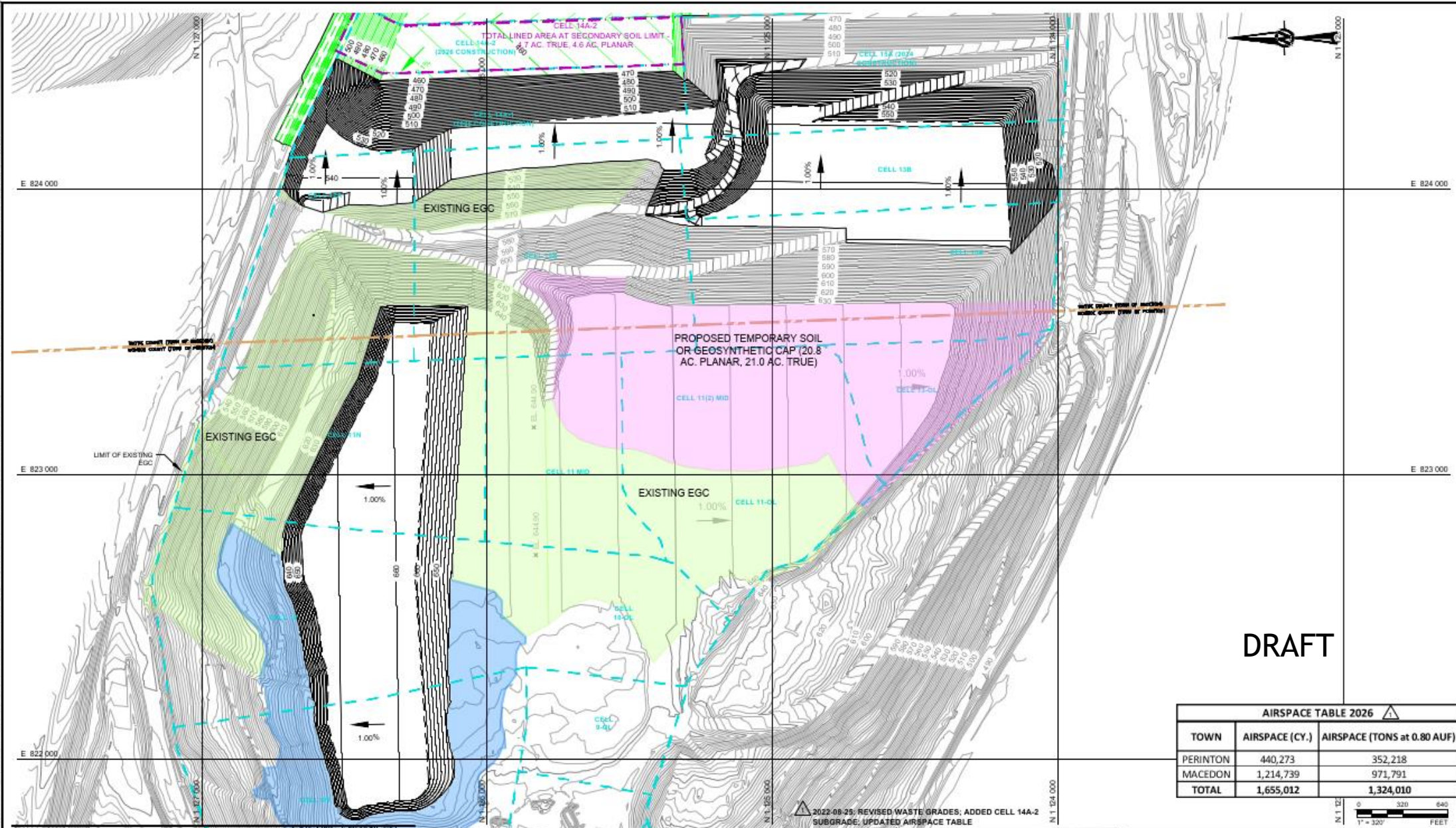


Landfill Area	Landfill Area Acreages			Cell Designation (refer to Fig. 1)	Year Constructed
	Baseliner	Overliner	Total		
Closed Landfill Area	-	-	-	N/A	1972
Western Expansion (WEX)	68.1	N/A	68.1	1	1994
				2	1995
				3	1996
				4	1997
				5	1999
				6	1998
				7	2000
				8/9	2001
Parkway Expansion Phase I	7.5	12.6	20.1	6-OL	2002
				7-OL	2002
				8/9-O/L	2003
Parkway Expansion Phase II	42.6	15.4	58.0	10, 10-OL	2008
				11, 11-OL	2019 Currently operating in Cells 11 and 11-OL
Parkway Expansion Phase III (Town of Perinton)	47.9	4.6	52.5	12, 13, 13-OL	2017-2022 Currently operating in Cells 12, 13, 13OL

Liner Construction



Path: I:\Projects\2022\2022-08-29_Updated Waste Grades, Added Cell 14A-2 Subgrade, Updated Airspace Table\2022-08-29_Updated Waste Grades, Added Cell 14A-2 Subgrade, Updated Airspace Table.dwg | Plot Date: 2022-08-29 10:00:00 AM | Plot By: J. R. ...



DRAFT

AIRSPACE TABLE 2026		
TOWN	AIRSPACE (CY.)	AIRSPACE (TONS AT 0.80 AUF)
PERINTON	440,273	352,218
MACEDON	1,214,739	971,791
TOTAL	1,655,012	1,324,010

LEGEND

	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED EARTHWORKS MAJOR CONTOUR
	PROPOSED EARTHWORKS MINOR CONTOUR
	DISPOSAL AREA BOUNDARIES
	TOWN / COUNTY LINE

NOTES:

- PROPOSED CONDITIONS AS OF JANUARY 1, 2027 MAY VARY BASED ON ACTUAL WASTE VOLUMES.
- PROPOSED CELL 14A-2 DESIGN GRADES MAY BE MODIFIED FROM THAT SHOWN BASED ON FUTURE SITE CONDITIONS AND REQUIREMENTS.
- TEMPORARY CAP LIMITS SHOWN ARE CONCEPTUAL AND MAY VARY BASED ON SITE CONDITIONS.

REFERENCE:

- BASE TOPOGRAPHY SHOWN COMPILED FROM PHOTOGRAMMETRIC METHODS PERFORMED BY QUANTUM SPATIAL, DUILLES VIRGINIA, DATE OF PHOTOGRAPHY MAY 31, 2021 AND UPDATED WITH FIELD SURVEY PERFORMED BY LANDTECH, DATED DECEMBER 27, 2021.

2022-08-29, REVISED WASTE GRADES, ADDED CELL 14A-2 SUBGRADE, UPDATED AIRSPACE TABLE

CLIENT
HIGH ACRES LANDFILL AND RECYCLING CENTER
 PERINTON, NEW YORK

CONSULTANT

YYYY-MM-DD	2022-06-08
DESIGNED	FAS
PREPARED	FAS
REVIEWED	MLB
APPROVED	---

PROJECT
 2022 GENERAL ENGINEERING SERVICES
 2023 WORKBOOK FILL PROGRESSION PLANS

TITLE
EXISTING CONDITIONS AS OF JANUARY 1, 2027 (2026 WASTE FILL)

PROJECT NO.	CONTROL	REV.	FIGURE
31404056.000	C006	0	06

15. THIS DOCUMENT IS THE PROPERTY OF WSP. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF WSP.

Surface Emissions Monitoring Methodology

Readings Above 500 ppm Threshold

- ▶ NSPS procedures followed
 - ▶ Location is recorded and flagged, site personnel notified
 - ▶ Each location is evaluated and corrective action program is implemented
- ▶ **Follow-up monitoring conducted to confirm remedy is successful**
 - ▶ Within 10 days of initial exceedance
 - ▶ 1 month after initial exceedance

Readings Above 200 ppm Threshold (Perinton Special Use Permit Requirement)

- ▶ 2.5x more stringent than the regulatory standard
- ▶ Same procedures as above followed except only 1 successful follow-up reading required
 - ▶ Within 1 month after initial exceedance

Monthly Cover Integrity Program

- ▶ Surface inspected monthly and corrective actions made as necessary

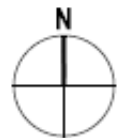
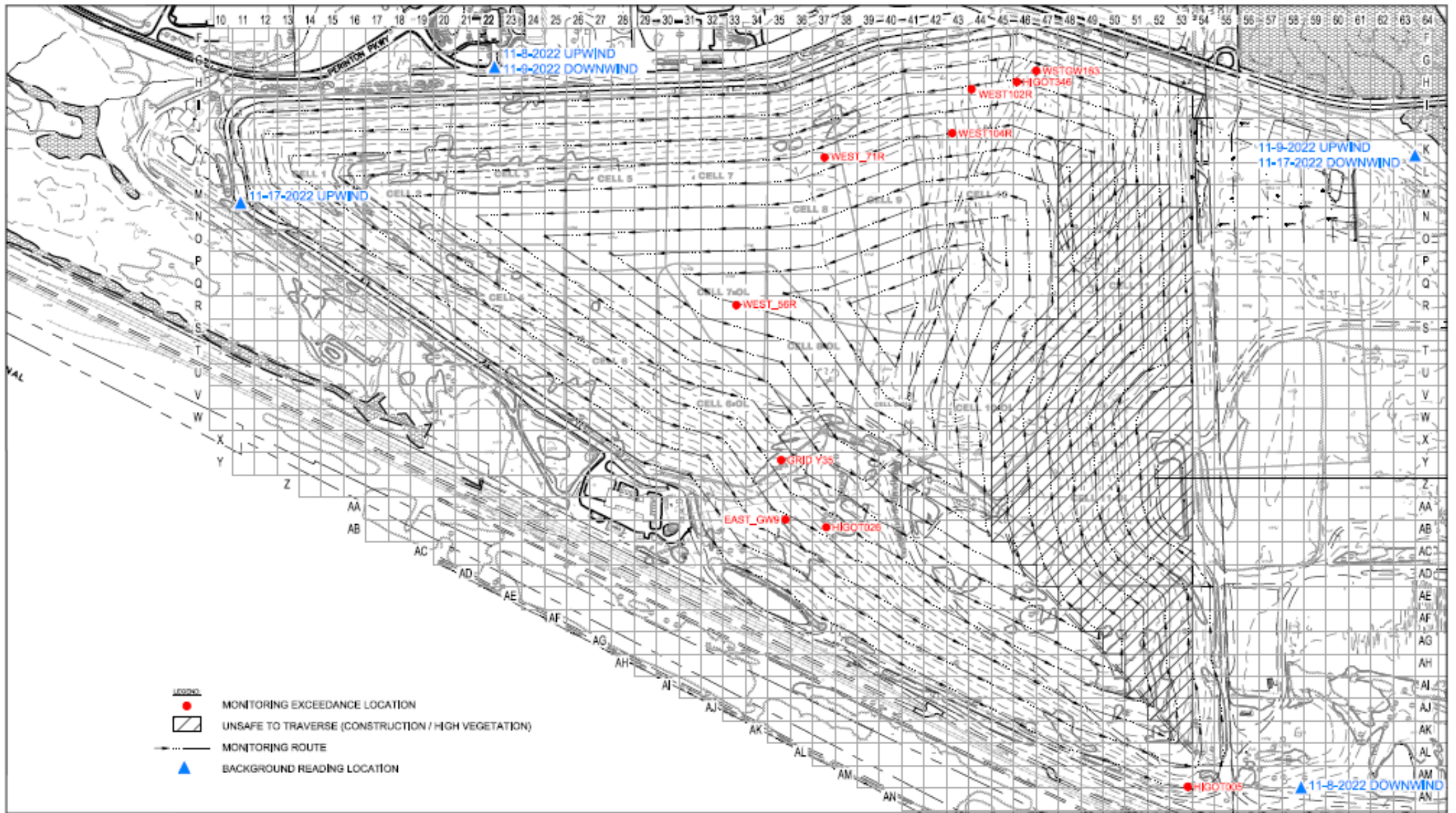


Surface Emissions Monitoring Methodology

Monitoring in Accordance with Work Plan and New Source Performance Standards (NSPS)

- ▶ **Monitoring Path = 30-meter serpentine path beginning at perimeter of the landfill**
- ▶ **Extension probe held at 2 to 4 inches above surface of the landfill while traversing**
 - ▶ Readings logged into SEM5000 instrument (date, time, reading and GPS coordinates logged)
- ▶ **Technician also inspects landfill surface and will temporarily deviate from monitoring path to undertake sampling when encountering:**
 - ▶ Surface penetrations such as landfill gas wells, risers, or other collection components
 - ▶ Areas with distressed vegetation
 - ▶ Areas with cracks/seeps in the cover
- ▶ **In accordance with Federal regulations and site permit conditions, if unsafe conditions are encountered Technician evaluates options to safely conduct the monitoring. If a safe option cannot be established, such areas are highlighted in the reports and areas are evaluated during future events. Examples of such areas include:**
 - ▶ Active and construction areas that have large trucks and equipment operating
 - ▶ Steep slopes with exposed geomembrane liner (slip /trip/ fall) and/or with problematic weather conditions
- ▶ **Regulations do not require monitoring of areas with waste less than 5 years old (or within 2 years of an area being closed or reaching final grade) in accordance with NSPS rules**
 - ▶ On occasion areas not required to be monitored by regulation may be monitored.





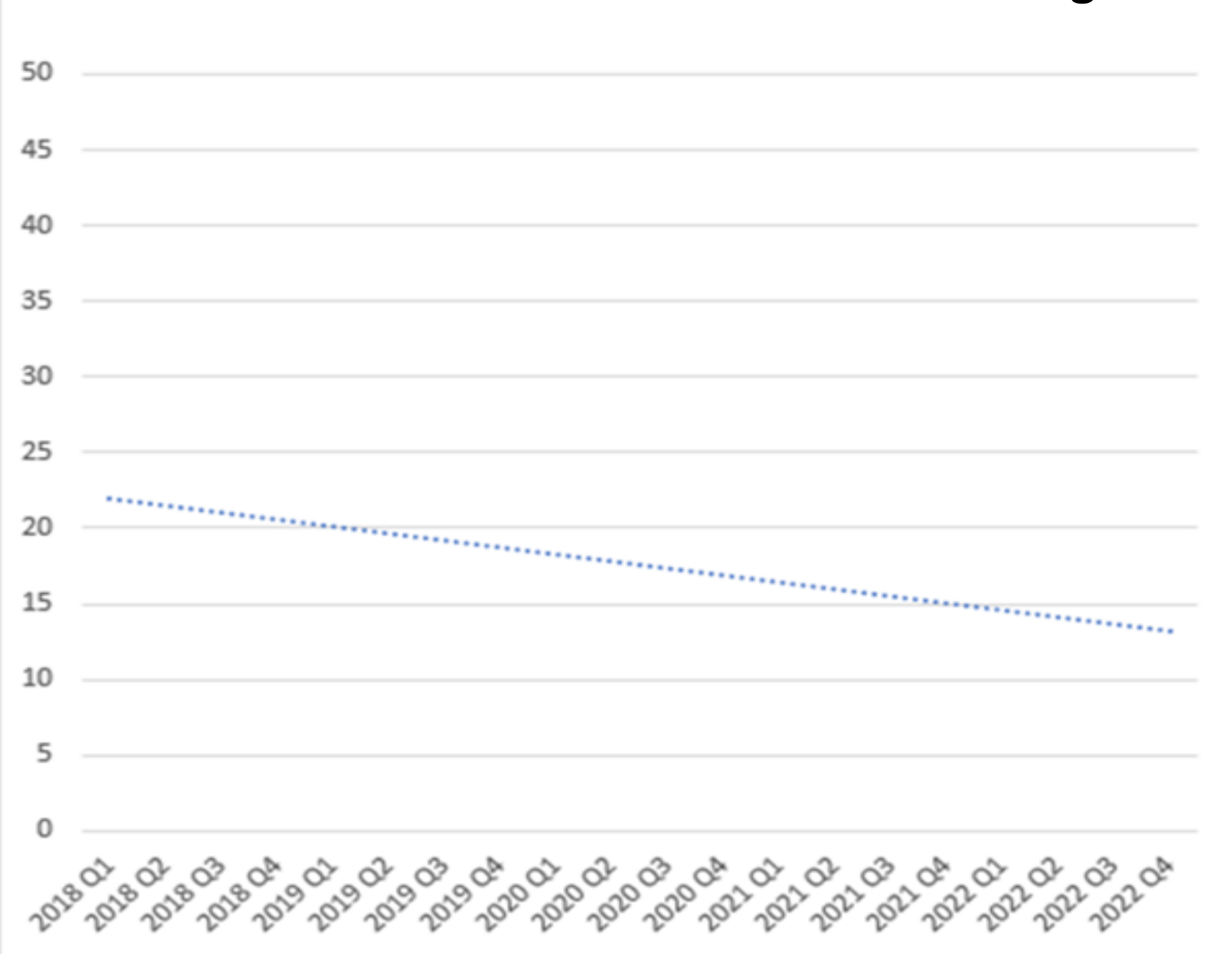
WASTE MANAGEMENT OF NEW YORK - HIGH ACRES LANDFILL
 FAIRPORT, NEW YORK
 Q4 2022 SURFACE EMISSION MONITORING
 GRID LOCATIONS

12572368
 Dec 1, 2022

FIGURE 1



Trend of Number of Surface Emission Monitoring Detections >200ppm



Summary of Surface Monitoring Results

Summary of Surface Monitoring Results

- ▶ Purpose of surface emissions monitoring program is to evaluate the effectiveness of the gas collection and cover systems and provide ongoing corrective action/ remedy programs
- ▶ As long as corrective measures are implemented within the required timeframes, the facility is in compliance with Work Plan (local), Title V Permit (state) and NSPS rules (federal)
- ▶ All results are reported to NYSDEC and Town on a quarterly basis

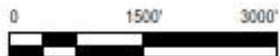
Based on our review of records over the last 5 years, all follow up procedures, including corrective action and follow up monitoring, were completed within the required timeframes, and in many cases corrective actions were implemented well before required (often times within the same day).



High Acres H₂S Monitoring Program

- ▶ Monitoring Instrument: Acrulog PPB
- ▶ Detection limit: 3 parts per billion (ppb)
- ▶ Instrument Range: 3 - 2,000 ppb
- ▶ Reading taken and logged every 10 minutes
 - ▶ 3-minute sampling period
 - ▶ 7-minute zero / purge period





LEGEND

AMBIENT AIR MONITORING LOCATION



WASTE MANAGEMENT OF NEW YORK - HIGH ACRES LANDFILL
FAIRPORT, NEW YORK
Q2 2021 SURFACE EMISSION MONITORING
AMBIENT AIR MONITORING LOCATIONS

21

11223471
Jul 21, 2021

FIGURE 2

Summary of H₂S Monitoring Results

- ▶ **Original Work Plan dated March 2, 2018**
 - ▶ Data Collection Period: March 6, 2018 - June 9, 2019
 - ▶ Continuous data collection at all 5 stations
 - ▶ Reports provided every week initially and every 2 weeks thereafter
- ▶ **Revised Work Plan dated April 30, 2019**
 - ▶ Data Collection Period: July 9, 2019 - Present
 - ▶ Data collected quarterly at 4 perimeter stations for 1 week during surface scan
 - ▶ Quarterly reports provided
 - ▶ Continuous data collection at School during school year
 - ▶ Monthly reports provided

Station Name	# Readings Collected	% Non-Detections (% of Total Readings)
West Monitoring Station (WMS)	114,132	99.9
North Monitoring Station (NMS)	210,457	99.6
East Monitoring Station (EMS)	112,382	99.7
South Monitoring Station (SMS)	139,239	99.6
School Monitoring Station (School)	221,720	99.4
Grand Totals	797,930	99.6



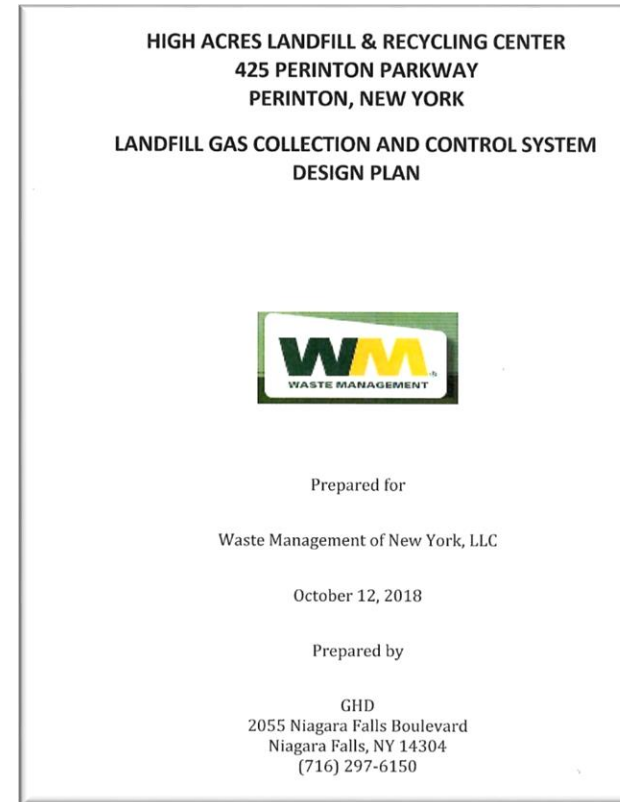
Since March 6, 2018, there have been no exceedances of the 1-hour standard for H₂S attributable to the landfill.

High Acres Gas System Collection, Conveyance, Cover, Control (4C's)

GCCS Plan (GHD Plan -updated 10/12/18)

- ▶ Roadmap for all landfill gas system development criteria for all design/operational rationale (current conditions through site closure)
- ▶ Gas Emissions Model (Land GEM) - provide information for gas generation by year, peak flow, system sizing, gas well spacings (ROI), infrastructure needs, operational considerations.
- ▶ Site monitoring, testing, and reporting.

* USEPA developed monitoring procedures to determine active LFG collection system's effectiveness



4C's Components

Collection

- ▶ Vertical Gas Wells (*Slip Form Style*)
- ▶ Horizontal Gas Collectors
- ▶ Base Grid System
- ▶ Agru Under Liner Collectors (*Under Temp Cap Areas*)

Conveyance

- ▶ Headers
- ▶ Laterals/Sub Headers
- ▶ Blowers
- ▶ Infrastructure

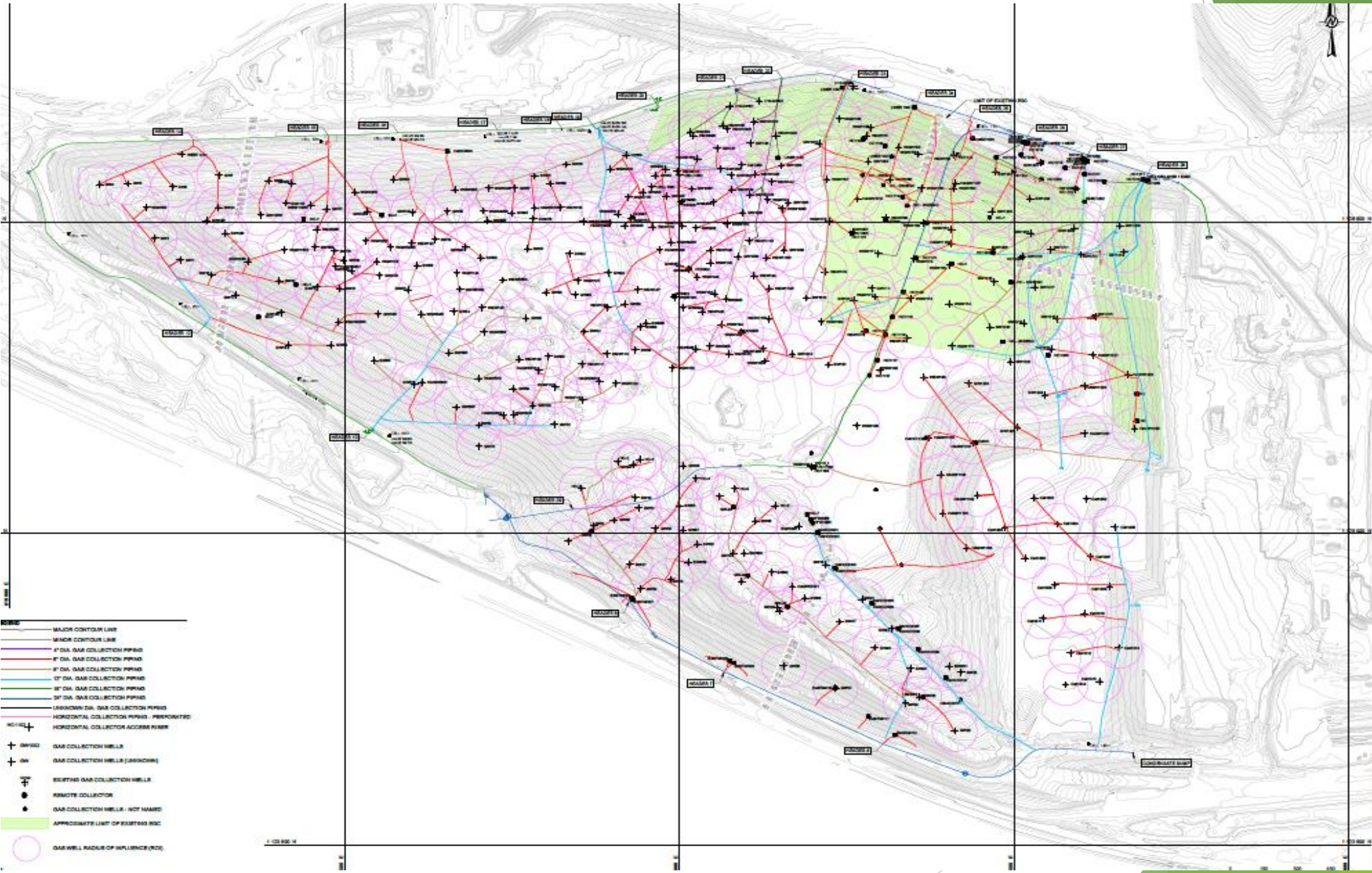
Cover

- ▶ Soils
- ▶ AOC's
- ▶ EPI Cover System
- ▶ Exposed Geomembranes
- ▶ Final Cover System

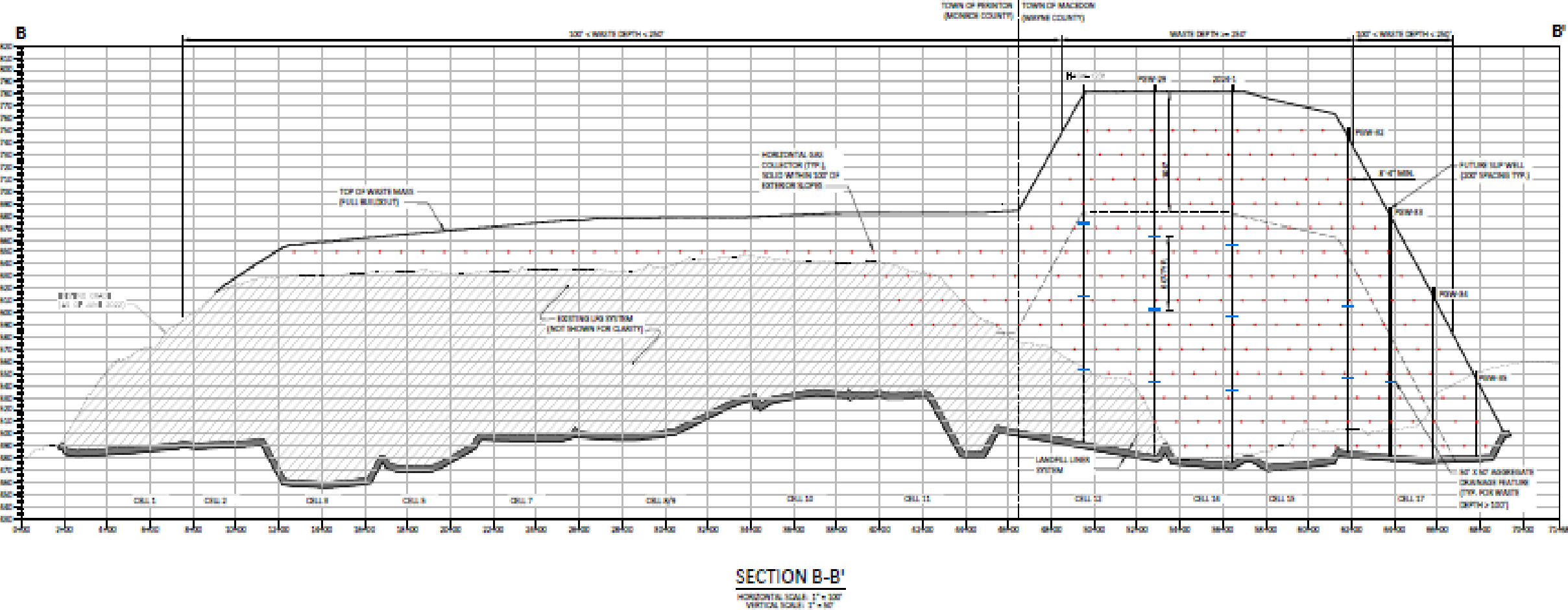
Controls

- ▶ Enclosed Flares
- ▶ Open Flare
- ▶ Gas-To-Energy Plant

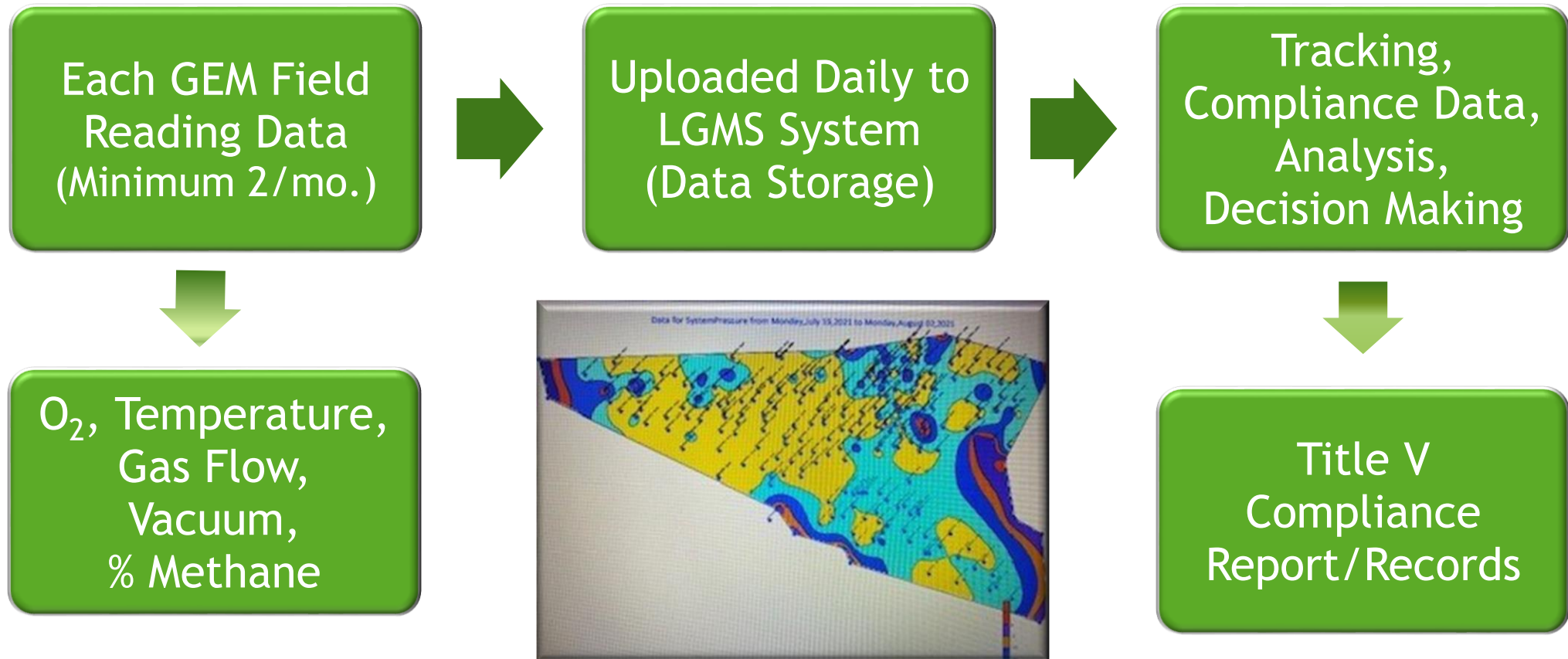
Gas Collection Existing Systems



Landfill Horizontal Gas Collectors



Landfill Gas Well Field Data Management



Landfill Gas Infrastructure - Control



Landfill Gas Infrastructure - Cover



Landfill Gas Infrastructure - Cover

EPI EnviroCover Membrane Systems



20-acre Temp Cap Completed- *December 2022*



2022 Landfill Gas Summary



Collection/Conveyance

- ▶ Approximately 393 gas collection vertical wells
 - ▶ 340 vertical, 53 horizontal
- ▶ 30 header locations monitored weekly and 105 wells read at least twice per month
- ▶ Miles of horizontal gas collects
- ▶ Miles of laterals, vacuum lines, headers

2 Enclosed Flares
+ 4500 CFM
+ 6000 CFM

1 Open Flare
+ 3000 CFM

8 CAT Engines (Gas-To-Energy)
(4) - 3516 = 1320 CFM
(4) - 3520 = 1800 CFM
3120 CFM

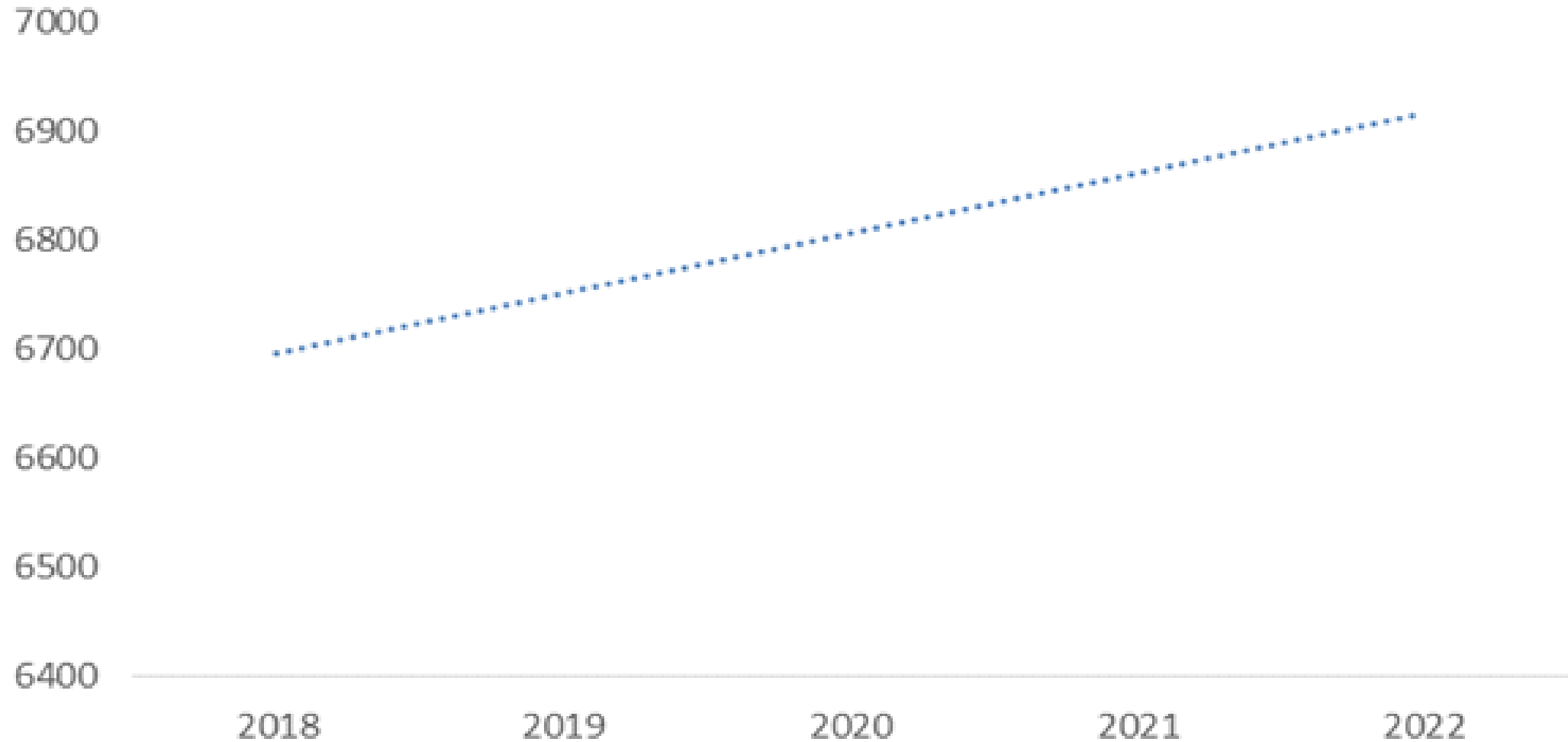
Gas Flared
2,095,910 SCFM

Gas Utilized
1,566,241 SCFM

Gas Quality = 51%
(Good Well Field Indicator)

2022 Landfill Gas Flow Summary

Trend of Average LFG Collection Rates (SCFM)



Onsite Odor Management: NYSDEC Approved- a proprietary blend of plant-based oils, natural extracts, trace elements, fragrances, scents, and surfactants.



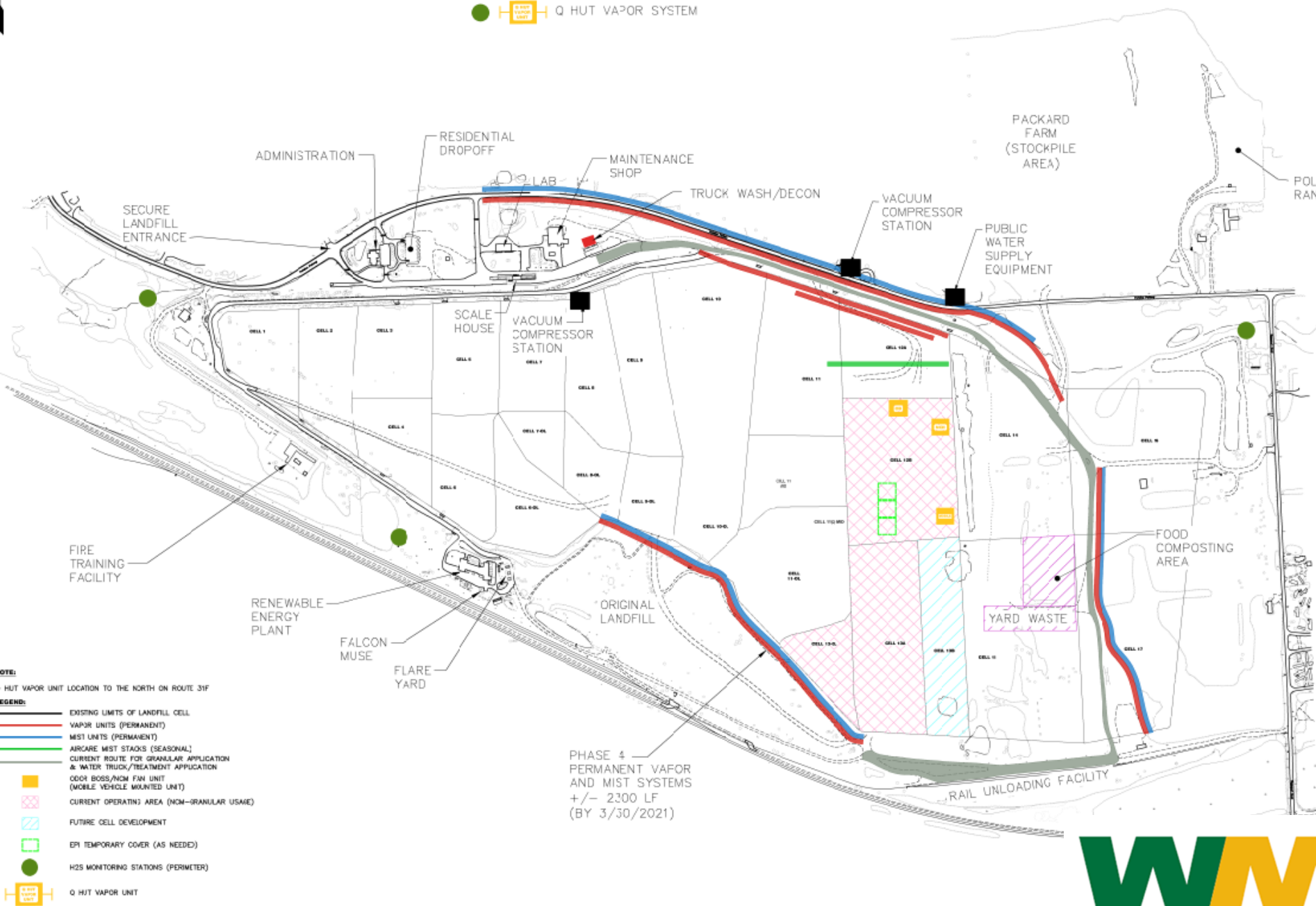


Comprehensive Landfill Odor Control Plan, Evaluation, and Design Basis Report

Waste Management High Acres Landfill



WMS | 2004 Highways Public Works Management Plan #1 | 14000 | 08/2010 | 10/10 | Revised: 06/22/2021 | January 7, 2021



NYSDEC 24-hr Notification/Verification System

Third party company of trained and certified inspectors

- ▶ 24-hour service, trained odor investigators, provides a convenient, rapid and actionable method of investigating and corroborating/validating reported concerns
- ▶ Responders trained in investigation techniques using n-Butanol reference scale (measure of odor intensity)
- ▶ As part of the odor investigation, temperature, wind strength and direction, precipitation, and cloud cover are recorded
- ▶ Conducts *two types* of investigations related to odors:
 - 1.) Routine monitoring- surveying of surrounding roads/neighborhoods through the community conducted 2x/day- 7days/week (AM/PM), measuring the intensity and extent of any odor detected
 - 2.) Hotline Response - Towpath also responds and investigates the intensity and extent of the odor calls received by the NYSDEC hotline³⁶

To reach the hotline, call 585-453-2416.

OS&E Odor Monitoring and Odor Complaint Investigation
Techniques Course Outline

Odor Science & Engineering Training



Introduction

1.0 The Properties of Odor

- 1.1 Odor Concentration
- 1.2 Odor Intensity
- 1.3 Odor Character
- 1.4 Hedonic Tone

2.0 Odor Measurement Methodology

- 2.1 Source Emission Sampling
- 2.2 Measurement of Odor Concentration by Dynamic Dilution Olfactometry
- 2.3 Measurement of Ambient Odor Concentrations by Scentometer/Nasal Ranger
- 2.4 Measurement of Odor Intensity
- 2.5 Instrumental Analysis (Jerome H₂S Analyzer)

3.0 Meteorological Factors Affecting Odor Dispersion

- 3.1 Atmospheric Stability
- 3.2 Influence of Local Terrain
- 3.3 Source Characteristics

4.0 Odor Monitoring/Complaint Response Protocol

- 4.1 Odor Monitoring Procedures and Forms
- 4.2 Odor Complaint Investigation Procedures and Forms

5.0 Olfactory Screening of Course Participants

6.0 Training on the use of the n-butanol Odor Intensity Scale

7.0 Field Training

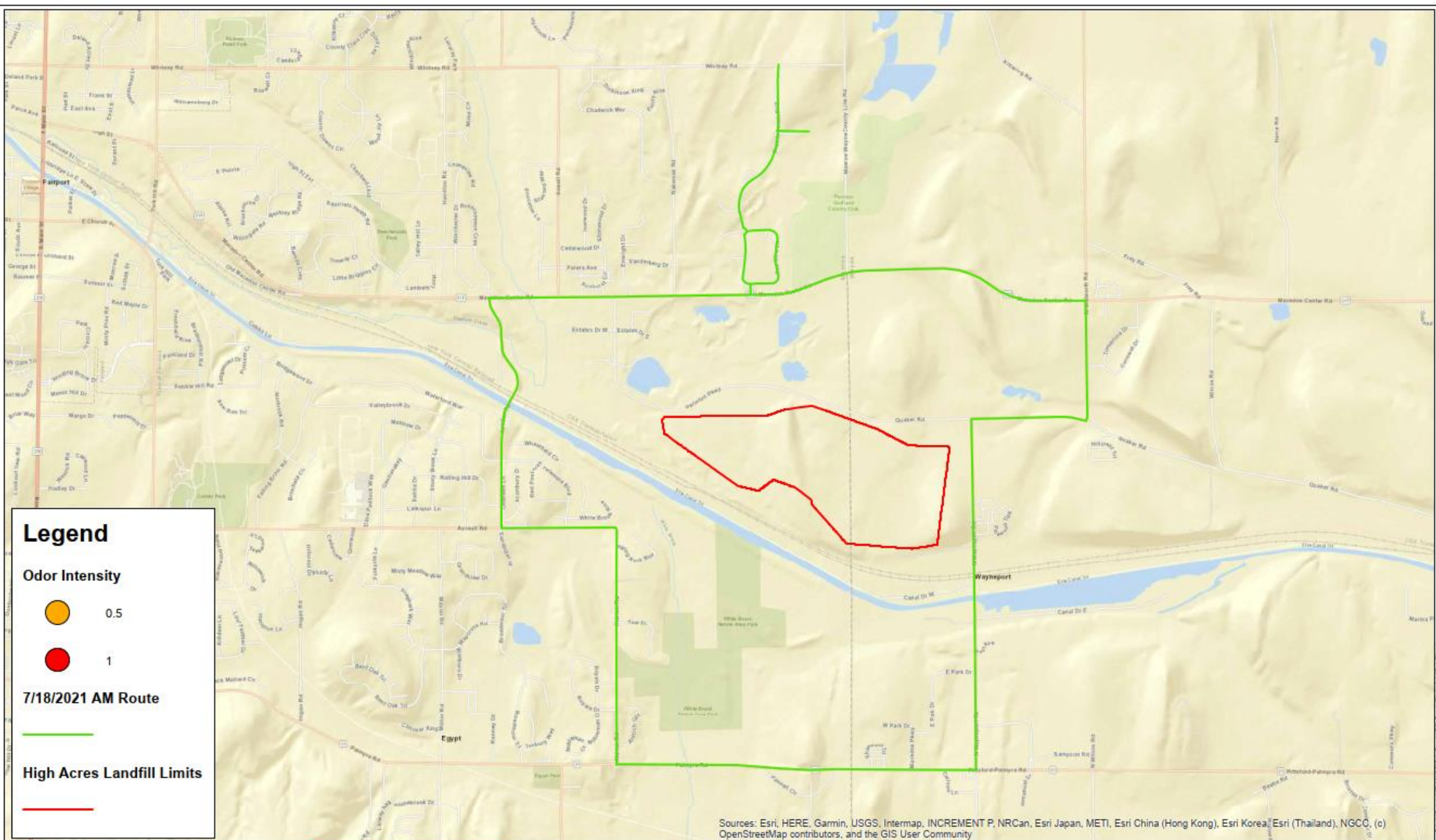
NYSDEC 24-hr Notification/Verification System

Third party company of trained and certified inspectors

n-butanol Intensity	Description of Perceived Odor
Level (0-8) ASTM E544-10	
0.5 - 1	Very Faint: An odor that would ordinarily not be noticed by the average person, but could be detected by the experienced inspector or a hypersensitive individual.
1-2	Faint: An odor so weak that the average person might detect if his attentions are called to it, but that would not otherwise attract his attention.
3	Distinct, Easily Noticeable: An odor of moderate intensity that would be readily detected and might be regarded with disfavor. (A possible nuisance in inhabited areas.)
4 and higher	Strong, Decided: An odor that would force itself upon the attention and that might make the air very unpleasant (a probable nuisance, if found in inhabited areas.)

38





Legend

Odor Intensity

0.5

1

7/18/2021 AM Route

High Acres Landfill Limits

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ROUTE MILEAGE: 11.1 MILES



1 inch = 2,000 feet



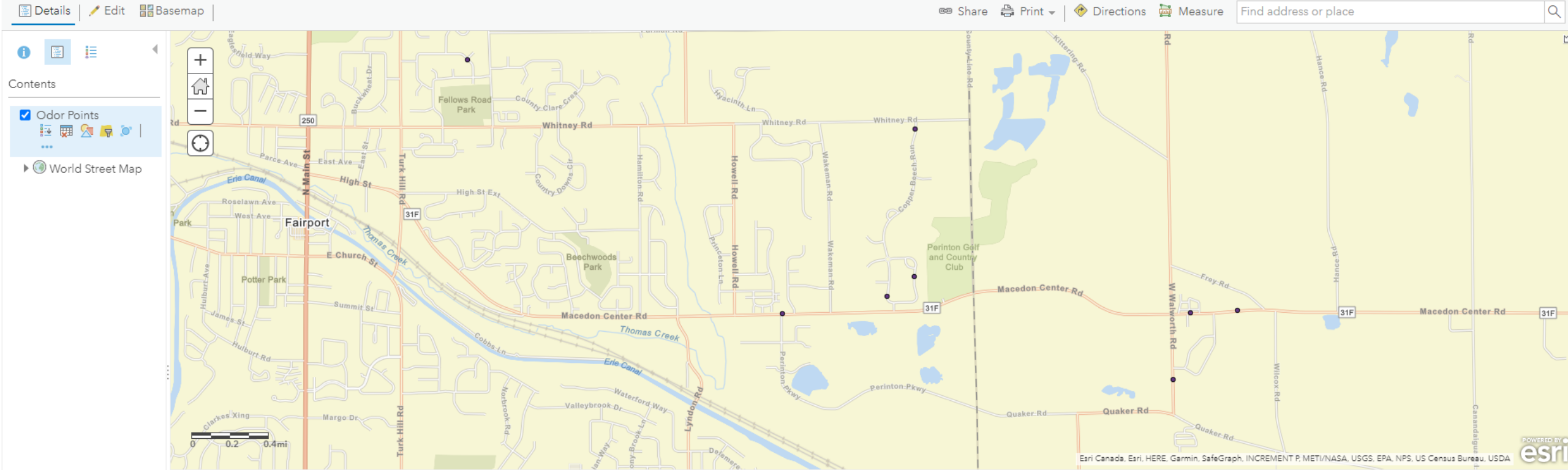
Barton & Loguidice

**Routine Investigation Locations
Odor Mapping High Acres
Landfill & Recycling Center**
Monroe & Wayne Counties Sunday AM 7/18/2021 New York

Project No. 1242.019.018

NYSDEC 24-hr Notification/Verification System

Third party company of trained and certified inspectors



Odor Points (Features: 12, Selected: 0)

Date	OdorStrength	Odor_Character	Frequency	Wind_Speed	Wind_Direction	Temp_F	Cloud_Cover	Precipitation	Odor_Source	Investigator_Initials	Comments
7/29/2021, 6:29 AM	0			1	SSE	60	83	None		JPC	AM odor mo run- start. M noted at thi
7/29/2021, 6:32 AM	0.5	Garbage odor	Faint	1	SE	62	86	None	High Acres	JPC	Faint garba noted at thi
7/29/2021, 6:41 AM	0			1	S	62	86	None		JPC	No odor not location
7/29/2021, 6:43 AM	0			2	SSE	62	100	None		JPC	AM odor mo run- comple odor noted ; location

2022 NYSDEC Odor Hotline Statistics

(1/1/22-12/31/22)

732	Total number of calls
128	Total number of individual callers
46%	Percent of Investigated Hotline Calls (329) with no odor detected
53%	Percent of Investigated Hotline Calls with Confirmed Off-Site landfill Odors (376) Scaled at 0.5, 1
1%	Percent of Investigated Hotline Calls with Confirmed Off-Site landfill Odors (7) Scaled at 1.5, 2
40%	Percent of Hotline Calls (295) received from Magnolia Manor
78%	Calls represented by top 20 callers
54%	Calls represented by top individual caller w/ 411 calls

Four C's

- Control Devices (Flares/Engines)
- Conveyance
- Collection
- Cover

Control Devices-

(Guarantee available vacuum with redundancy)

- 3516 Powerplant
- 3520 Powerplant
- Enclosed Flare 1
- Enclosed Flare 2
- Open Flare

Well Field (Collection and Conveyance)

- 400 +/- Vertical Wells
- Miles of horizontals installed every 20ft vertically and 100ft horizontally
- Well points monitored either 1x or 2x per month
- All data logged into LGMS
- Demonstrates negative pressure on entire waste mass (Radius of Influence)



Surface Emissions Scans

- 3rd party contractor walks the facility in a serpentine pattern 4x/year scanning the surface of the landfill for potential gas emissions
- Scan at 2.5x regulatory requirement or 200ppm vs 500ppm
- No regulatory violations

Perimeter H2S Monitoring

- H2S monitoring stations at 5 locations, North, South, East, West, and Northside Dudley School
- Since 2018, more than 1,000,000 samples with no landfill-related exceedances

NYSDEC Hotline

- 3rd party contractor certified and trained in the use of the N-butanol scale (Towpath)
- Trained in types of odor ex: garbage, gas, wetland, and other
- 2022- 99% of any confirmed odors were not LFG related

Daily Perimeter Odor Monitoring

- 2x/day Towpath drives a predetermined route around the entire vicinity of the facility to evaluate the presence of odors
- Towpath records weather conditions, route of travel and whether odors do or do not exist
- In the event an odor is present, Towpath records the type of odor, strength and location
- 2022- 99% of any confirmed odors were not LFG related

NYSDEC Monitor

- Full-time NYSDEC monitor issues the facility a daily report card
- Monitor also drives perimeter of the facility and adjacent neighborhoods to evaluate odors/LFG
NYSDEC findings consistent with Towpaths

43

To reach the hotline, call 585-453-2416.

Environmental Monitoring Program Summary

- ▶ Outline:
 - ▶ Introductions
 - ▶ Environmental Monitoring Program
 - ▶ Monitoring Results Summary



Third Party Environmental Monitoring - Sampling, Analysis, and Reporting

GEI Consultants	Barton & Loguidice, Inc.	Eurofins - TestAmerica Buffalo
Manages landfill environmental monitoring program and reporting	Conducts field sampling for environmental monitoring program	NYSDOH ELAP certified laboratory in accordance with the NYSDEC's ASP – Laboratory analysis

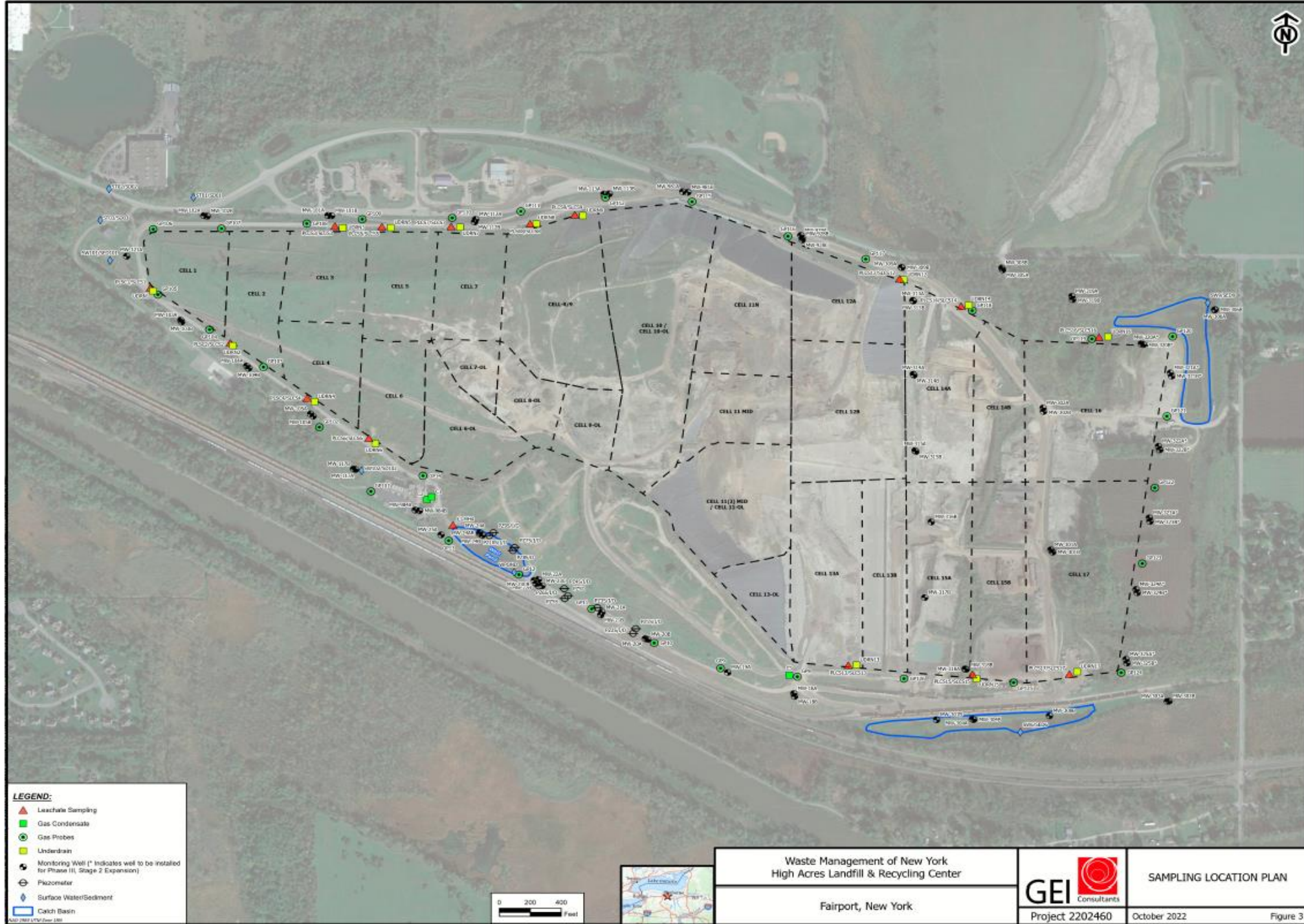
EMP (cont'd): Media Sampled/Monitored Quarterly

- ▶ Each quarter we collect over 50 surface water and groundwater samples and analyze for up to 150 constituents.
- ▶ **Groundwater**
 - ▶ 50 Total wells
 - ▶ 23 wells (Western/Phase I/II Parkway Area)
 - ▶ 12 wells (Phase II Parkway Area)
 - ▶ 15 wells plus hydraulic monitoring of 28 piezometers (Closed Landfill Area)
 - ▶ On-site groundwater suppression systems
- ▶ **Surface Water/Sediment**
 - ▶ 3 locations (Off-site stream)
 - ▶ 5 On-site detention ponds

EMP (cont'd): Media Sampled/Monitored

- ▶ **Landfill Systems**
 - ▶ Leachate
 - 13 Leachate samples at individual landfill cells and 1 Closed landfill
 - 13 samples of liquid in secondary systems
 - ▶ **Landfill Gas Monitoring (in-situ)**
 - ▶ 23 perimeter locations

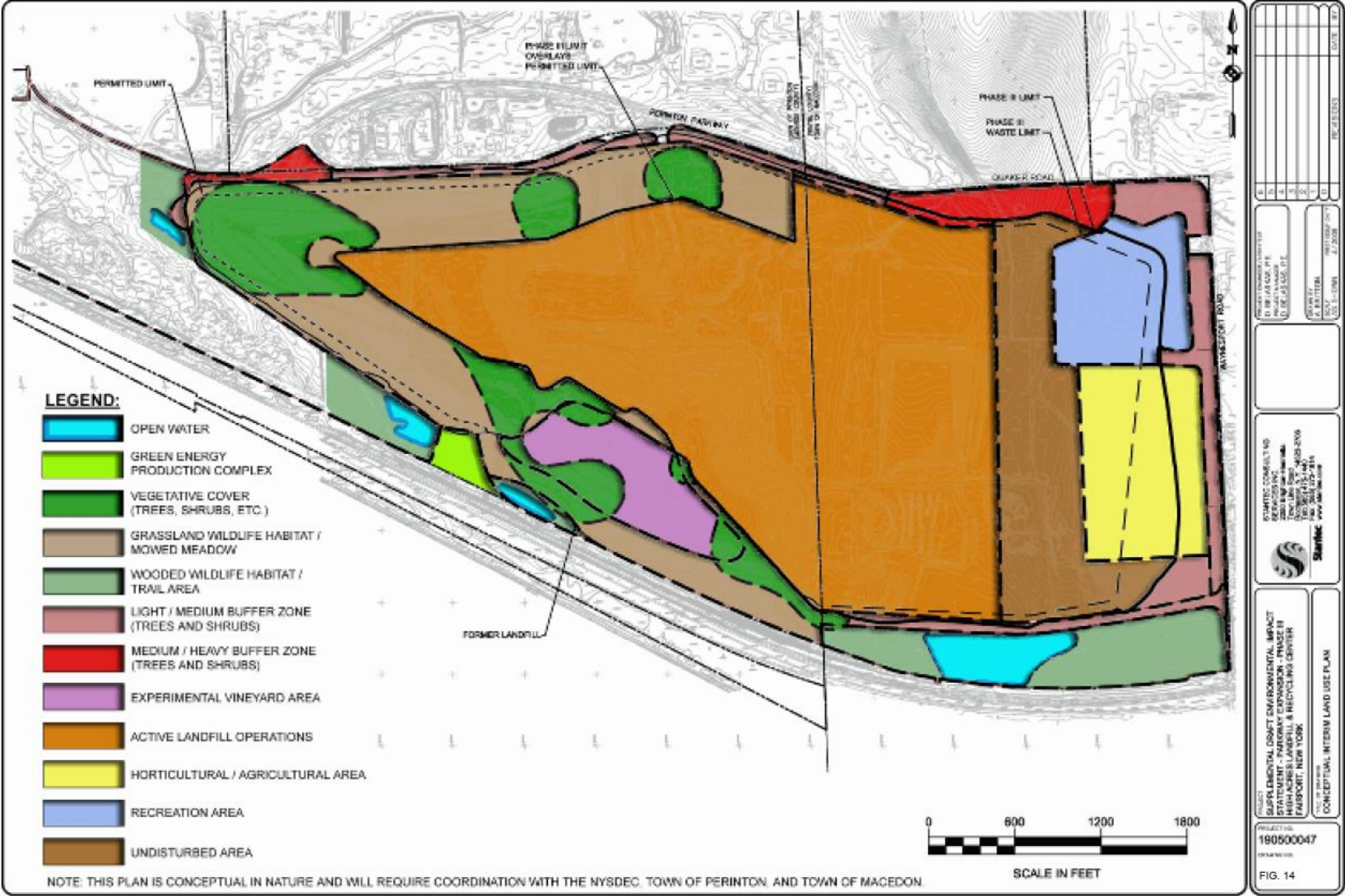
Sampling Location Plan



Environmental Monitoring Summary/Conclusions

- ▶ 2022 to date - Sampling and analysis indicates active landfill operations (Western and Parkway Landfill Areas) have not impacted groundwater or surface water flow or quality.
- ▶ Consistent with historic trends - Groundwater monitoring at the Closed Landfill area identified landfill gas impacts at two well locations. Continues to be monitored and reported to the NYSDEC.
- ▶ Seasonal fluctuations or increasing trends in concentrations of chloride and sodium are attributed to roadway safety de-icing activities.
- ▶ Leachate conveyed to the Monroe County Pure Waters WWTP was in compliance with permit conditions.
- ▶ Explosive gas was not detected.

Landscape Plan - Interim Plan



Landscape Plan Status

- The landscaping efforts on the landfill are a work in progress and require continual monitoring and adjustments.
- The goal of creating a view of High Acres that is similar in texture and feel of the surrounding topography remains.
- The success of the naturally occurring vegetation (i.e, poplars and black locust trees, etc.) has been very successful and WM intends to encourage this type of growth.
- Minimal plantings will be completed over the next few years given the future fill progression and given the success of the natural successional growth versus installing new plantings.
- Rotational mowing continues to occur on the interim cover portions of the landfill to break up the surface of the landfill and allow ground nesting birds to thrive.

Landscape Plan - Current Conditions - Fall '22



Landscape Plan - Current Conditions



2022 HANA Wetland Monitoring

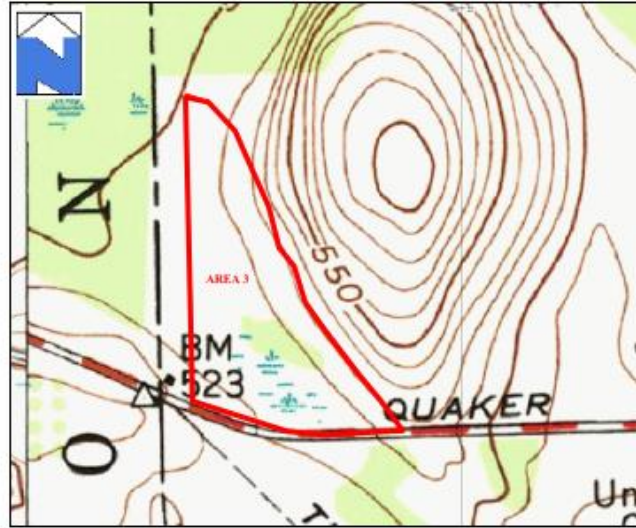


Figure 1: USGS 7.5 Minute Topographical Map, Fairport Quadrangle GPSExpert



Figure 2: 2013 Aerial Photograph, Courtesy of GPSExpert

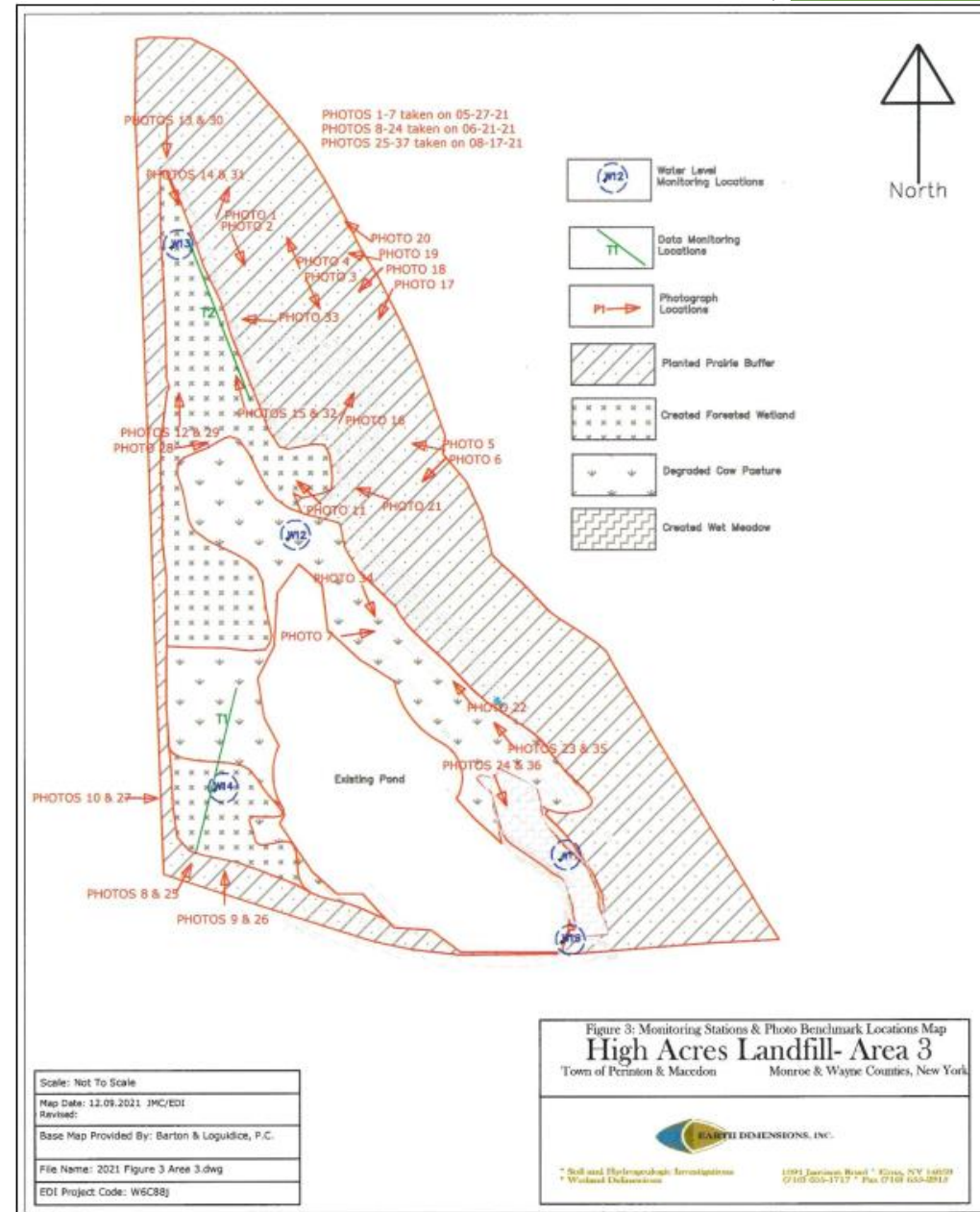




Photo 25: 08-24-2022; facing northeast from along the south limits of Area 3, near the existing pond.



Photo 26: 08-24-2022; facing southeast towards the wet meadow in the southeastern portion of Area 3.



Photo 27: 08-24-2022; facing northwest in the degraded cow pasture in the southeastern portion of Area 3.



Photo 31: 08-24-2022; facing northeast in the prairie buffer in the eastern portion of Area 3.



Photo 32: 08-24-2022; facing northwest along transect T2 in the north portion of Area 3.



Photo 33: 08-24-2022; facing west towards the northwestern portion of Area 3.

2022 HANA Wetland Remedial Efforts

- ▶ Herbivore-exclusion experiments
- ▶ Tree and shrub survivability surveys
- ▶ Continuation of experimental compost additions
- ▶ Removal of old tree tubes
- ▶ Monitoring of soil characteristics and microbes
- ▶ Hand-cutting of invasive plants
- ▶ Removed mature cattails seed heads
- ▶ Herbicide application
- ▶ Seeds dispersed on-site
- ▶ Continuation of RIT students' invasives species control, monitoring, and research

2022 Herbicide Record								
Date	EPA #	Product Name	Quantity Used	Units	Dosage rate	Method of Application	Target Organism	Place of application
6/16/2022	62719-324	Rodeo	12	fl OZ	1.5%	Foliar Backpack Spot Spray	Reed Canary Grass	High Acres Area 3
6/27/2022	62719-556	Accord XRT II	30	fl OZ	2.0%	Foliar Backpack Spot Spray	swallowwort	High Acres Area 3
7/27/2022	62719-37	Garlon 3A	24	fl OZ	1.5%	Foliar Backpack Spot Spray	Purple Loosestrife	High Acres Area 3
8/29/2022	62719-324	Rodeo	36	fl OZ	1.5%	Foliar Backpack Spot Spray	Phrag	High Acres Area 3
10/25/2022	62719-324	Rodeo	20	fl OZ	1.5%	Foliar Backpack Spot Spray	Reed Canary Grass	High Acres Area 3

Summary of 2022 HANA Wetland Monitoring

- ▶ Constructed wetlands are developing toward a sustainable wetland system
 - ▶ Wetlands are already inhabited by numerous wildlife species
- ▶ Area 3 progressing toward meeting permit criteria with the wet meadow portion of Area 3 meeting permitted criteria
- ▶ 2023 remedial efforts will continue to pursue compliance with permit conditions

2022 Annual Noise Survey

6 NYCRR Part 360 Section 360-1.19 paragraph (j) states:

- (j) *The owner or operator of a facility must ensure that noise (other than that occurring during construction of the facility) resulting from equipment or operations at the facility does not exceed the following energy equivalent sound levels beyond the property line owned or controlled by the owner or operator of the facility at locations authorized for residential purposes:*

<u>Character of Community within a one-mile radius of facility</u>	<u>L_{eq} Energy Equivalent Sound Levels</u>	
	<u>7:00 a.m.-10:00 p.m.</u>	<u>10:00 p.m.-7:00 a.m.</u>
<i>Suburban</i>	<i>62 dBA</i>	<i>52 dBA</i>

The L_{eq} is the equivalent steady-state sound level which contains the same acoustic energy as the time varying sound level during a one-hour period. It is not necessary that the measurements be taken over a full one-hour time interval, but sufficient measurements must be available to allow a valid extrapolation to a one-hour time interval.

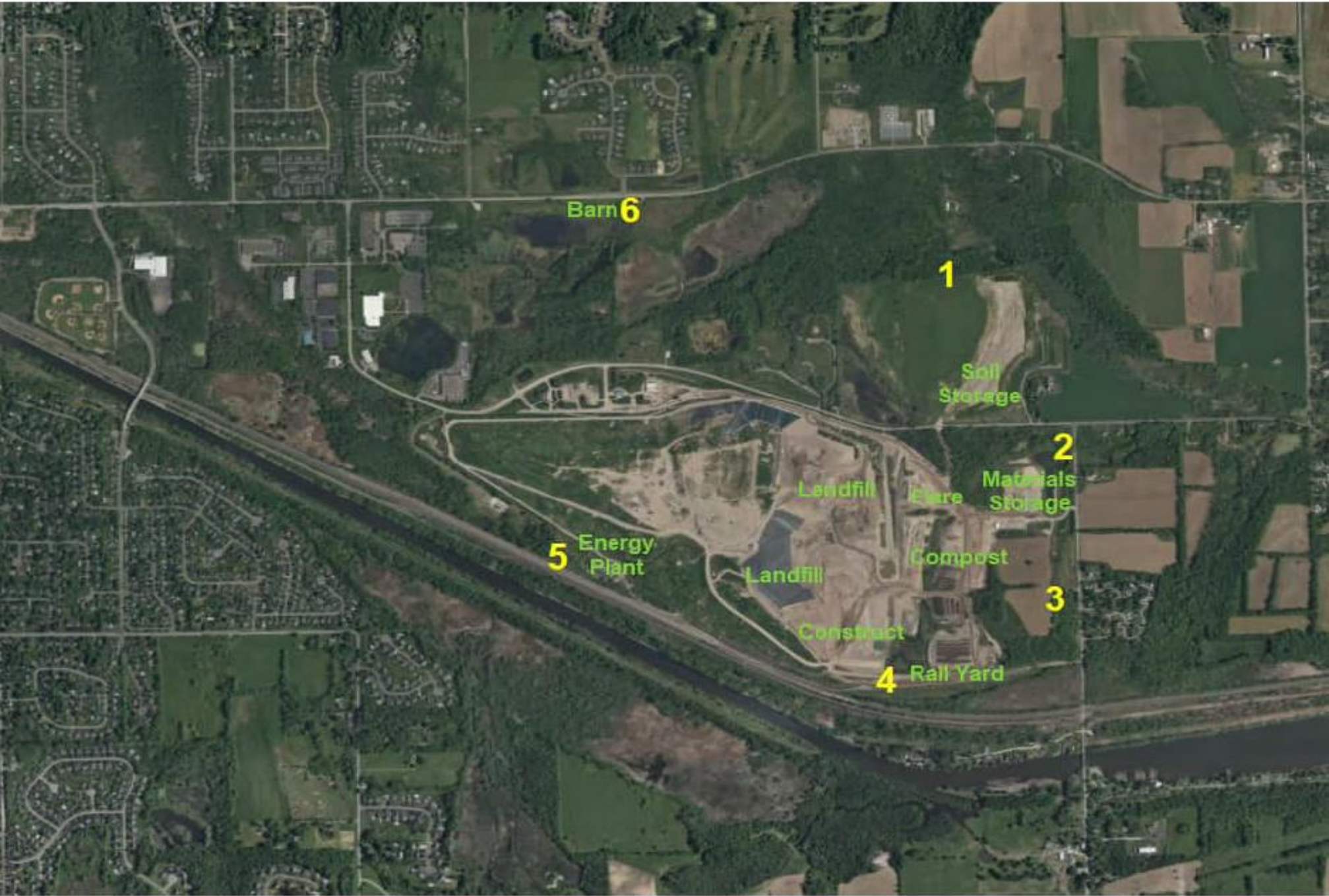


Table 3 2022 Annual Landfill Sound Survey Findings and Noise Compliance Summary

Location	Noise Monitoring Location Description	Background Sound Source & Landfill Operations Audibility and Compliance
Loc. 1	North facility boundary in Town of Macedon, north of Packard Farm soil storage area, representing residences in agricultural-residential zoning.	<p>Contributing sources include ambient traffic and environmental sources. Soil transport and placement activities were faintly perceptible. Landfill waste transport and placement equipment, materials handling operations, composting operations, and maintenance sources were indistinguishable. Construction soil excavation activities were indistinguishable.</p> <p>Facility sound levels are determined to be acceptable, referencing daytime and nighttime sound level limits for the suburban community character of Part 360 Paragraph 360-1.19 (j).</p>
Loc. 2	East facility boundary in Town of Macedon, along Quaker Road and North Wayneport Road, representing residences in agricultural-residential zoning.	<p>Contributing sources include ambient traffic and environmental sources. Soil transport and placement activities were faintly perceptible. Landfill waste transport and placement equipment, materials handling operations, composting operations, and maintenance sources were faintly perceptible or imperceptible. Construction soil excavation activities were indistinguishable. Daytime and nighttime exceptions are attributed to be environmental and not due to facility sources.</p> <p>Facility sound levels are determined acceptable referencing daytime and nighttime sound level limits for the suburban community character of Part 360 Paragraph 360-1.19 (j).</p>
Loc. 3	East facility boundary in Town of Macedon along North Wayneport Road, representing residences in agricultural-residential zoning.	<p>Contributing sources include ambient traffic and environmental sources. Soil transport and placement activities were faintly perceptible. Landfill waste transport and placement equipment, materials handling operations, composting operations, and maintenance sources were faintly perceptible or imperceptible. Construction soil excavation activities were indistinguishable. Daytime and nighttime exceptions are attributed to be environmental and not due to facility sources.</p> <p>Facility sound levels are determined acceptable referencing daytime and nighttime sound level limits for the suburban community character of Part 360 Paragraph 360-1.19 (j).</p>

Table 3 2022 Annual Sound Survey Findings and Noise Compliance Summary (cont.)

Location	Noise Monitoring Location Description	Background Sound Source & Landfill Operations Audibility and Compliance
Loc. 4	South facility boundary in Town of Macedon, representing residences to south of rail yard and CSX rail line in manufacturing zoning.	<p>Contributing sources at the facility boundary include rail container unloading and transport operations, rail container truck pass-bys, and maintenance vehicle pass-bys, which caused exceptions. Landfill equipment and operations were imperceptible or faintly perceptible. Construction activities were faintly perceptible or imperceptible. Nighttime exceptions are attributed to train pass-bys.</p> <p>Sound levels received at nearest residences are predicted to be attenuated by 40 dBA due to distance, screening, and environmental propagation attenuation factors, and meet acceptable limits. Facility sound levels measured at the nearest residences are confirmed to be acceptable, referencing daytime and nighttime noise limits for the suburban community character of Part 360 Paragraph 360-1.19 (j).</p>
Loc. 5	South boundary in Town of Perinton, south of power plant and CSX rail line, representing residences in residential zoning.	<p>Contributing sources include power plant operations and environmental sources. Sounds of landfill operations were indistinguishable. Sounds of waste hauler truck traffic on the upper south site road were occasionally faintly perceptible. Construction activities were indistinguishable. Daytime and night exceptions are attributed to train pass-bys.</p> <p>Facility sound levels are determined to be acceptable referencing daytime and nighttime sound level limits for the suburban community character of Part 360 Paragraph 360-1.19 (j).</p>
Loc. 6	North facility boundary in Town of Macedon, along Macedon Center Road and north, representing residences in residential zoning.	<p>Contributing sources include highway traffic and environmental sources. Landfill waste transport and placement equipment, materials handling operations, composting operations, and maintenance sources were indistinguishable. Construction soil excavation activities were indistinguishable. Daytime and nighttime exceptions are attributed to be environmental and not due to facility sources.</p> <p>Facility sound levels are determined to be acceptable referencing daytime and nighttime sound level limits for the suburban community character of Part 360 Paragraph 360-1.19 (j).</p>

**CLOSURE / POST-CLOSURE
COST SUMMARY**

CLOSURE COSTS

Item	Units	Quantity	Unit Cost	Total
Final Cover Installation Remaining (see notes)	acres	190.9	\$170,345	\$32,518,778
Stormwater Management Features	acres	190.9	\$10,000	\$1,909,000
Groundwater / Surfacewater Monitoring	lump sum	1	\$154,842	\$154,842
Leachate Management	lump sum	1	\$62,259	\$62,259
Landfill Gas and Air	lump sum	1	\$140,837	\$140,837
Exit Closure Costs	lump sum	1	\$288,360	\$288,360

TOTAL **\$35,074,077**

TOTAL WITH 5% CONTINGENCY **\$36,827,781**

POSTCLOSURE COSTS

Item	Total
Leachate Management	\$1,914,123
Landfill Gas Management	\$1,788,446
Operation & Maintenance	\$1,592,910
Groundwater / Surfacewater Monitoring	\$3,783,945

TOTAL **\$9,079,425**

TOTAL WITH 5% CONTINGENCY **\$9,533,396**

TOTAL FOR FINANCIAL ASSURANCE **\$46,361,176**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5411 | F: (585) 226-2909
www.dec.ny.gov

SENT VIA E-MAIL (dcross7@wm.com)

September 1, 2022

Closure/Post-Closure NYSDEC Approval

Mr. David Cross
Waste Management of New York, LLC
425 Perinton Parkway
Fairport, NY 14450

Dear Mr. Cross:

Re: Revised Closure and Post-Closure Cost Estimates
High Acres Landfill, Perinton (T), Monroe (C)

The estimated total cost for closure of the landfill and post-closure care, which has increased to \$46,361,176, is hereby approved. Please provide the Department with an executed original surety bond rider or other form of financial assurance acceptable to the Department in the above amount along with an updated Standby Trust Agreement.

Should you have any questions, feel free to call me at (585) 226-5410 or e-mail mark.amann@dec.ny.gov.

Sincerely,



Mark Amann, PE

Ec: G. MacLean – NYSDEC
D. Kay – NYSDEC
J. Richardson – WMNY

Community Outreach



Weekly and Quarterly Operational Updates-



learn more at highacreslandfill.wm.com



Open House- Thursday, August 3rd, 3:00pm-7:00pm



Landfill Tour | Information Fair | Kids Games | Food | Prizes



High Acres Sports Complex



High Acres Nature Area



2023 Environmental Innovation Award- Large Business - Zoo Society



In Closing

- ▶ High Acres remains in compliance with all local, state and federal permits.
- ▶ A review of the site's gas collection and control system, operating records, odor control programs, off-site H₂S monitoring data, quarterly surface scans, DEC Hotline complaints and follow up data from a trained odor detection consultant, and DEC inspection reports, all indicate that the Landfill is operating in a manner that minimizes off site odors to the greatest extent practicable.
- ▶ NYSDEC continues to encourage the use of the Hotline as the preferred method of reporting odor notifications.
- ▶ WM remains vigilant in our evaluation and implementation of best management practices and technology to enhance operations.



Thank you

Jeff Richardson | Sr. District Manager | jrichard3@wm.com



<https://highacreslandfill.wm.com/>