ARCADIS Design & Consultancy for natural and built assets

Payson Long
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
Bureau of Program Management
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Subject:
2021 Landfill Inspection Report
Fort Edward Landfill
NYSDEC Site No. 558001
Contract No. D009804-7

Date:
December 20, 2021

Contact:
Andy Vitolins, P.G.

Phone:
518.250.7300

Email:
andy.vitolins@arcadis.com

Our ref:
30055713

Dear Mr. Long:

Arcadis of New York, Inc. (Arcadis) has prepared this letter report to summarize the annual landfill inspection completed on October 19, 2021 at the above-referenced site (Figure 1). The inspection form and accompanying site photograph log are included as Attachment A. In accordance with the Site Management Plan, the following items were assessed during the inspection:

A. Landfill Cap and Closure Turf

- Erosion or damage such as exposed geomembrane;
- Unwanted vegetation; and
- Settlement or low spots in cap system.

B. Site Drainage System

- Erosion or damage to swales;
- Obstructions or sedimentation in swales; and
- Evidence of ponded water.

C. Monitoring Wells

- Damage to protective casings and concrete collars;
- Erosion of soils in the immediate area of the casings;
- Security of casing – locks; and

- Damage to well seals.

As detailed in the inspection form and shown in the photograph log, the following areas of concern were noted:

- A pallet was found leaning along the fence line adjacent to monitoring well cluster MW-1. The pallet was removed following the landfill inspection.
- A section of the Southern boundary fence was leaning at the access gate to monitoring well MW-9. The access gate will need to be repaired to ensure the site is secured.
- Ponding water was observed in the Southern mid-cap swale and Northern perimeter swale. Minor regrading may help to restore drainage in portions of the swales.

All other areas of the landfill appeared to be in acceptable condition.

If you have any questions, please do not hesitate to contact me or Jeremy Wyckoff.

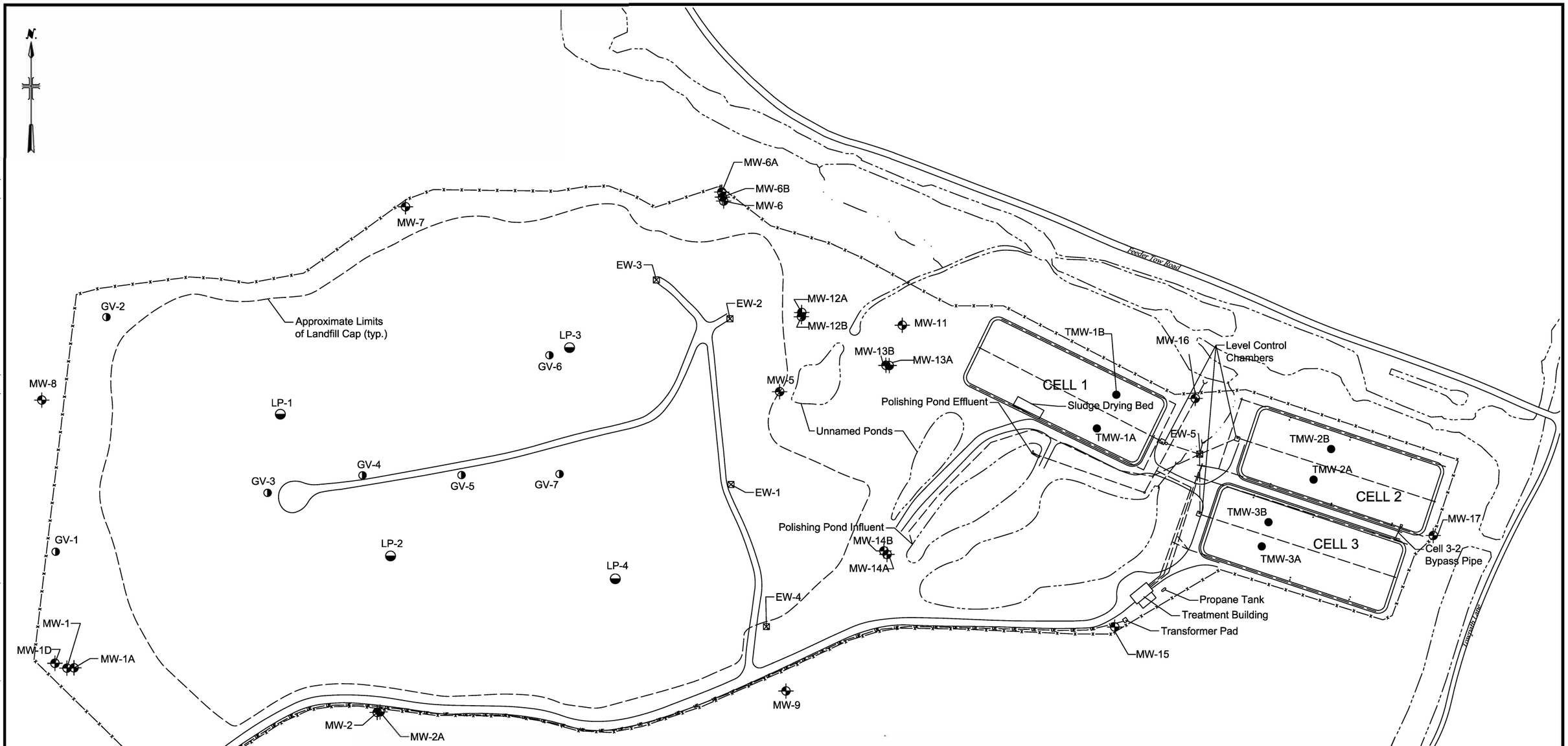
Sincerely,

Arcadis of New York, Inc.

Andy Vitolins, P.G.
Vice President

Copies:
Jeffrey Dyber, NYSDEC
Jeremy Wyckoff, P.G., Arcadis
Jasmine Mullins, E.I.T., Arcadis
Todd Carignan, Arcadis
File

Enclosures:
Figure 1 – Site Map
Attachment A – Landfill Inspection Form and Photo Log



LEGEND

GV-#	GAS VENT
MW-#	MONITORING WELL
LP-#	PIEZOMETER
UTP	UTILITY POLE
⊠	EXTRACTION WELL
TMW-#	TEMPORARY MONITORING WELL
	STREAM
	ROAD
	EDGE OF POND
	UNDERGROUND TREATMENT PIPING
UE	UNDERGROUND ELECTRIC
	FENCE

0 100' 200' 400'

SCALE IN FEET

MAP BASED ON SURVEY PERFORMED BY DARRAH LAND SURVEYING, PLLC, 4/2017, 12/2019, AND 2/2021.
ORTHOIMAGERY FROM NYS ORTHOIMAGERY APPLICATION ONLINE DATED 2013.

FORT EDWARD LANDFILL, HUDSON FALLS, NY
NYSDEC SITE 558001
SITE EVALUATION - PHASE 3

SITE MAP

ARCADIS

FIGURE 1

USER: JMULLINS FILENAME: G:\ACAD\PROJ\00266434.0000\SITE EVALUATION\FIG2-SITE MAP.DWG SAVE DATE: 4/21/2021 11:22 AM PLOT DATE: 4/21/2021 11:23 AM

ATTACHMENT A

Inspection Form and Photolog

FORT EDWARD LANDFILL
NYSDEC SITE 558001
POST CLOSURE INSPECTION FORM

Date: October 19, 2021
Weather: Sunny at 57°F

Checklist

A. Capped Area

Capped area will be inspected by traversing the cover and examining for the following items:

		No	Yes
1.	Is there bare, dead or damaged grassed area?	✓	
2.	Is there evidence of cracks or subsidence?	✓	
3.	Is there evidence of burrowing by animals?	✓	
4.	Is there any deep-rooted vegetation present?		✓
5.	Is there any erosion damage to grassed areas?	✓	
6.	Is there any low spots or settlement in cap system?	✓	

Comments: *(Required for each Yes answer)*
Deep-rooted vegetation observed in mid-cap and perimeter swales.

B. Site Drainage System

The drainage system will be inspected by traversing the full length of the system and examining for the following:

		No	Yes
1.	Is there any erosion damage to swales?	✓	
2.	Is there any debris in swales?	✓	
3.	Sediment in swales, ditches or culverts?	✓	
4.	Evidence of ponding water?		✓

Comments: *(Required for each Yes answer)*
Ponding water was observed in the Southern mid-cap swale and Northern perimeter swale.

C. Monitoring Wells

Monitoring wells will be inspected for the following:

		No	Yes
1.	Is there any damage to the lock or locking cap?	✓	___
2.	Is there any evidence of erosion of soils in the immediate area around the well casing?	✓	___
3.	Is there any damage to the protective casing?	✓	___
4.	Is concrete collar (well seal) cracked or settled?	✓	___

Comments: (*Required for each Yes answer*)

_____

_____

_____

D. Gas Vents

Gas vents will be inspected for the following:

		No	Yes
1.	Is there any damage to the risers?	✓	___
2.	Are any insert screens broken or missing?	✓	___

Comments: (*Required for each Yes answer*)

_____

_____

E. Landfill Gas Migration

On-site air quality will be checked using instruments capable of detecting combustible and toxic gases.

	GV-1	GV-2	GV-3	GV-4	GV-5	GV-6	GV-7
CH_4 (%)	9.8%	0.3%	1.8%	2.5%	2.0%	1.0%	1.2%
CO_2 (%)	11.0%	0.6%	5.8%	9.8%	7.4%	5.2%	4.6%
O_2 (%)	16.3%	21.0%	19.4%	20.1%	14.8%	18.0%	17.8%
H_2S (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BAL (%)	62.9%	78.1%	73.0%	67.6%	75.8%	75.8%	76.4%

Description of Monitoring Results:

Air monitoring results showed landfill gas contains low levels of methane. Air monitoring will be conducted again in 2022 to actively monitor methane production.

F. Access Road

Site access road will be inspected by examining the following items:

		No	Yes
1.	Is there any surface erosion to the site access road?	✓	___

Comments: (*Required for each Yes answer*)

G. Leachate Collection System

Leachate system and associated systems with the landfill will be inspected:

		No	Yes
1.	Any damage to the primary leachate piping and collection vault?	✓	___
2.	Any damage to and leakage in the leachate collection MH's?	✓	___
3.	Any damage to the leachate forcemain piping?	✓	___
4.	Are there any problems with the operation of the French Drain system?	✓	___
5.	Any damage to and leakage in the cleanouts?	✓	___
6.	Are there any problems with the operation of the Extraction Well pumps?	✓	___

Comments: (*Required for each Yes answer*)

Inspector: Jasmine Mullins

Date: October 19, 2021

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 1

Date:
October 19, 2021

Description:
Western swale with vegetation; facing east.

Location:
Toe of Western slope

Photo: 2

Date:
October 19, 2021

Description:
View of pallet along Western fence prior to removal.

Location:
Western fence line

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 3

Date:
October 19, 2021

Description:
Gas Vent GV-1

Location:
Gas Vent GV-1

Photo: 4

Date:
October 19, 2021

Description:
Gas Vent GV-2

Location:
Gas Vent GV-2

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 5

Date:
October 19, 2021

Description:
View of excess geotextile in Northwestern mid-cap swale

Location:
Northwestern slope of landfill

Photo: 6

Date:
October 19, 2021

Description:
View of ponding water within Northern perimeter swale

Location:
Northern swale

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 7

Date:
October 19, 2021

Description:
View of Extraction Well EW-3

Location:
Extraction Well EW-3

Photo: 8

Date:
October 19, 2021

Description:
View of Extraction Well EW-4

Location:
Extraction Well EW-4

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 9

Date:
October 19, 2021

Description:
View of active landfill drains in Eastern mid-cap swale

Location:
Eastern mid-cap swale

Photo: 10

Date:
October 19, 2021

Description:
View of ponding water within Southern mid-cap swale

Location:
Southern mid-cap swale

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 11

Date:
October 19, 2021

Description:
View of Southern mid-cap swale active landfill drain

Location:
Northern slope of landfill

Photo: 12

Date:
October 19, 2021

Description:
View of leaning Southern boundary access gate

Location:
Gate entrance to monitoring well MW-9

Project Photographs

Fort Edward 2021 Landfill Inspection
30055713

Photo: 13

Date:
October 19, 2021

Description:
Monitoring well MW-15

Location:
West of the Treatment System building

Photo: 14

Date:
October 19, 2021

Description:
Monitoring well MW-17

Location:
East of Cell 3 and Cell 2

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