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October 7, 2024
File: 21.0056984.00

Mr. George Streit
George.streit@nrgenergy.com
Dunkirk Power LLC
106 Point Drive North
Dunkirk, NY 14048

Re: CCR Landfill 2024 Annual Inspection
Dunkirk Generating Station
Van Buren Road
Pomfret, New York

Dear Mr. Streit:

GZA GeoEnvironmental of New York (GZA) presents this 2024 Annual Landfill Inspection report to Dunkirk Power LLC (Dunkirk) for the existing coal combustion residuals (CCR) landfill units at the Dunkirk Generating Station landfill located in Pomfret, New York (Site). This annual inspection is required by the United States Environmental Protection Agencies (USEPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, as presented in the Federal Register Volume 80 No 74 dated April 17, 2015. In accordance with the CCR Rule (40 CFR 257.84), owners/operators of CCR landfill units are required to be inspected on a periodic basis by a qualified professional engineer to check the design, construction, operation and maintenance of the CCR unit, consistent with recognized and generally accepted good engineering standards.

**Document Review**

The required periodic inspections presented in the CCR Rule are for open and active landfills and not required for closed or inactive landfills. As such, the ash waste cells for the Site that are considered to be active are identified as Phase 2, Cells A and B-1. We note that these active portions of the landfill have a temporary cover system consisting of an approximate 12-inches of vegetated soil covering the previously exposed CCR waste. As a result, contact water (i.e., stormwater runoff over exposed CCR waste) runoff is not generated, rather stormwater runoff is considered clean and uncontaminated.

The Site landfill cells identified as Phase 1, Cells A and B (excluding a small portion of the northern Phase I Cells A and B) and the eastern portion of Phase 2, Cell A are considered closed and are not included with this annual inspection report. The limits

of the active cells requiring this annual inspection report are shown on the attached figure prepared by Wendel for the 2023 fill progression survey (see **Figure 1**).

A constructed landfill cell designated as Phase 2, Cell B-2 (adjacent to Phase 2, Cell B-1 on the west) has never received waste ash and there are currently no future plans for this cell to receive coal ash waste, although accumulated stormwater in this cell currently discharges into the active leachate collection system.

The Dunkirk Power landfill is currently permitted (ID#9-0658-00021/00008) with the New York State Department of Environmental Conservation (NYSDEC) to accept residual coal ash waste generated from the Dunkirk Power facility. This permit was to expire on May 22, 2021 and is currently undergoing the permit renewal process with NYSDEC to extend the Site permit for an additional ten-year period. A review of the 2023 (most recent) fill progression assessment for the Phase 2 Cells A and B-1 indicates the following information.

| Phase 2 Landfill Cell | Ash/Material Received 2023 (cy) | Current Ash Volume (cy) | Volume Remaining (cy) |
|---|---|---|---|
| Cell A (western extent) | 2,923 | 723,993 | 24,029 |
| Cell B* | 0 | 227,626 | 536,283 |
| Totals for A & B-1 | 2,923 | 951,619 | 560,312 |

cy = cubic yards

*Reported volume remaining in Cell B includes potential volume of Cell B-1 and B-2

The 2024 weekly landfill inspection forms prepared by Dunkirk Power personnel did not identify any concerns or complaints related to the operation and/or maintenance of the active ash landfill cells as these cells have had a temporary cover of vegetated topsoil.

**Site Observations**

GZA visited the Site on September 25, 2024 to make observations of the active landfill cell areas. During our visit, the landfill Cell A (area west of the upper intermediate berm) and Cell B-1 were observed covered with a temporary vegetated cover soil over the previously graded ash waste. Access to the top of the active landfill areas is made via an access road between Phase 1 and Phase 2 landfills. The access road was observed in good condition with little to no evidence of erosion or instability. Observations of the vegetated side slopes and top areas of the active cells identified no areas of actual or potential structural weaknesses and no significant areas of exposed ash waste was observed. We note several piles of grassy/organic soil was observed stockpiled on the top of the Phase 2 Cell A landfill. This material reportedly originated from recent drainage swale cleaning activities and the soil was planned for reuse as a cover soil. Additionally, material removed from the site sedimentation ponds was observed spread out over an area of the top of the Cell A landfill, adjacent to the observed swale soil stockpiles.

Overall, the temporarily covered areas of the active landfill cells appeared to be similar to the previous year's inspection observations and were graded in general accordance with the proposed design configurations. The side slopes and other areas were observed in good condition with no evidence of actual, or potential for, structural instability or erosion. Similar to the most recent inspection made in 2023, this inspection identified no areas of concern or areas evidencing structural instability. In general, no significant changes pertaining to the design, operation and maintenance have been made to the active landfill cells since the previous year and the ongoing maintenance of the temporary cover soil appear to be in compliance with the cell design and permit requirements.

**PROFESSIONAL ENGINEER CERTIFICATION**

The undersigned registered professional engineer is familiar with the requirements of §257.84 and has visited and examined the Dunkirk Station Landfill or has supervised examination of the facilities by appropriately qualified personnel. The undersigned registered professional engineer attests that this Annual Inspection Report has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of §257.84, and that this Report is adequate for the Dunkirk Station. This certification was prepared as required by §257.84(b)(2).

Name of Professional Engineer: Bart A. Klettke, P.E.
Company: GZA GEOENVIRONMENTAL OF NEW YORK

Signature: _____
Date: October 7, 2024
PE Registration State: New York
PE Registration Number: 069423-01
Professional Engineer Seal:
We trust this information satisfies your needs for this project.

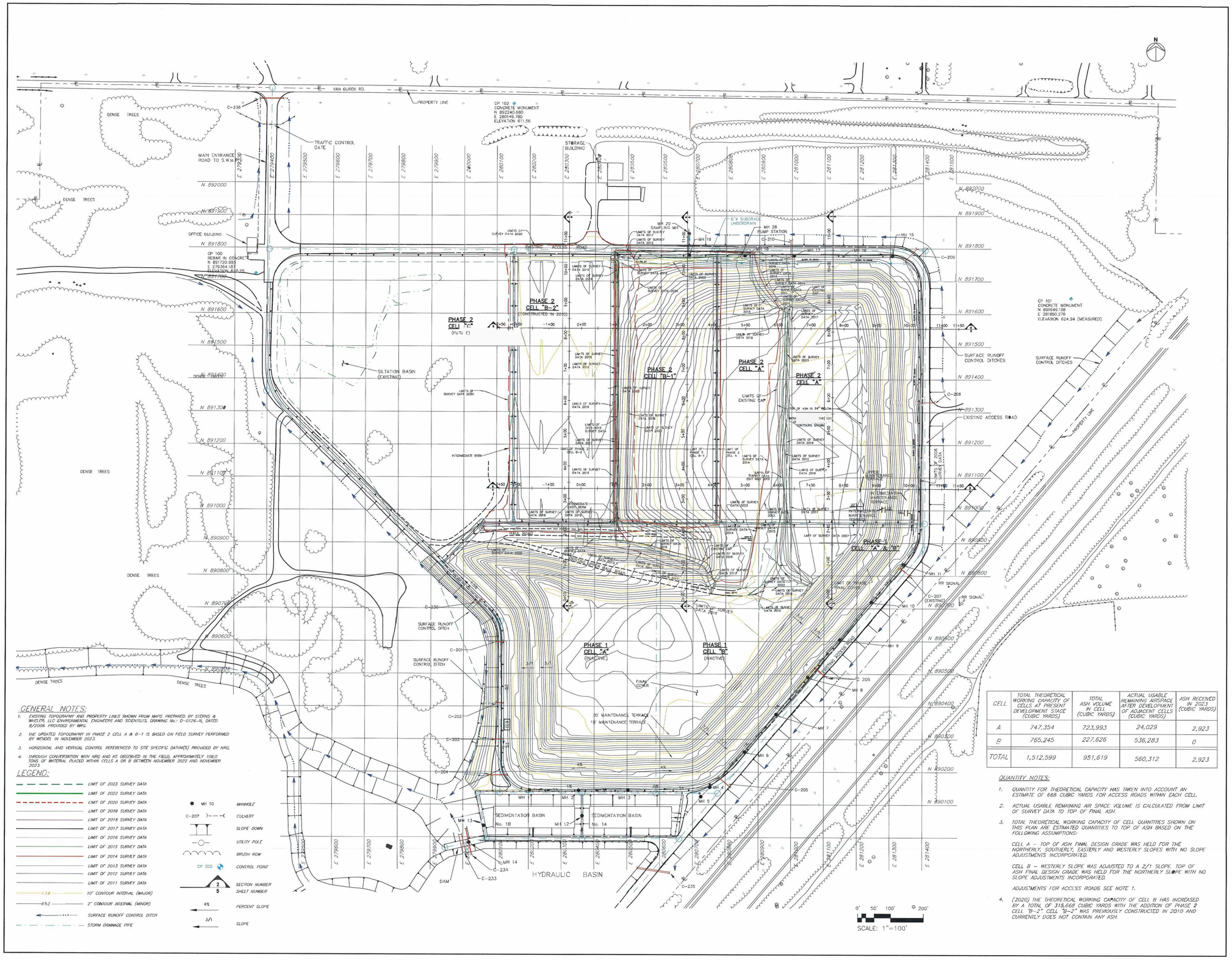

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

Daniel J. Troy, P.E.
Senior Project Manager

Bart A. Klettke, P.E.
Principal

Attachments: Figure 1 - Dunkirk 2023 Fill Progression Survey – Site Plan




## GENERAL NOTES:

1. EXISTING TOPOGRAPHY AND PROPERTY LINES SHOWN FROM MAPS PREPARED BY STERNS & WHEELER, LLC ENVIRONMENTAL ENGINEERS AND SCIENTISTS, DRAWING No.: D-0126-N, DATED 8/2006 PROVIDED BY NRG.
2. THE UPDATED TOPOGRAPHY IN PHASE 2 CELL A & B-1 IS BASED ON FIELD SURVEY PERFORMED BY WENDEL IN NOVEMBER 2023.
3. HORIZONTAL AND VERTICAL CONTROL REFERENCED TO SITE SPECIFIC DATUM(S) PROVIDED BY NRG.
4. THROUGH CONVERSATION WITH NRG AND AS OBSERVED IN THE FIELD, APPROXIMATELY 108,0 TONS OF MATERIAL PLACED WITHIN CELLS A OR B BETWEEN NOVEMBER 2022 AND NOVEMBER 2023.

## LEGEND:

- LIMIT OF 2023 SURVEY DATA
- LIMIT OF 2022 SURVEY DATA
- LIMIT OF 2020 SURVEY DATA
- LIMIT OF 2019 SURVEY DATA
- LIMIT OF 2018 SURVEY DATA
- LIMIT OF 2017 SURVEY DATA
- LIMIT OF 2016 SURVEY DATA
- LIMIT OF 2015 SURVEY DATA
- LIMIT OF 2014 SURVEY DATA
- LIMIT OF 2013 SURVEY DATA
- LIMIT OF 2012 SURVEY DATA
- LIMIT OF 2011 SURVEY DATA
- 658 — 10' CONTOUR INTERVAL (MAJOR)
- 652 — 2' CONTOUR INTERVAL (MINOR)
- SURFACE RUNOFF CONTROL DITCH
- STORM DRAINAGE PIPE
- MH 10 — MANHOLE
- C-207 — CULVERT
- SLOPE DOWN
- UTILITY POLE
- BRUSH ROW
- CP 000 — CONTROL POINT
- 2/5 — SECTION NUMBER / SHEET NUMBER
- 4% — PERCENT SLOPE
- 3/1 — SLOPE

| CELL | TOTAL THEORETICAL WORKING CAPACITY OF CELLS AT PRESENT DEVELOPMENT STAGE (CUBIC YARDS) | TOTAL ASH VOLUME IN CELL (CUBIC YARDS) | ACTUAL USABLE REMAINING AIRSPACE AFTER DEVELOPMENT OF ADJACENT CELLS (CUBIC YARDS) | ASH RECEIVED IN 2023 (CUBIC YARDS) |
|---|---|---|---|---|
| A | 747,354 | 723,993 | 24,029 | 2,923 |
| B | 765,245 | 227,626 | 536,283 | 0 |
| TOTAL | 1,512,599 | 951,619 | 560,312 | 2,923 |

## QUANTITY NOTES:

1. QUANTITY FOR THEORETICAL CAPACITY WAS TAKEN INTO ACCOUNT AN ESTIMATE OF 668 CUBIC YARDS FOR ACCESS ROADS WITHIN EACH CELL.
2. ACTUAL USABLE REMAINING AIR SPACE VOLUME IS CALCULATED FROM LIMIT OF SURVEY DATA TO TOP OF FINAL ASH.
3. TOTAL THEORETICAL WORKING CAPACITY OF CELL QUANTITIES SHOWN ON THIS PLAN ARE ESTIMATED QUANTITIES TO TOP OF ASH BASED ON THE FOLLOWING ASSUMPTIONS:

   CELL A – TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE NORTHERLY, SOUTHERLY, EASTERLY AND WESTERLY SLOPES WITH NO SLOPE ADJUSTMENTS INCORPORATED.

   CELL B – WESTERLY SLOPE WAS ADJUSTED TO A 2/1 SLOPE. TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE NORTHERLY SLOPE WITH NO SLOPE ADJUSTMENTS INCORPORATED.

   ADJUSTMENTS FOR ACCESS ROADS SEE NOTE 1.
4. (2026) THE THEORETICAL WORKING CAPACITY OF CELL B HAS INCREASED BY A TOTAL OF 315,668 CUBIC YARDS WITH THE ADDITION OF PHASE 2 CELL "B-2." CELL "B-2" WAS PREVIOUSLY CONSTRUCTED IN 2010 AND CURRENTLY DOES NOT CONTAIN ANY ASH.


nrg

**NRG ENERGY**
106 POINT DRIVE, NORTH
DUNKIRK, NEW YORK 14051

**DUNKIRK POWER, LLC**

**ENGINEERING SERVICES**


# ANNUAL FILL PROGRESSION SURVEY FOR THE DUNKIRK LANDFILL

**RECORD DRAWING**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STATE OF NEW YORK
RICHARD NATHAN JOHNSON
095149
LICENSED LAND SURVEYOR



| NO. | REVISIONS | DATE |
|---|---|---|
| 1 | EDITED NOTES | 2/9/2024 |

DWG. TITLE

## DUNKIRK

## 2023 FILL PROGRESSION SURVEY

## SITE PLAN

0 1" 2"
GENERIC SCALE BAR
SCALE BAR SHOWN IS TWO INCHES ON THE ORIGINAL DRAWING. IF NOT TWO INCHES ON THIS SHEET, ALL LIST ACCORDINGLY

| | |
|---|---|
| DATE | 11-29-2023 |
| SCALE | 1"=100' |
| DWN. | KAC |
| CHK. | RNJ |
| PROJ.No | 419430 |
| DWG. No. | 1 |