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October 7, 2022
File: 21.0056984.00

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

Re: CCR Landfill 2022 Annual Inspection
Dunkirk Generating Station
Van Buren Road
Pomfret, New York

Dear Mr. Streit:

GZA GeoEnvironmental of New York (GZA) presents this 2022 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.

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 2021 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 does discharge to 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 2021 (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 2021 (cy)	Current Ash Volume (cy)	Volume Remaining (cy)
Cell A (western extent)	0	721,070	26,952
Cell B*	0	227,506	536,403
Totals for A & B-1	0	948,576	563,355

cy = cubic yards
*Reported volume remaining in Cell B includes potential volume of Cell B-1 and B-2

The 2022 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 29, 2022 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 was 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 exposed ash waste was observed. Evidence of recent grass mowing activities on the observed landfills was apparent.

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 2021, 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: Daniel J. Troy, P.E.
Company: GZA GEOENVIRONMENTAL OF NEW YORK

Signature: _____
Date: October 7, 2022
PE Registration State: New York
PE Registration Number: 081139-1

Professional Engineer Seal:

We trust this information satisfies your needs for this project.

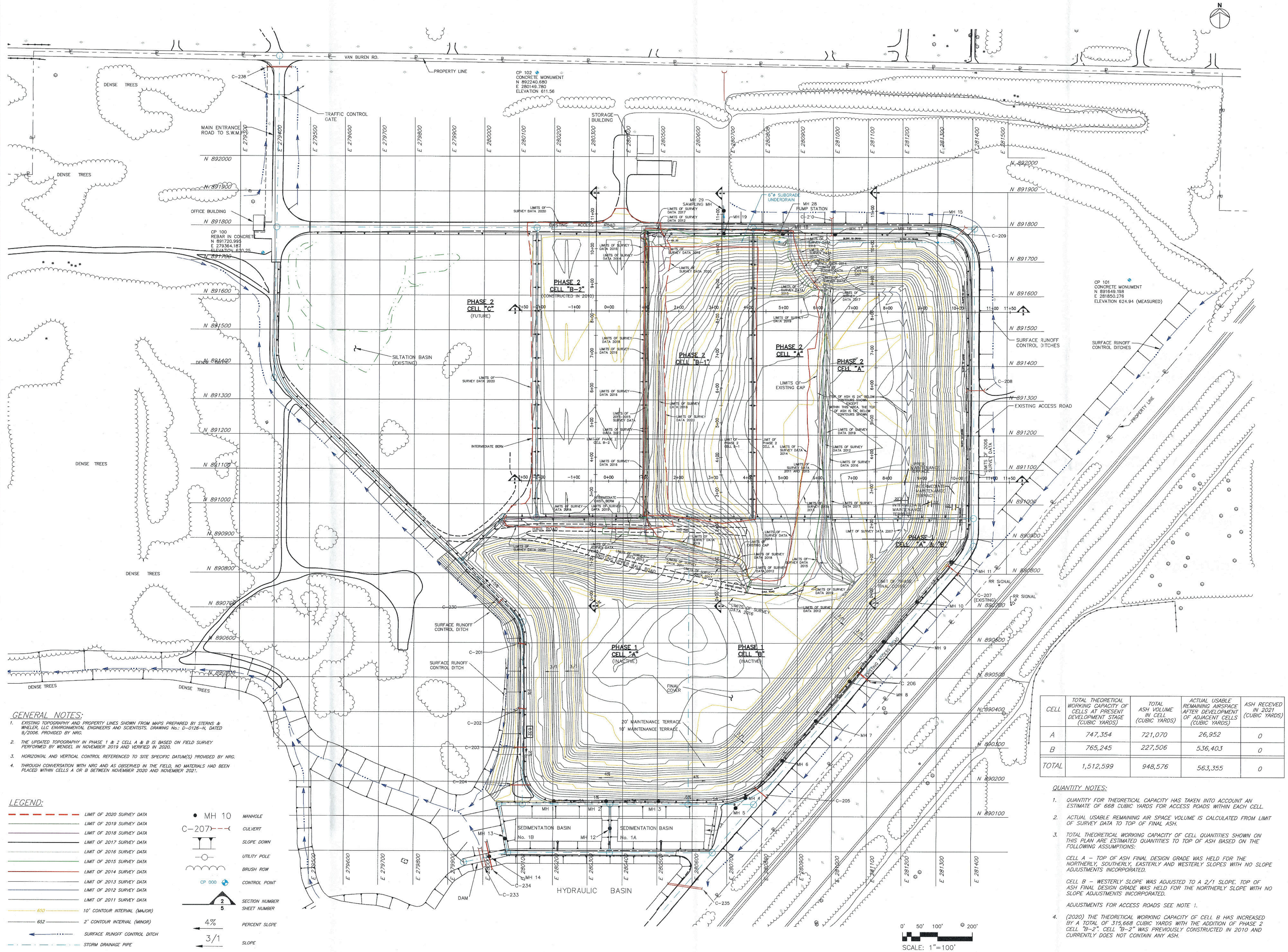
Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

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

Bart A. Klettke, P.E.
Principal

Attachments: Figure 1 - Dunkirk 2021Fill Progression Survey – Site Plan



GENERAL NOTES:

1. EXISTING TOPOGRAPHY AND PROPERTY LINES SHOWN FROM MAPS PREPARED BY STERNS & WHELER, LLC ENVIRONMENTAL ENGINEERS AND SCIENTISTS. DRAWING No.: D-0126-N, DATED 9/2006. PROVIDED BY NRG.
2. THE UPDATED TOPOGRAPHY IN PHASE 1 & 2 CELL A & B IS BASED ON FIELD SURVEY PERFORMED BY WENDEL IN NOVEMBER 2019 AND VERIFIED IN 2020.
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, NO MATERIALS HAD BEEN PLACED WITHIN CELLS A OR B BETWEEN NOVEMBER 2020 AND NOVEMBER 2021.

LEGEND:

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
650 — 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 2021 (CUBIC YARDS)
A	747,354	721,070	26,952	0
B	765,245	227,506	536,403	0
TOTAL	1,512,599	948,576	563,355	0

QUANTITY NOTES:

1. QUANTITY FOR THEORETICAL CAPACITY HAS 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. (2020) 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 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 · LICENSED LAND SURVEYOR · 051043

NO.	REVISIONS	DATE

DWG. TITLE

DUNKIRK

2021 FILL PROGRESSION SURVEY

SITE PLAN

GENERIC SCALE BAR
SCALE BAR SHOWN IS TWO INCHES ON THE ORIGINAL DRAWING. IF NOT TWO INCHES ON THIS SHEET, ADJUST ACCORDINGLY

DATE 11-02-2021
SCALE 1"=100'
DWN. NPL CHK. RNJ
PROJ. No. 419425
DWG. No.