City Water, Light & Power
FGDS Development Landfill Unit 2
Springfield, Sangamon County, Illinois

Post-Closure Care Plan for FGDS Development Landfill Unit 2

July 2025

Submitted to:
United States Environmental Protection Agency

Prepared for:
City Water, Light & Power
3100 Stevenson Drive
Springfield, Illinois 62703

ANDREWS ENGINEERING

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ILLINOIS | MISSOURI | INDIANA

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1. INTRODUCTION

On behalf of CWLP, Andrews Engineering, Inc. has prepared this Post-Closure Care Plan for the Flue Gas Desulfurization System (FGDS) Development Landfill Unit 2 in accordance with the requirements of 40 CFR 257.104.

2. FACILITY DESCRIPTION

The CWLP FGDS Development Landfill Unit 2 is located north of the former Lakeside Power Generating Station and Dallman Power Generating Station and east of the CCR surface impoundments in the Eastern ½ of Section 12, Township 15 North, Range 5 West, in Springfield, Illinois (see Figure 1).

CWLP has owned and operated the FGDS Development Landfill since 1988. Prior to 1988, the facility was owned and operated by the private corporation—Environmental Site Developers, Inc. The original design for Landfill Unit 2 designated three disposal areas identified as Cells 1, 2, and 3. In September 1993, the Illinois Environmental Protection Agency ("IEPA") approved an application seeking the separation of the active Cell 1 from the then-undeveloped Cells 2 and 3. This created Landfill Unit 1, which consists solely of the now-closed Cell 1, and Landfill Unit 2, which is comprised of Cells 2 and 3.

CWLP initiated development of Landfill Unit 2 in 1993, and IEPA issued a permit to operate Landfill Unit 2 under 35 Ill. Admin. Code Parts 811–814 on November 9, 1995. Landfill Unit 2 consists of approximately 22.3-acres of permitted disposal area separated into Cells 2 and 3. Cell 2 has not been developed and only 3.0 acres of Cell 3 has been developed. The IEPA operating permit authorizes Landfill Unit 2 to receive flue gas desulfurization ("FGD") sludge (more commonly known as gypsum), bottom ash, fly ash, lime sludge from the Water Purification Plant, FGD wastewater treatment plant sludge, and Generating Facility wastewater treatment plant sludge.

Plan includes procedures for: (1) Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover; and (2) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 40 CFR Parts 257.90 through 257.98. Each of these individual aspects is detailed in this Post-Closure Plan. This Plan shall be implemented when all items in the Closure Plan have been completed and certified.

This Final Closure Plan has been revised pursuant to Attachment 4 of the January 14, 2025 Consent Agreement and Final Order (CAFO), RCRA-05-2025-0015, and additional comments (Attachment A) provided in the US EPAs April 10, 2025 letter.

3. POST-CLOSURE PLAN

3.1 Inspection and Maintenance

The purpose of the inspections and maintenance is to ensure proper functioning of all items that remain after closure. The inspections and maintenance are discussed in more detail in the following sections.

Pursuant to 40 CFR 257.84, the FGDS Development Landfill Unit 2 and appurtenances shall be inspected by a qualified person at intervals not exceeding seven days. Each inspection conducted shall be documented in an inspection report that describes the condition of Landfill Unit 2, the condition of the final cover system, the operation of the leachate collection system and any repairs made to the Landfill Unit 2 and date of the repair. These inspection reports shall become part of the facility's operating record.

An annual inspection shall be completed pursuant to 40 CFR 257.84(b) by a qualified professional engineer to ensure that the design, construction, and maintenance of Landfill Unit 2 is consistent with recognized and generally accepted engineering standards. The inspection shall include: a review of available information regarding the status and condition of Landfill Unit 2, including files available in the operating record such as previous inspections, previous annual reports and other pertinent operating information and a visual inspection of Landfill Unit 2 to identify signs of distress or malfunction.

Inspection reports prepared by the qualified professional engineer to document the annual inspections must address:

a) Any changes in geometry of the impounding structure since the previous annual inspection.
b) The approximate volume of material in the unit at the time of the inspection.
c) Any appearances of an actual or potential structural weakness of the unit in addition to any existing conditions that impact the stability or safe operation of the unit.
d) The integrity and operation of the leachate collection system.

Inspections specific to the final cover system include:

a) Assess the condition and the need for repair of final cover, vegetation, fencing, monitoring devices, leachate collection system and drainage structures, if present and if applicable. These inspections will be completed while conducting the 7-day inspection defined above, or as otherwise warranted.

In general, the following guidelines will be followed when assessing the need for remedial actions:

a) All rills, gullies, and crevices six inches or deeper in the final cover will be filled. Areas identified by the operator or during Illinois EPA inspections as particularly susceptible to erosion will be recontoured.
b) All reworked surfaces, and areas with failed or eroded vegetation in excess of 100 square feet cumulatively, shall be revegetated in accordance with the approved closure plan.
c) Brush, trees, or similar vegetation with tap roots growing in areas not so designated will be controlled.
d) Holes and depressions created by settling will be filled and recontoured so as to prevent standing water.
e) Eroded and scoured drainage channels will be repaired and lining material will be replaced if necessary.
f) Improper operation or compromised integrity of the leachate collection system.

Erosion and differential settlement may cause the need for cover repairs. The majority of settlement should be realized prior to the placement of the final cover system. Any areas where ponding occurs or erosion cuts appear will be promptly repaired in order to maintain the integrity of the final cover system as described in the closure plan. Earthen material for cover repairs will be made available from predetermined borrow areas proximate to the landfill. Any area repaired herein will require re-establishment of vegetation. In addition, the final cover area will be mowed as necessary for the entire post-closure care period.

3.1.1 Leachate Management System Maintenance

System scope: The leachate collection system (sumps, force mains, pumps) and Clarification Pond discharge structure will be inspected and maintained as required under §257.104(b)(2) & §257.70.

- Inspection frequency:
  - Monthly: Check pump operation, flow rates, pipe integrity, sump levels.
  - Semiannually: Sample leachate for Appendix III and IV constituents, documenting chemistry, flow volume, and trends as per Illinois EPA guidance
- Maintenance triggers:
  - Changes in leachate volume—evaluate cover infiltration, groundwater influence.
  - Elevated Appendix IV parameters or discharge permit limits may require prompt corrective actions.
- Repairs/controls: Includes pump replacement, sump cleaning, pipeline repairs, and discharge permit updates to maintain integrity.

3.1.2 Final Cover and Groundwater Monitoring Inspection

A walking, visual inspection of the entire site should be conducted at least quarterly with a written record of the inspection made and preserved. The inspector will assess the condition and the need for repair of final cover, vegetation, fencing, monitoring devices, and drainage structures. These inspections will be conducted at least quarterly for a minimum of five years after closure. After five years, the operator may reduce the frequency to annual inspections until settling has stopped and there are no eroded or scoured areas visible. Annual inspections must be continued for a minimum of 30 years after closure, i.e., the entire proposed post-closure care period. Inspections will be conducted as necessary, particularly subsequent to heavy precipitation events. Each inspection shall be documented and the records kept at the facility office will be completed while conducting the 7-day inspection defined above, or as otherwise warranted.

In general, the following guidelines will be followed when assessing the need for remedial actions/maintenance:

a) All rills, gullies, and crevices six inches or deeper in the final cover will be filled. Areas identified by the operator as particularly susceptible to erosion may be recontoured to alleviate the problem.

b) All reworked surfaces, and areas with failed or eroded vegetation in excess of 100 square feet cumulatively, shall be revegetated in accordance with the approved Closure Plan.

c) Brush, trees, or similar vegetation with tap roots growing in areas not so designated will be controlled.

d) Holes and depressions created by settling will be filled and recontoured so as to prevent standing water.

e) Eroded and scoured drainage channels will be repaired and lining material will be replaced if necessary.

f) The exterior condition of all groundwater monitoring devices will be inspected quarterly during the quarterly site inspections referenced in Section 2.1.1 above. The inspection will include the condition of the concrete cap, protective casing and lock, and the condition of the area immediately surrounding the device. Clean wells and replace name plates and protective casings when needed. The monitoring devices will be further inspected at the time of sampling, which will include the well casing and cap. The inspections shall be recorded, as well as any maintenance conducted at a device. Record survey activity every two years per Illinois mandates.

3.1.3 Cover System Maintenance

Erosion and differential settlement may cause the need for cover repairs. The majority of settlement should be realized prior to the placement of the final cover system. Any areas where

ponding occurs or erosion cuts appear will be promptly repaired in order to maintain the integrity of the final cover system as described in the Closure Plan. While recently filled and covered areas will require the most maintenance, the disposal unit will stabilize with time such that little, if any, maintenance will ultimately be required. Earthen material for cover repairs will be made available from predetermined borrow areas proximate to the waste unit. If the final cover system requires significant repair or augmentation, such activities will be conducted pursuant to Section 2.3 of the Closure Plan, including soils types, regrading and compaction, testing, and certification.

All maintenance conducted at the site will be documented; records will be retained at the facility office.

3.2 Leachate Chemical and Volume Monitoring

Semiannual testing shall be completed to in include Appendix III and IV constituents (e.g., heavy metals, organics, radionuclides).

Monthly volumes per sump in gallons will be compiled annually. An evaluation of the data shall be completed to record trends; correlate with precipitation and groundwater conditions.

CWLP shall submit results and trend analysis to US EPA per permit guidance; discuss deviations or persistently high leachate as per site-specific plan.

3.3 Groundwater Monitoring and Corrective Actions

Monitoring for a minimum period of 30 years after closure pursuant to 40 CFR 257.93(b).

Following 40 CFR 257 Subpart D (§§257.90–98) and CAFO (Corrective Action Flowchart). CWLP's program operates with both detection and assessment monitoring phases.

Wells shall be sampled quarterly for indicator parameters during detection monitoring. CWLP shall expand list to the Appendix IV constituents if assessment triggered (§257.95, §94(e)(1)).

The statistical evaluation of the groundwater samples shall include the test for Statistically Significant Increase (SSI) over background values. If necessary, CWLP shall notify USEPA and initiate assessment monitoring for Appendix IV constituents if exceeded.

Post-assessment actions for persistent exceedances of Appendix IV constituents, require development of a Corrective Action Plan (CAP), per §257.95(h) and §257.98. Post closure care will continue until back in detection monitoring.

Annual reporting shall include the summary of all groundwater monitoring data, trends, new wells, program modifications, and corrective measures by May 1 of each year.

3.4 Institutional Controls and Property Use Restrictions

Subsequent to completion of the final cover system, there is no planned use of the Landfill Unit 2. The facility is adjacent to CCR surface impoundments that are also subject to 40 CFR 257.104. Therefore, the integrity of the final cover, liners, or any other component of the containment system, or the function of the monitoring systems will be maintained. If future use of the facility is considered, a demonstration must be made by a qualified professional engineer prior to such use that no disturbance will occur resulting in an increase of potential threat to human health and the environment.

A permanent deed notation will be filed, informing any potential purchaser that the property contains a CCR unit and its use is restricted under post closure care requirements (40 CFR 257.102 (i)).

The final end use of the closed CCR landfill is planned to be a natural area with passive vegetation and native grasses. The end use is planned to serve as open space that will not disturb the integrity of the final cover, liner, environmental systems, or monitoring equipment. No structures, digging, groundwater extraction, or other activities will occur (257.104(d)(1)(iii)).

Wellheads and monitoring infrastructure will be designated as protected features, included in surveys every two years under Illinois EPA post closure procedures.

The deed filing will be certified and placed in the operating record within 30 days, per 40 CFR 257.102(i)(3). Amendments needed for changes will follow §257.104(d)(3).

4. CONTACT INFORMATION

Pursuant to 40 CFR 257.104(d)(ii), listed below is the contact information for the facility during post-closure care.

P.J. Becker
City Water Light and Power
201 E. Lake Shore Drive
Springfield Illinois 62712
(217) 757-8610 ext. 1110
PJ.Becker@cwlp.com

5. AMENDMENT OF THE POST-CLOSURE CARE PLAN

Amendments to this plan will be required if and when any significant changes occur to the operation of the Landfill Unit 2 that would substantially affect this plan, or unanticipated events necessitate a revision of this plan. This plan must be amended at least 60 days prior to a planned change in operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise this closure plan. Should the written closure plan be revised after closure activities have commenced, this plan will be amended within 30 days of the triggering event.

6. NOTIFICATIONS

Notification of completion of the post-closure care period will be made no later than 60 days following completion. The notification will include a certification by a qualified professional engineer verifying post-closure has been completed in accordance with the Closure Plan. This notification will be placed in the facility operating record. It will be updated if changes occur (e.g., operational changes or remedial needs) at least 30 days post-trigger, as required per §§257.104(d)(3), 40 CFR 257.105(i),(13).

7. RECORDKEEPING

CWLP will comply with the recordkeeping and notification requirements of 40 CFR 257.105(i), the notification requirements of 257.106(i) and the internet posting requirements of 257.107(i).

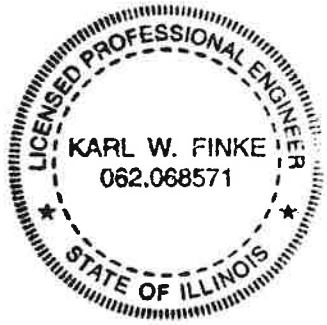
8. STATEMENT

This Post-Closure Care Plan for the FGDS Development Landfill Unit 2 was completed for CWLP by Andrews Engineering, Inc. in accordance with the requirements under 40 CFR Part 257.104 These requirements have been met.

Signature: Karl W. Finke

Illinois P.E. No.: 062.068571

Date: 07/11/25



Lic. Exp. 11/30/25

FIGURES

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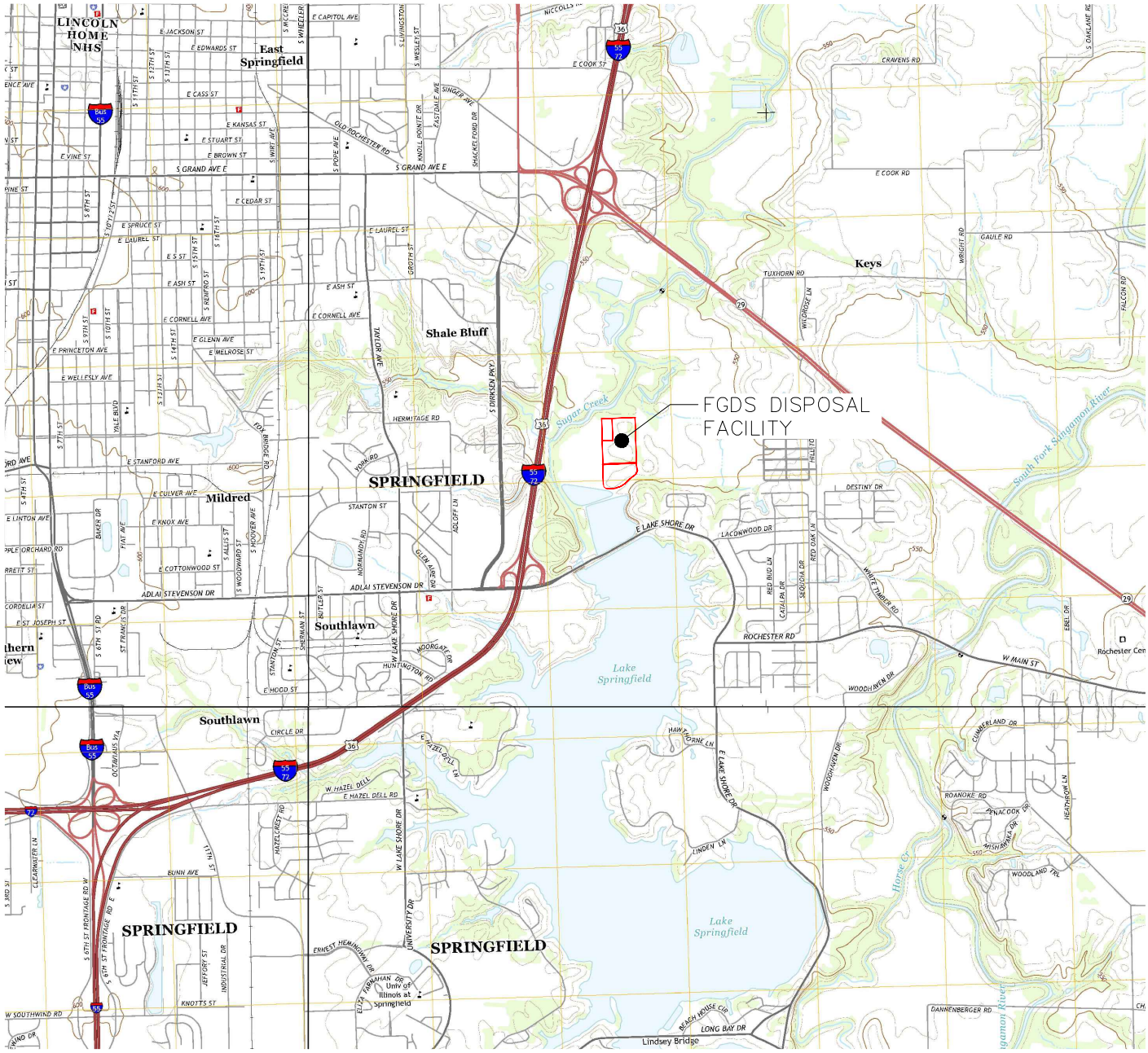

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SCALE: IN FEET

NOTE:
BACKGROUND IMAGE COURTESY OF
UNITED STATES GEOLOGICAL SURVEY.

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: KWF | DESIGNED BY: KWF | DRAWN BY: BCK

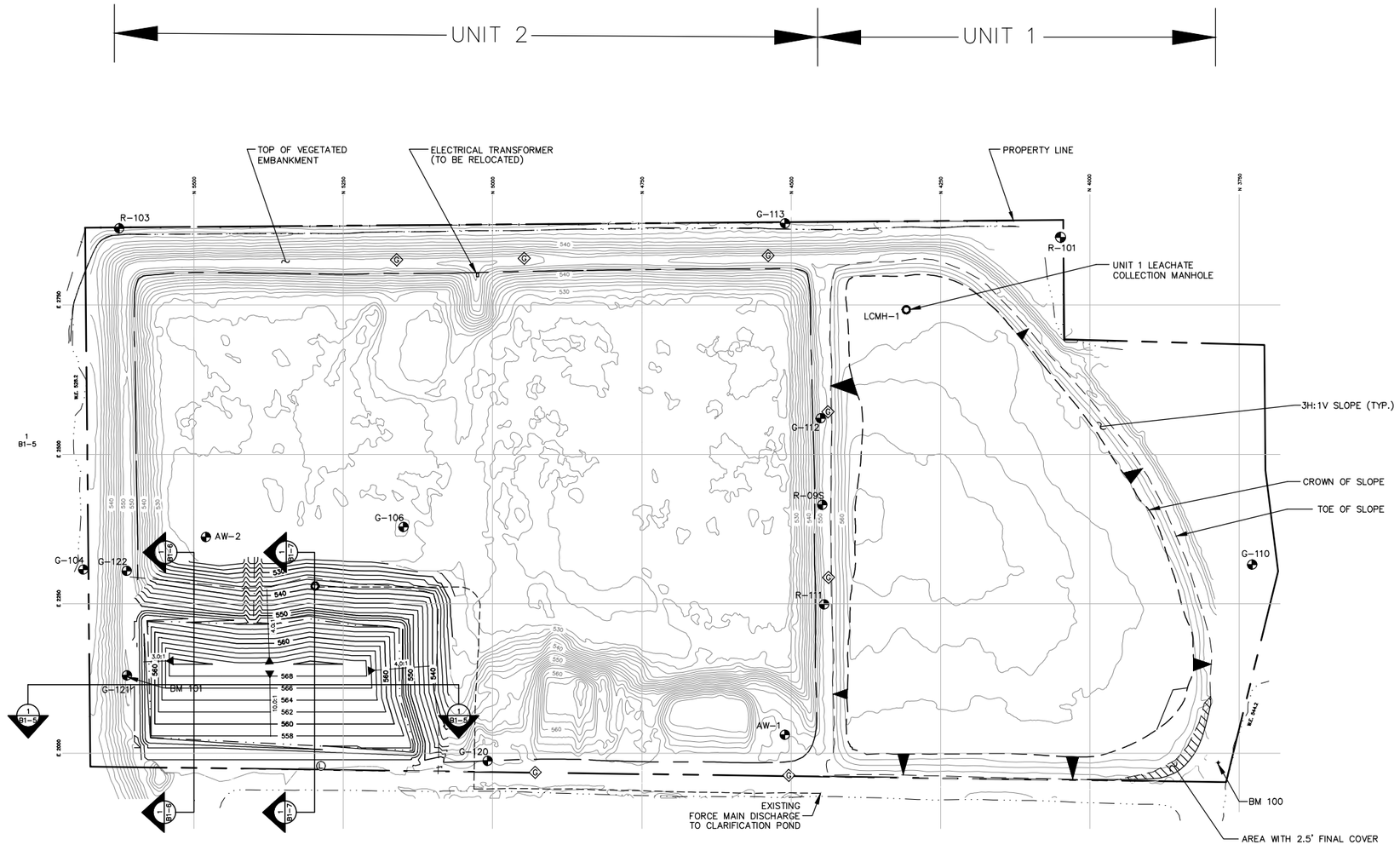
SITE LOCATION

PLANS PREPARED FOR
CITY, WATER, LIGHT & POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2024

PROJECT ID: 230339/0030

SHEET NUMBER:
FIGURE 1



LEGEND

BM-0	BENCHMARK (SEE DESCRIPTION THIS SHEET)
	GROUNDWATER MONITORING WELL (EXISTING)
P	PIEZOMETER (LONG TERM)
	CULVERT
	LEACHATE COLLECTION MANHOLE
L	LEACHATE CLEANOUT RISER
	DRAINAGE DITCH OUTLET
	FENCE
G	FOUNDATION UNDERDRAIN COLLECTION RISER
	ROADWAYS
	STREAM, DITCH OR WATERWAY
	PROPERTY BOUNDARY
	UNIT 2 WASTE BOUNDARY

BENCHMARK DESCRIPTIONS

BM 100	SET RAILROAD SPIKE IN CUT OFF POWER POLE: POWER PLANT COORDINATES N. 3785.14 E. 1984.37 – ELEVATION 554.731
BM 101	CUT CHISELED SQUARE IN CONCRETE 6 INCHES WEST OF MW G-121: POWER PLANT COORDINATES N. 5612.06 E. 2129.53 – ELEVATION 552.364

NOTES:

1. THE CONTOURS SHOWN FOR THE SURROUNDING AREA OF THE LANDFILL WERE GENERATED FROM LIDAR DATA PROVIDED BY HANSON PROFESSIONAL SERVICES, INC. DATED MAY 2023 MERGED WITH TOPOGRAPHIC SURVEY PERFORMED BY ANDREWS ENGINEERING, INC. DATED MARCH 11, 2024.
2. THE PROPERTY LINE LOCATION WAS SUPPLIED BY CWLP, BASED UPON SUBSEQUENT FIELD SURVEYING AND THE ORIGINAL LEGAL DESCRIPTION PREPARED BY MOSS, JOHNSON, SANDOVAL AND ASSOC. LTD.
3. FOR CLARITY NOT ALL SITE FEATURES ARE SHOWN.
4. MONITORING WELL(S) OR PIEZOMETER(S) PLUGGING SHALL BE IN ACCORDANCE WITH THE REGULATIONS, REQUIREMENTS AND/OR GUIDELINES OF THE IEPA AND/OR ILLINOIS DEPARTMENT OF PUBLIC HEALTH.
5. DURING THE OPERATION OF THE FACILITY, THE OPERATOR SHALL COMPLY WITH THE SAFETY STANDARDS PURSUANT TO THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, INCLUDING ALL SUBSEQUENT AMENDMENTS.
6. WHERE THE FOUNDATION UNDERDRAIN SYSTEM DISCHARGES INTO A FORCE MAIN, THE UNDERDRAIN PIPING SHALL BE EQUIPPED WITH AN APPROPRIATE CHECK VALVE TO PREVENT BACKFLOW.
7. ACCESS TO THE FACILITY WILL BE CONTROLLED BY THE EXISTING TOPOGRAPHY, LOCKABLE GATES AND FENCING, LOCATED ALONG THE EAST LAKE SHORE DRIVE, ADJACENT TO THE FACILITY.
8. THE DESIGN SHOWN ON THE DRAWINGS ARE MEANT TO INDICATE A GENERAL DESIGN CONCEPT FOR THE FACILITY. ADJUSTMENTS MAY BE MADE IN THE FIELD BY THE CQAO FOR CONDITIONS ENCOUNTERED. AS APPROPRIATE, ANY ADJUSTMENTS SHALL BE REFLECTED ON THE RECORD DRAWINGS TO BE SUBMITTED TO THE AGENCY FOR OPERATING AUTHORIZATION IN NEWLY DEVELOPED AREAS.
9. THE SYMBOLS FOR THE VARIOUS APPURTENANCE ARE LARGER THAN THE ITEM SHOWN.
10. UNIT 1 AND UNIT 2 WERE RECOGNIZED AS TWO INDEPENDENT WASTE DISPOSAL ENTITIES BY SUPPLEMENTAL PERMIT NO. 1993-486-SP DATED JANUARY 7, 1994.
11. CWLP OWNS THE SURROUNDING PROPERTY AROUND THE LANDFILL EXCEPT TO THE EAST.
12.. THE FINAL CONTOURS ARE APPLICABLE TO THE AREA UTILIZED FOR DISPOSAL. THE AREA OUTSIDE THE WASTE FOOTPRINT MAY BE UTILIZED FOR OTHER PURPOSES AS LONG AS THE INTEGRITY OF THE LANDFILL IS NOT COMPROMISED.

UNIT 1 MONITORING WELL LEGEND
PHASED – 95-469

WELL I.D.	SCREEN MATERIAL	GRADIENT DESCRIPTION
R-101	PVC	UP
G-110	S.S.	UP
R-111	S.S.	UP
G-112	S.S.	UP

UNIT 2 MONITORING WELL LEGEND

WELL I.D.	SCREEN MATERIAL	GRADIENT DESCRIPTION
G-113	PVC	UP
G-120	PVC	UP
G-121	PVC	DOWN
G-122	PVC	DOWN
AW-1	PVC	UP
AW-2	PVC	DOWN
RW-3	PVC	DOWN
P-07D	PVC	DOWN

N
0 100 200 400
SCALE: IN FEET

NO.	DATE	REVISION DESCRIPTION	BY
2	09/2024	REVISED TITLEBLOCK, DATE, NOTES, AND CONTOURS	MPN
1	06/1995	REVISED WELL LOCATIONS AND DATE	VJM

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APPROVED BY: DWM | DESIGNED BY: DWM | DRAWN BY: MPN

CWLP FGDS DEVELOPMENT LANDFILL UNIT 2 SITE PLAN

PLANS PREPARED FOR
CITY WATER, LIGHT, AND POWER
FGDS DISPOSAL FACILITY
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2024
PROJECT ID: 230339/0030
SHEET NUMBER:
FIGURE 2

Tab: Layout1 Last Saved: September 26, 2024, by Mike Nguyen Plotted: Thursday, September 26, 2024 2:05:52 PM
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