

Post-Closure Care Plan

Columbia Dry Ash Disposal Facility

Phase 1 Module 1

Phase 1 Module 2

Phase 1 Module 3

Phase 1 Module 4

Phase 1 Module 5

Phase 1 Module 6

Phase 2 Module 10

Phase 2 Module 11

Prepared for:

Wisconsin Power and Light Company

Columbia Energy Center

W8375 Murray Road

Pardeeville, Wisconsin 53954

SCS ENGINEERS

25222260.00 | February 1, 2023

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Table of Contents

Section	Page
PE Certification	iii
1.0 Introduction and Project Summary	1
2.0 Monitoring and Maintenance Activities	2
2.1 Final Cover Maintenance	2
2.2 Leachate Collection and Removal System Maintenance	3
2.3 Groundwater Monitoring and System Maintenance	3
3.0 Post-Closure Period Contacts	3
4.0 Post-Closure Period Site Use	3
5.0 Certifications	4
6.0 Recordkeeping and Reporting	4


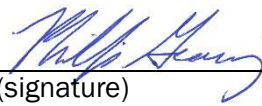
Figures

- Figure 1. Site Location Map
Figure 2. Post-Closure Care Plan

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PE CERTIFICATION

 <p style="text-align: center; color: blue; font-family: cursive;">Phillip E. Gearing</p> <p style="text-align: center; color: blue;">2/1/23</p>	<p>I, Phillip Gearing, hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code.</p> <p>Specifically,</p> <ul style="list-style-type: none"> This Post-Closure Care Plan was prepared by me or under my direct supervision and meets the requirements of 40 CFR 257.104(d) and NR 514.07(10)(d)
 <p>(signature)</p>	<p style="text-align: right;">February 1, 2023</p> <p style="text-align: right;">(date)</p>
<p style="text-align: center;">Phillip E. Gearing</p> <p style="text-align: center;">(printed or typed name)</p>	
<p>License number <u> E-45115 </u></p> <p>My license renewal date is <u> July 31, 2024 </u>.</p> <p>Pages or sheets covered by this seal:</p> <p>ALL</p>	

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1.0 INTRODUCTION AND PROJECT SUMMARY

On behalf of Wisconsin Power and Light Company (WPL), SCS Engineers (SCS) has prepared this Post-Closure Care Plan for the Columbia (COL) Dry Ash Disposal Facility Phase 1, Modules 1 through 6 and Phase 2, Modules 10 and 11 as required by 40 Code of Federal Regulations (CFR) 257.104 and Wisconsin Administrative Code NR 514.07(10)(d), as stated below.

40 CFR 257.104(d). *“Written post-closure plan – (1) Content of the plan. The owner or operator of a CCR unit must prepare a written post-closure plan that includes, as a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.”*

NR 517.07 (10)(d). *“A written long-term care plan that addresses all of the following: 1. A description of the monitoring and maintenance activities and the frequency at which those activities will be performed. The activities shall include, at a minimum, all of the following:”*

The COL facility includes an active coal combustion residual (CCR) landfill, which currently consists of the following modules, located in Phase 1 and Phase 2 of the facility.

- **Phase 1, Module 1** – This module has received final cover over outer sideslope areas that will no longer receive additional CCR; intermediate cover has been placed over remaining areas. The final cover placed complies with the CCR Rule.
- **Phase 1, Module 2** – This module has received intermediate cover over a majority of the in-place CCR.
- **Phase 1, Module 3** – This module has received intermediate cover over a majority of the in-place CCR.
- **Phase 1, Module 4** – This module is currently being filled.
- **Phase 1, Module 5** – This module is currently being filled.
- **Phase 1, Module 6** – This module is currently being filled.
- **Phase 2, Module 10** – Construction of the Module 10 liner began in 2022. The new module will be used for disposal following approval of the liner Construction Documentation Report, which will be submitted for Wisconsin Department of Natural Resources (WDNR) review early in 2023. Filling is anticipated to begin in 2023.
- **Phase 2, Module 11** – Construction of the Module 11 liner began in 2022. The new module will be used for disposal following approval of the liner Construction Documentation Report, which will be submitted for WDNR review early in 2023. Filling is anticipated to begin in 2023.

Phase 1, Modules 1-3 were previously described as separate existing CCR landfills although they are contiguous and are managed as a single landfill by the facility and by the WDNR. WPL has clarified in the operating record for the Columbia facility that Modules 1-3 are one existing CCR landfill as defined in 40 CFR 257.53 of the federal CCR Rule. Phase 1, Modules 4-6 are considered to be a new CCR landfill that initiated construction after October 19, 2015, and is therefore managed as a separate CCR unit under the CCR Rule even though they are contiguous to the existing CCR landfill

(Modules 1-3). In addition, the new CCR landfill will include Phase 2, Modules 10 and 11, once the liner construction documentation is approved by the WDNR in 2023. Construction of additional modules is not currently planned prior to retirement of the Columbia Energy Center, which is currently scheduled to occur no later than June 1, 2026.

The site location is shown on **Figure 1**. **Figure 2** shows proposed final cover grades and monitoring locations.

Phase 1, Module 1 has been partially closed with a final cover as described in the Closure Plan for the existing CCR landfill. The remaining open areas of this module will be closed when CCR materials reach final waste grades, as described in the Plan of Operations approved by the WDNR. The future final cover system is planned to differ from the existing final cover system, as explained in the Closure Plan. Following the closure of the CCR units at COL, WPL will conduct post-closure care in accordance with 40 CFR 257.104(b) for the required 30 years and with NR 514.07(10)(d) for the required 40 years per NR 506.084(2).

2.0 MONITORING AND MAINTENANCE ACTIVITIES

40 CFR 257.104(d)(1)(i). “A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed.”

NR 514.07(10)(d)(1). “A description of the monitoring and maintenance activities and the frequency at which those activities will be performed.”

Monitoring and Maintenance Activities	Frequency
Mowing	Semi-Annually
Inspections by Owner/Operator	Quarterly
Repair to Final Cover for Erosion Concerns	As needed, determined by inspection
Sedimentation Basin Cleaning	As needed, determined by inspection
Leachate Collection Line Cleaning	Annually
Environmental Monitoring (groundwater, leachate)	Semi-Annually

The owner/operator will perform quarterly inspections of the landfill surface, leachate control system, and groundwater monitoring systems. If issues are noticed during the inspection, action will be taken to remedy the situation. Eroded areas will be repaired and reseeded. Repairs or replacement will be performed on the groundwater monitoring system as needed.

2.1 FINAL COVER MAINTENANCE

Mowing will be performed semi-annually during the growing season unless additional mowing is required in response to the vegetation growth rate. During quarterly inspections, if eroded areas are noted, WPL will repair and reseed the area.

2.2 LEACHATE COLLECTION AND REMOVAL SYSTEM MAINTENANCE

The leachate collection and removal system for the existing CCR landfill and existing / future units will be maintained to meet state requirements including leachate collection line cleaning, leachate collection video inspection, and any needed repairs to the existing system.

Phase 1, Module 4 was constructed and opened in 2018. Module 4 is a new CCR landfill as defined in 40 CFR 257.53. Phase 1, Modules 5 and 6 were constructed in 2021. Phase 2, Modules 10 and 11 began construction in 2022. These modules are defined as lateral expansions of the new CCR landfill. Phase 1, Modules 4, 5, and 6 and Phase 2, Modules 10 and 11 are in compliance with the requirements of 40 CFR 257.70, as demonstrated in the Liner and Leachate Collection System Design Compliance Demonstrations. Phase 1, Modules 4, 5, and 6 and Phase 2, Modules 10 and 11 are in compliance with the requirements of NR 504.12, as demonstrated in the Plan of Operation Modification Request WDNR CCR Code Update Report.

2.3 GROUNDWATER MONITORING AND SYSTEM MAINTENANCE

All CCR Wells, as defined by NR 500.03(26y) and approved by the Department, will be maintained and sampled semi-annually for the parameters listed in Appendix III to Part 257 and listed in Appendix I, Table 1A to NR 507, and in accordance with 40 CFR 257.90-98 and NR 507.15 (3).

Non-CCR monitoring wells at the site will be maintained and sampled as approved by the Department in writing.

3.0 POST-CLOSURE PERIOD CONTACTS

40 CFR 257.104(d)(1)(ii). *“The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure period.”*

NR 514.07(10)(d)(2). *“The name, address, telephone number, and email address of the person or office to contact about the facility during long-term care.”*

Currently, the contact information for COL during the post-closure/long-term care period is as follows:

Columbia Energy Center
Attn: Plant Manager
W8375 Murray Road
Pardeeville, WI 53954
(608) 742-0711
CCRProgram@alliantenergy.com

4.0 POST-CLOSURE PERIOD SITE USE

40 CFR 257.104(d)(1)(iii). *“A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system or the function of the monitoring systems unless necessary to comply with the requirements of the subpart...”*

NR 514.07(10)(d)(3). *“A description of the planned uses of the property during long-term care. Post-closure uses may not disturb the integrity of the final cover, liner, or any other component of*

the landfill, or the function of the monitoring systems unless approved in writing by the department....”

The final use of the COL Dry Ash Disposal Facility will be privately owned green space. With this use, there will be no disturbance of the final cover or any other landfill-related components.

5.0 CERTIFICATIONS

40 CFR 257.104(d)(4). *“The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written post-closure plan meets the requirements of this section.”*

NR 500.05. *“Unless otherwise specified, all submittals for review and approval of any initial site report, feasibility report, plan of operation site investigation report, remedial action options report, construction documentation report, or closure plan, or any modifications to those plans, shall include all of the following:*

- (4) **CERTIFICATION.** *(a) The reports and plan sheets shall be under the seal of a licensed professional engineer.”*

Phillip Gearing, PE, a licensed profession engineer in the State of Wisconsin, has overseen the preparation of this Post-Closure Care Plan. A certification statement is provided on **page iii** of this plan.

6.0 RECORDKEEPING AND REPORTING

40 CFR 257.104(b)(2)(iii). *“The owner or operator has completed the written post-closure plan when the plan including the certification required by paragraph (d)(4) of this section, has been placed in the facility’s operating record as required by Section 257.105(i)(4).”*

NR 506.17(2)(e). *“The written operating record shall contain the plan of operation, plan modifications, construction documentation, department approvals, annual reports, inspection records, monitoring and corrective action records, notifications to the department, and records of public comments received during any public comment period.”*

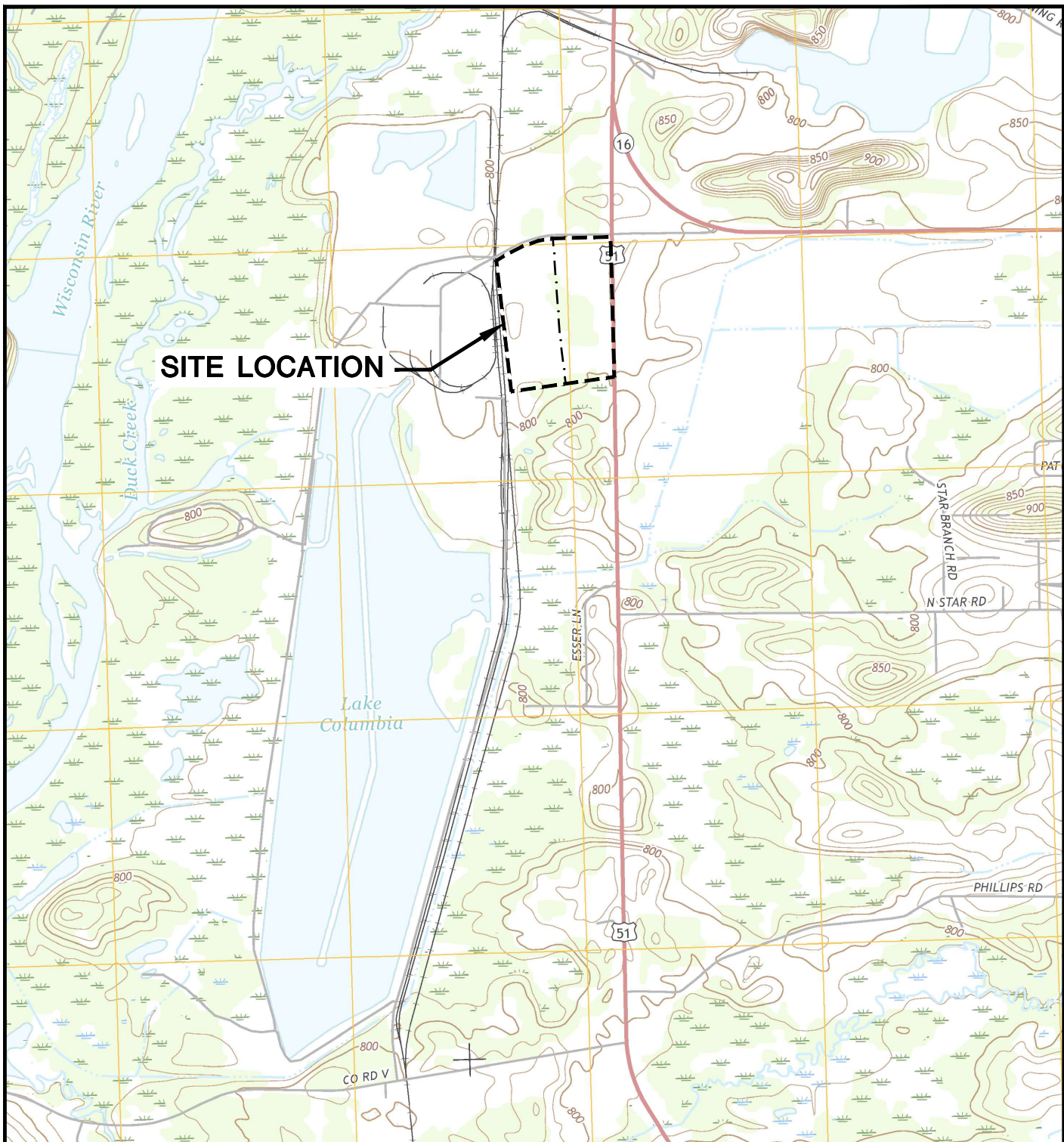
The Post-Closure Care Plan will be placed in the facility’s operating record and on Alliant Energy’s CCR Rule Compliance Data and Information website, as will all amendments.

WPL will amend the Post-Closure Care Plan if there is a change in operation of the CCR unit that affects the written Post-Closure Care Plan or, if after post-closure activities have started, unexpected events cause a revision of the plan.

WPL will provide notification of completion of the post-closure care no later than 60 days following the completion of the post-closure care period. The notification will include certification by a qualified professional engineer verifying that post-closure care has been completed in accordance with the plan. The notification will be placed in the facility’s operating record and on the website.

Figures

- 1 Site Location Map
- 2 Post-Closure Care Plan



POYNETTE QUADRANGLE
 WISCONSIN-COLUMBIA CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 2016
 SCALE: 1" = 2,000'



CLIENT	WISCONSIN POWER AND LIGHT COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WISCONSIN 53954		SITE	POST CLOSURE CARE PLAN COLUMBIA DRY ASH DISPOSAL FACILITY TOWN OF PACIFIC, WISCONSIN		ENGINEER	SITE LOCATION MAP	
	PROJECT NO.	25222260.00		DRAWN BY:	AHB		SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE
	DRAWN:	08/09/2016		CHECKED BY:	RJG			1
REVISED:	12/28/2022	APPROVED BY:	PEG 01/31/23					

LEGEND

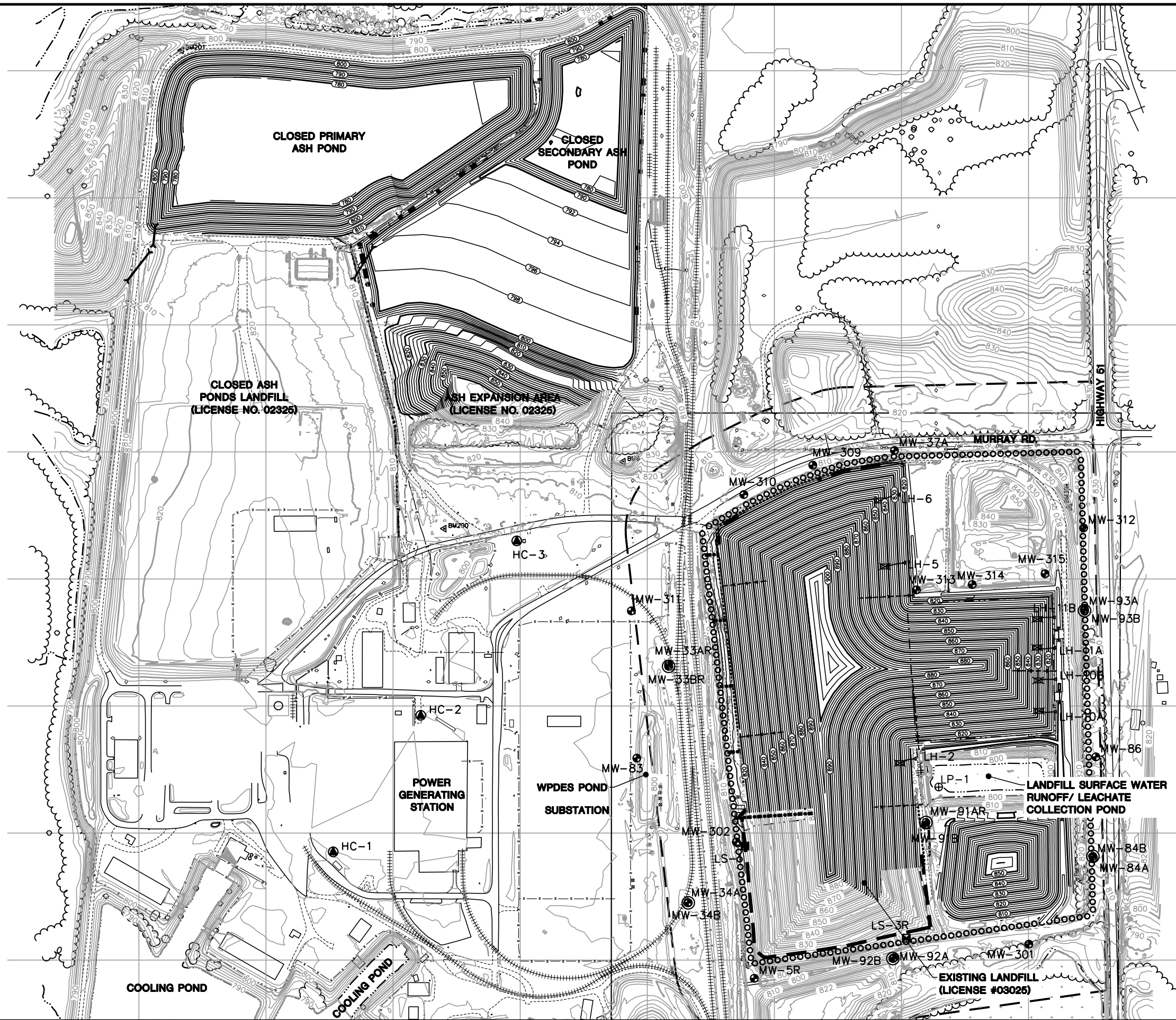
- ASH DISPOSAL FACILITY LIMITS
- APPROVED LIMITS OF ASH FILL
- PHASE/MODULE LIMIT
- EXISTING GRADE (10' CONTOUR)
- EXISTING GRADE (2' CONTOUR)
- PAVED ROAD
- UNPAVED ROAD
- RAILROAD TRACKS
- VEGETATION
- FENCE
- SWALE
- EDGE OF WATER
- APPROXIMATE LIMITS OF EXISTING LEACHATE/SURFACE WATER POND LINER
- CULVERT
- TRANSMISSION TOWER
- WATER SUPPLY WELL
- WATER TABLE WELL
- PIEZOMETER
- SURFACE WATER SAMPLE LOCATION
- LYSIMETER
- LEACHATE HEADWELL
- BENCHMARK
- PROPOSED FINAL GRADES (10' CONTOUR)
- PROPOSED FINAL GRADES (2' CONTOUR)

NOTES:

1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, AND GROUND SURVEY BY SCS ENGINEERS IN DECEMBER 2020, AND BY DRONE SURVEY BY AMES ON JANUARY 17, 2023.
2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AUGUST 2012, JANUARY 2016, AND BY SCS ENGINEERS IN MAY 2019.

Scale: 1" = 400'

400 0 400



I:\25222260.00\Drawings\Post Closure2_Site Plan.dwg, 1/31/2023 2:39:46 PM

CLIENT WISCONSIN POWER AND LIGHT COLUMBIA ENERGY CENTER W6375 MURRAY ROAD PARDEEVILLE, WISCONSIN 53954	PROJECT NO.	25222260.00	ENGINEER SCS ENGINEERS 2830 DAIRY DRIVE, MADISON, WI 53718-6751 PHONE: (608) 224-2830
	DRAWN BY:	12/18/2017	
	CHECKED BY:	1/25/2023	
	APPROVED BY:		
SITE POST-CLOSURE CARE PLAN COLUMBIA DRY ASH DISPOSAL FACILITY TOWN OF PACIFIC, WISCONSIN			BLM/KP PEG PEG 01/31/23
POST-CLOSURE CARE PLAN			FIGURE 2