



**Labadie Energy Center
Post-Closure Plan
LCPA (Bottom Ash Pond)
CCR Surface Impoundment**

**Labadie Energy Center
Post-Closure Plan
(LCPA) Bottom Ash Pond
CCR Surface Impoundment
Franklin County, Missouri**

October 2016

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Professional Engineer's Certification

I, Thomas R. Gredell, P.E., a professional engineer licensed in the State of Missouri, hereby certify in accordance with 40 CFR §257.104 that this post-closure plan for LCPA (Bottom Ash Pond) at Ameren Missouri's Labadie Energy Center has been written in accordance with applicable federal requirements promulgated under 40 CFR §257, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments and good engineering and environmental practices. Such plan may be amended as authorized by 40 CFR §257.104(d)(3).

Name: Thomas R. Gredell, P.E.

Signature: 

Date: 10-13-14

Registration Number: PE-021137

State of Registration: Missouri



1.0 Introduction

Pursuant to 40 CFR §257.104, the owner or operator of a Coal Combustion Residual (CCR) unit must prepare a post-closure plan identifying the maintenance, monitoring, planned use, contact person, and care period with respect to the performance criteria set forth in the CCR Rule.

Stormwater, CCR transport water and other low volume wastewaters discharge from the active CCR unit through NPDES permitted Outfall 002 of Missouri Operating Permit No. MO-0004812. A map showing the location of the active CCR surface impoundment is appended hereto as Figure 1. A site plan of Surface Impoundment LCPA is appended hereto as Figure 2.

The active CCR surface impoundment is referred to as Surface Impoundment LCPA (Bottom Ash Pond). Surface Impoundment LCPA receives CCR transport water, plant service water and other plant drainage. Stormwater currently collects on Surface Impoundment LCPB, which discharges to Surface Impoundment LCPA. The coal pile stormwater runoff is routed to Surface Impoundment LCPA via a pump station. This post-closure plan will focus on Surface Impoundment LCPA (Bottom Ash Pond).

2.0 CCR Unit Information

Primary activities common to impoundment post-closures are listed below.

2.1 Post-Closure Care Contact

The Ameren Missouri contact for post-closure care will be:

Name: Ameren Missouri
Title: Director of Dam Safety
Address: 1901 Chouteau Avenue, St. Louis, Missouri 63103
Phone Numbers: (800) 552-7583
Email: CCR@ameren.com

In the event the identified care contact is not available, or there is an emergency, an alternate Ameren Missouri contact that is available 24/7 can be reached at:

Name: Ameren Missouri
Title: Director of Dam Safety
Phone Numbers: (800) 552-7583

2.2 Closed CCR Surface Impoundment Planned Use

The closure of Surface Impoundment LCPA will include grass turf or native grasses, or a synthetic alternative erosion layer. Ameren Missouri's current intent is to maintain the closed Surface Impoundment LCPA as a passive, open space. If Surface Impoundment LCPA includes an erosion layer that is native grasses, the open space could also be utilized for hay production, as well as open space. If Surface Impoundment LCPA includes a synthetic, alternative erosion layer, the closed Surface Impoundment will remain a passive, open area. Other potential uses of the LCPA area can be evaluated for purposes that maintain the final cover and do not increase the potential threat to human health or the environment.

2.3 Post-Closure Care Period

The care period of the closed surface impoundment will be 30 years. The post-closure period will begin when the certification from a professional engineer that Surface Impoundment LCPA is properly closed is placed in the operating record.

The post-closure period ends only when the groundwater monitoring program is in detection monitoring, in accordance with Section 257.104(c)(2) and Section 3.3 below.

2.4 Notification of Completion of the Post-Closure Care Period.

No later than 60 days following the completion of the post-closure care period, Ameren Missouri must prepare a notification that post-closure care has been completed. This notification must include the certification by a professional engineer verifying that post-closure care has been completed in accordance with the post-closure plan. The notice is complete when these documents are placed in the facility operating record, as required by Section 257.105(i)(13).

3.0 Post-Closure Care Plan

The CCR unit will be maintained during the post-closure period as outlined below.

3.1 Final Closure Cap Monitoring and Maintenance

The closed unit cap will be inspected and maintained to ensure the integrity and effectiveness of the final cover system. This maintenance will include making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events. These repairs will also evaluate the condition of run-on and run-off from eroding or damaging the final cover.

Settlement on the impoundment may occur during consolidation of the CCR material,

general fill material or underlying natural subsoils under new loads from maintenance activities. A portion of the CCR material within the impoundment contains cemented material that may have minimal settlement. The saturated, un-cemented CCR material encountered may settle under the additional loading. This settlement may occur for the duration of grading activities and is expected to be minimal after the final cover system is installed. General fill will be installed in a controlled manner to minimize post-cover system installation settlement.

The cap may be disturbed by forces of nature, maintenance equipment, or vandalism. Damage to the cap from these or other disturbances will be corrected and reseeded, if necessary. Additional vegetative soil, if necessary, will be brought to the damage area and placed in a loose lift and spread by hand tools or low impact equipment to minimize disturbance to the cap. Disturbance to the infiltration layer will be repaired in accordance with the guidance in the Closure Plan.

Routine annual inspections will be conducted by a professional engineer or designee. A report of these inspections will be placed in the operating record. Corrections recommended by the engineer will be inspected following implementation and a follow-up report will be prepared and placed in the operating record.

3.2 Stormwater Control System Maintenance

The closed unit stormwater control system will transport water from the CCR unit cap via sheet flow or to a discharge point(s). The conveyance system for the cap will be designed by a professional engineer. Observation of the constructed stormwater conveyance system will be included in the annual inspection. Corrections recommended by the engineer will be inspected following implementation and a follow-up report will be prepared and placed in the operating record.

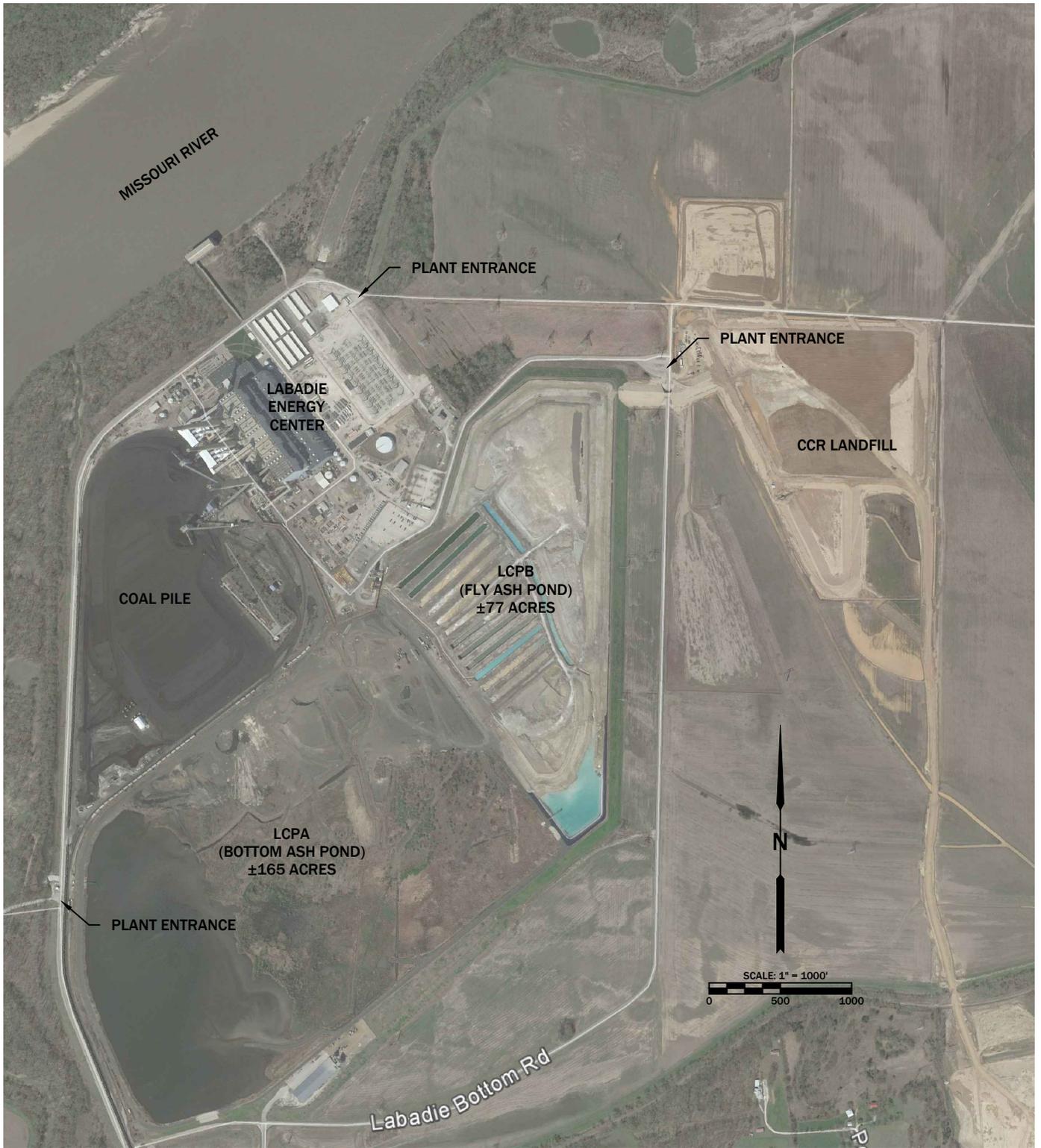
Potential damage to the cap from stormwater run-on and stormwater run-off will be monitored by Ameren personnel. Identified damage will be corrected and reseeded, if necessary. Additional vegetative soil, if necessary, will be brought to the damage area and placed in a loose lift and spread by hand tools or low impact equipment to minimize additional disturbance to the cap.

3.3 Groundwater Monitoring and System Maintenance

The groundwater monitoring system will be maintained in accordance with the requirements of Sections 257.90 through 257.98. During sampling events and the annual inspection, repairs to the monitoring wells or system that are required will be noted in the annual report or monitoring report. The corrections will be inspected following implementation and a follow-up report will be prepared and placed in the operating record.

Figures

M:\Share\CADD\Files\CONFIDENTIAL\SCHIFF-HARDIN - 2014\ASH POND PRELI GRADING\POST-CLOSURE PLANS.dwg, FIGURE 1 - LABADIE ENERGY CENTER, 10/13/2016 2:07:46 PM



**CCR SURFACE IMPOUNDMENT
POST-CLOSURE MAINTENANCE
LABADIE ENERGY CENTER**

GREDELL Engineering Resources, Inc.

ENVIRONMENTAL ENGINEERING LAND - AIR - WATER

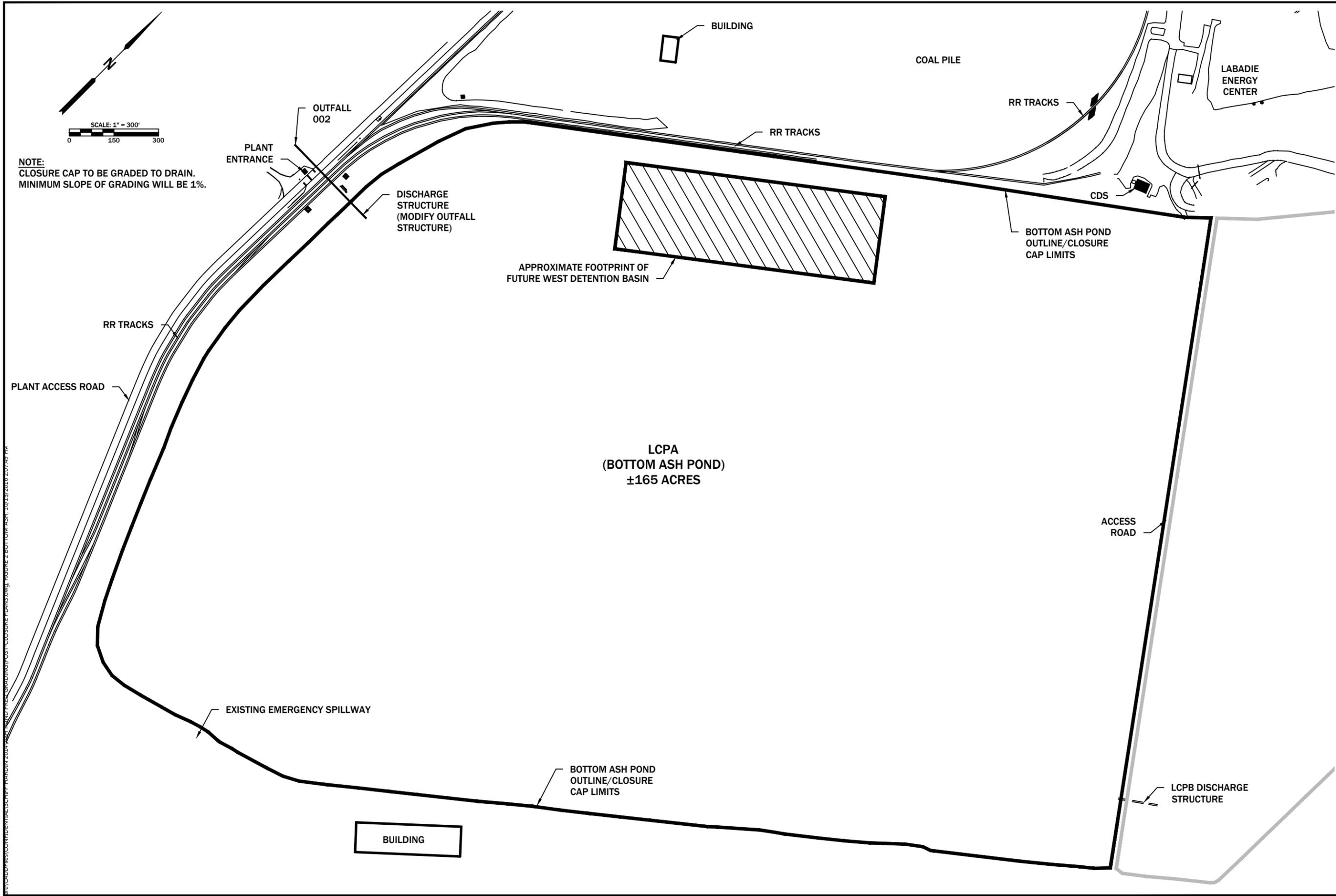
1505 East High Street
Jefferson City, Missouri

Telephone: (573) 659-9078
Facsimile: (573) 659-9079

MO CORP. ENGINEERING LICENSE NO. E-2001001669-D

**FIGURE 1 - LABADIE ENERGY CENTER
AERIAL VIEW**

DATE	SCALE	PROJECT NAME	REVISION
10/2016	AS NOTED	ASH POND PRELIM	
DRAWN AJK	APPROVED TRG	FILE NAME POST-CLOSURE PLANS	SHEET # 1 OF 1



M:\5197\CAD\DWG\ASHPOND\CLOSURE\POST-CLOSURE\PLANS\DWG\FIGURE 2 BOTTOM ASH POND - CLOSURE PLANS.dwg, PLOTDATE: 2/10/2016 10:20:49 AM

GREDELL Engineering Resources, Inc.		ENVIRONMENTAL ENGINEERING		LAND - AIR - WATER	
1505 East High Street		Jefferson City, Missouri		Telephone: (573) 659-9078 Facsimile: (573) 659-9079 MO CORP. ENGINEERING LICENSE NO. E-2001001669D	
CCR SURFACE IMPOUNDMENT		POST-CLOSURE MAINTENANCE		LABADIE ENERGY CENTER	
FIGURE 2		LCPA (BOTTOM ASH POND)		SITE PLAN	
PROJECT NAME		ASH POND PRELIM		POST-CLOSURE PLANS	
FILE NAME		ASH POND PRELIM		POST-CLOSURE PLANS	
DATE		10/2016		AS NOTED	
SCALE		TRG		AR	
APPROVED		TRG		AR	
CHECKED		TRG		AR	
DRAWN		TRG		A/JK	
DESIGNED		TRG		A/JK	
SURVEYED		NA		TRG	