



Submitted to  
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Indiana South (CEIS)  
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April 16, 2021

CCR Certification:  
Written Post-Closure Plan  
§257.104 (d)  
  
for the  
  
West Ash Pond  
at the  
F.B. Culley Generating Station  
  
Revision 1

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## Executive Summary

The Culley West Ash Pond was an inactive surface impoundment at the F.B. Culley Generating Station owned by Southern Indiana Gas & Electric Company (hereinafter SIGECO) dba CenterPoint Energy Indiana South (CEIS) that has since been closed using a hybrid closure methodology including partial removal and *closure in place* of CCR materials. This Coal Combustion Residuals (CCR) Written Post-Closure Plan (Post-Closure Plan) for the West Ash Pond provides an update to the Coal Combustion Residuals (CCR) Initial Written Post-Closure Plan and has been prepared in accordance with the requirements specified in the EPA's Final CCR Rule under 40 CFR §257.104. These regulations require that the specified documentation, assessments and plans for an inactive CCR surface impoundment be prepared by April 17, 2018, in accordance with 40 CFR §257.100(e). Furthermore, the initial version of the Post-Closure Plan developed by AECOM dated April 17, 2018 is being amended in consideration of closure completion as required by §257.104 (d)(3).

This Post-Closure Plan for the West Ash Pond meets the regulatory requirements as summarized in **Table ES-1**.

Table ES-1 – Certification Summary				
Report Section	CCR Rule Reference	Requirement Summary	Requirement Met?	Comments
2.1	§257.104 (b)	<i>Post-Closure Care Maintenance Requirements</i>	Yes	Description of the post-closure care and maintenance activities that are required for the CCR unit.
2.2	§257.104 (c)	<i>Post-Closure Care Period</i>	Yes	Definition of the post-closure care period.
2.3	§257.104 (d)	<i>Written Post-Closure Plan</i>	Yes	Description of the monitoring and maintenance activities that are required for the CCR unit and the frequency of such activities. Description of how the site will be used while it is in the post-closure period. Description of the planned uses during post-closure.

In accordance with the originally published version of the EPA 40 CFR §257.100(c)(1) of the Final CCR Rule, SIGECO filed a Notice of Intent (NOI) to initiate closure of the West Ash Pond as “inactive” and placed the NOI in the facility’s operating record on December 17, 2015. While early closure activities (i.e., partial dewatering, etc.) were previously initiated when the unit declared the intent to close in December 2015, closure construction of the

West Ash Pond commenced in August 2018 and was completed on December 17, 2020 (i.e. within the 5 years from the date of the NOI as allowed in the Final CCR Rule under 40 CFR §257.102(f)(1)(ii)). The Post-Closure Plan will be carried out as required in the Final CCR Rule for a period of 30 years from the date of closure completion or until December 17, 2050.

# 1 Introduction

## 1.1 Purpose of this Report

The purpose of this Post-Closure Plan (Post-Closure Plan) is to document that the requirements specified in Environmental Protection Agency's (EPA's) Final CCR Rule (hereinafter referred to as the CCR Rule), 40 Code of Federal Regulations (CFR) §257.104, have been met to support the certification required under each of the applicable regulatory provisions for the post-closure of the F.B. Culley Generating Station (Culley) West Ash Pond. The West Ash Pond was an "inactive" coal combustion residuals (CCR) surface impoundment as defined by 40 CFR §257.53, since sluicing of ash to the West Ash Pond ceased prior to October 14, 2015 and still contained both CCR and liquids after October 14, 2015. In accordance with the originally published version of the EPA 40 CFR §257.100(c)(1) of the CCR Rule, SIGECO filed a Notice of Intent (NOI) to initiate closure of the West Ash Pond as "inactive" and placed the NOI in the facility's operating record on December 17, 2015.

As a direct result of the order issued by the United States Court of Appeals for the D.C. Circuit on June 14, 2016, the EPA removed certain provisions of the CCR Rule at 40 CFR 257.100(b), (c), and (d) related to the "early closure" of inactive CCR surface impoundments by April 17, 2018. Specifically, EPA issued a "Direct Final Rule" on August 5, 2016 (effective on October 4, 2016), constituting a vacatur of 40 CFR §257.100 (the "early closure" provision). The Direct Final Rule applies the requirements of "existing surface impoundments" (§257.102) to ponds that had been previously declared "inactive" (such as the Culley West Ash Pond), but grants a 547 day (approximately 18 month) extension for complying with those requirements. As a result of this order, owners and operators of inactive CCR surface impoundments must comply with all of the requirements for existing CCR surface impoundment as listed in 40 CFR §257.102 of the CCR Rule. The alternative timeframes resulting from the Direct Final Rule's extension of the regulatory requirements for inactive ponds have been revised accordingly in 40 CFR §257.100(e). In accordance with the alternative timeframe stated in §257.100(e)(6)(ii), the initial written post-closure plan was to be prepared no later than April 17, 2018. The West Ash Pond completed closure by December 17, 2020, conforming to the schedule requirements 40 CFR §257.102(f)(ii) of the CCR Rule (i.e., within 5 years of initiation of closure). Once closure has been achieved, post-closure activities will be initiated and conducted for a period of 30 years, conforming to the requirements 40 CFR §257.104(c) of the CCR Rule.

The following table summarizes the documentation required within the CCR Rule and the sections that specifically respond to those requirements of this plan.

<b>Report Section</b>	<b>Title</b>	<b>CCR Rule Reference</b>
2.1	Post-Closure Care Maintenance Requirements	§257.104 (b)
2.2	Post-Closure Care Period	§257.104 (c)
2.3	Written Post-Closure Plan	§257.104 (d)(1)

## 1.2 Brief Description of Impoundment

The Culley station is located in Warrick County, Indiana, southeast of Newburgh, Indiana, and is owned and operated by Southern Indiana Gas and Electric Company (SIGECO). The Culley station (Culley) is located along the north bank of the Ohio River and the west bank of the Little Pigeon Creek along the southeast portion of the site. Culley has two CCR surface impoundments, identified as the West Ash Pond and the East Ash Pond. The East Ash Pond actively receives CCR materials and the West Ash Pond has since closed and no longer receives or manages CCR materials. This Post-Closure Plan has been developed only for the former West Ash Pond. The former West Ash Pond is located west of the coal storage pile and was approximately 32 acres in size.

Original design plans indicate that this pond was constructed in the 1950's by placing fill along the south side (i.e., adjacent to the Ohio River) and the east side, and tying into existing high ground at the north and west sides. Bottom elevation of the pond was set approximately at 365' but followed the natural topography and gradually increased in elevation as the pond extended north. The Little Pigeon Creek originally coursed through the footprint of the West Ash Pond before being re-routed east of the Culley Station at the time of the original construction in the 1950's. As such, portions of the east and west embankments of the West Ash Pond extend to the bottom of the creek bed which is at an approximate elevation of 340'. The top of the embankment was constructed to an approximate elevation of 393' with a small portion in the northeast corner extending to an elevation of 402'. Interior side slopes of the pond vary, but original design documents indicate that the slopes are 2H:1V along the south embankment and 2.5H:1V on the east and west embankments. The original construction drawings indicated that the sub-base of the pond was composed of native soils.

Pre-closure conditions of the south embankment at the West Ash Pond indicated that the crest of the south embankment was approximately 40' wide and covered with crushed stone that formed a gravel access road and was in good condition. The interior riprap lined slope was sparsely vegetated with brush and weeds and was relatively steep. The exterior slope is mostly covered with riprap and concrete rubble, with brush and large trees encroaching upon the toe of the existing slope. Based upon topographic mapping provided, the exterior slope of the embankment varies between approximate slopes of 2.5H:1V to 1.9H:1V.

A Site Location Map showing the area surrounding the station is included as **Figure 1** of **Appendix A**. **Figure 2** in **Appendix A** presents the Aerial Site Map and **Figure 3** presents the Site Topography.

## 2 Post-Closure Plan Description

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:*

The Post-Closure Plan for the West Ash Pond is described in this section. Information about operational and maintenance procedures was provided by Culley plant personnel. The Culley station follows an established maintenance program that quickly identifies and resolves issues of concern.

### 2.1 Post-Closure Care Maintenance Requirements

#### 2.1.1 Maintaining the Integrity and Effectiveness of the Final Cover System

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *(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;*

Throughout the post-closure care period, periodic visual observations of the final cover and stormwater system will be performed at least annually for evidence of settlement, subsidence, erosion, or other damage that may affect the integrity and effectiveness of the final cover system. When practicable, visual observations of the final cover will be implemented concurrently when performing required groundwater monitoring activities.

#### 2.1.2 Maintaining the Leachate Collection System

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *(2) If the CCR unit is subject to the design criteria under §257.70, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of §257.70; and*

The West Ash Pond is not a landfill and is therefore not subject to the design criteria of §257.70.

#### 2.1.3 Maintaining the Groundwater Monitoring System

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *(3) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§257.90 through 257.98*

The groundwater monitoring system will be maintained and groundwater will be monitored as required by §257.90 through §257.98 in accordance with the 'Groundwater Monitoring Program' for the F.B. Culley Generating Station West Ash Pond. Monitoring wells will be inspected during each groundwater sampling event. Monitoring wells and associated instrumentation will be maintained so that they perform in accordance with the design specifications throughout the life of the monitoring program. Groundwater monitoring frequency will be at least semi-annual, except as provided in §257.94(d).

## 2.2 Post-Closure Care Period

### 2.2.1 Length of Post-Closure Care Period

*Regulatory Citation: 40 CFR §257.104 (c); Post-closure care period*

- (1) *Except as provided by paragraph (c)(2) of this section, the owner or operator of the CCR unit must conduct post-closure care for 30 years.*

Post-closure care will be conducted for a period of 30 years as required by §257.104 (c)(1), except as provided by §257.104 (c)(2).

### 2.2.2 Extended Length of Post-Closure Care Period

*Regulatory Citation: 40 CFR §257.104 (c); Post-closure care period*

- (2) *If at the end of the post-closure care period the owner or operator of the CCR unit is operating under assessment monitoring in accordance with §257.95, the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with §257.95.*

If at the end of the post-closure care period the CCR unit is operating under assessment monitoring, the post-closure care as described in this plan will continue until the CCR unit returns to detection monitoring.

## 2.3 Written Post-Closure Plan

*Regulatory Citation: 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, at a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.*

### 2.3.1 Monitoring and Maintenance Activities

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- (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;*

The closed site will be inspected at least annually.

Observed evidence of damage, such as erosion rills, surface cracks and settlement will be repaired in order to maintain the integrity and effectiveness of the final cover system. Vegetation will be established and maintained on the final cover system, including storm drainage areas, where appropriate, to provide long-term erosion control. Established vegetation and the design slope of the final cover system will prevent potential erosion and damage that may be caused by run-on and run-off.

Repair activities may include, but are not limited to, replacing and compacting soil cover, repairing drainage channels that have been eroded, filling in depressions with soil, regrading, and reseeding areas of sparse vegetation, as necessary.



### 2.3.2 Post-Closure Care Contact

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- (1)(ii) *The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period; and*

The appropriate contact will be determined at the time post-closure care activities commence. An e-mail address will be included when the appropriate contact is identified.

Shane Bradford  
Director, Power Plant  
CenterPoint Energy  
P.O. Box 209  
Evansville, IN, 47702  
Phone: 812-491-5366

### 2.3.3 Planned Uses of the Property during the Post-Closure Period

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- (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 in this subpart. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible Internet site.*

Following closure, no additional planned uses of the West Ash Pond's *Closure in Place Area* are envisioned. Once closure has been achieved, the bulk of the West Ash pond area will be maintained as an inactive property. As part of the East Ash Pond pre-closure activities<sup>1</sup>, it is anticipated that a new CCR Pond will be constructed in the *Excavation Area* of the former West Ash Pond to manage and store CCR flows currently managed by the East Ash Pond. This anticipated post-closure use of the property will not disturb the integrity of the final cover system or other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements of 40 CFR Part 257, Subpart D. Any other disturbance will be supported by the demonstration required by §257.104 (d)(1)(iii).

Following closure of the CCR unit, a notation on the deed to the property, or some other instrument that is normally examined during title search, has been recorded in accordance with §257.102 (i). The notation is intended to notify potential purchasers of the property that the land has been used as a CCR unit and its use is restricted under the

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<sup>1</sup> The *Development of Alternative Capacity is Technically Infeasible Demonstration* (Part A demonstration) was issued to EPA to extend the cease flow deadline of CCR and non-CCR streams to the East Ash Pond. In accordance with this demonstration, SIGECO will be required to make modifications to future water management operations at F.B. Culley Station. It is anticipated that a new lined CCR pond will be constructed to satisfy the requirements in the aforementioned document.

post-closure care requirements per §257.104 (d)(1)(iii). Within 30 days of recording the deed notation, a notification stating that the notation has been recorded will be placed in the facility's operating record. The notification will be placed on the owner or operator's publicly accessible CCR Web site within 30 days of placing the notification in the facility's operating record in accordance with §257.107.

#### **2.3.4 Amendment to the Written Post-Closure Plan**

The Initial Post-Closure Plan dated April 17, 2018 is being amended on April 16, 2021 as required by §257.104 (d)(3).

### 3 Certification

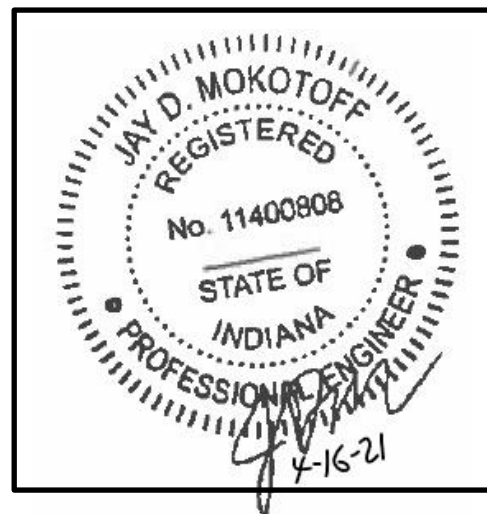
This Certification Statement documents that the West Ash Pond at the F.B. Culley Generating Station meets the Written Post-Closure Plan requirements specified in 40 CFR §257.104 (d). The West Ash Pond was an inactive CCR surface impoundment as defined by 40 CFR §257.53. The CCR Rule requires that the Initial Written Post-Closure Plan for an inactive CCR surface impoundment be prepared by April 17, 2018, in accordance with 40 CFR §257.100(e), and amended as necessary as closure is completed and changes to post-closure activities are envisioned. Accordingly, this amendment to the Post-Closure Plan has been completed dated April 16, 2021.

**CCR Unit:** Southern Indiana Gas & Electric Company; F.B. Culley Generating Station; West Ash Pond

I, Jay Mokotoff, being a Registered Professional Engineer in good standing in the State of Indiana, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR Unit, that the Initial Written Post-Closure Plan dated April 17, 2018 and amended on April 16, 2021 meets the requirements of 40 CFR §257.104.

Jay D. Mokotoff  
*Printed Name*

4-16-21  
*Date*



## 4 Limitations

Background information, design basis, and other data, which AECOM has used in preparation of this report, have been furnished to AECOM by SIGECO. AECOM has relied on this information as furnished, and is not responsible for the accuracy of this information. Our recommendations are based on available information from previous and current investigations. These recommendations may be updated as future investigations are performed.

The conclusions presented in this report are intended only for the purpose, site location, and project indicated. The provisions and recommendations presented in this report should not be used for other projects or purposes. Conclusions or recommendations made from these data by others are their responsibility. The conclusions and recommendations are based on AECOM's understanding of current plant operations, maintenance, stormwater handling, and ash handling procedures at the station, as provided by SIGECO. Changes in any of these operations or procedures may invalidate the findings in this report until AECOM has had the opportunity to review the findings, and revise the report if necessary.

This development of the Post-Closure Plan was performed in accordance with the standard of care commonly used as state-of-practice in our profession. Specifically, our services have been performed in accordance with accepted principles and practices of the engineering profession. The conclusions presented in this report are professional opinions based on the indicated project criteria and data available at the time this report was prepared. Our services were provided in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representation is intended.

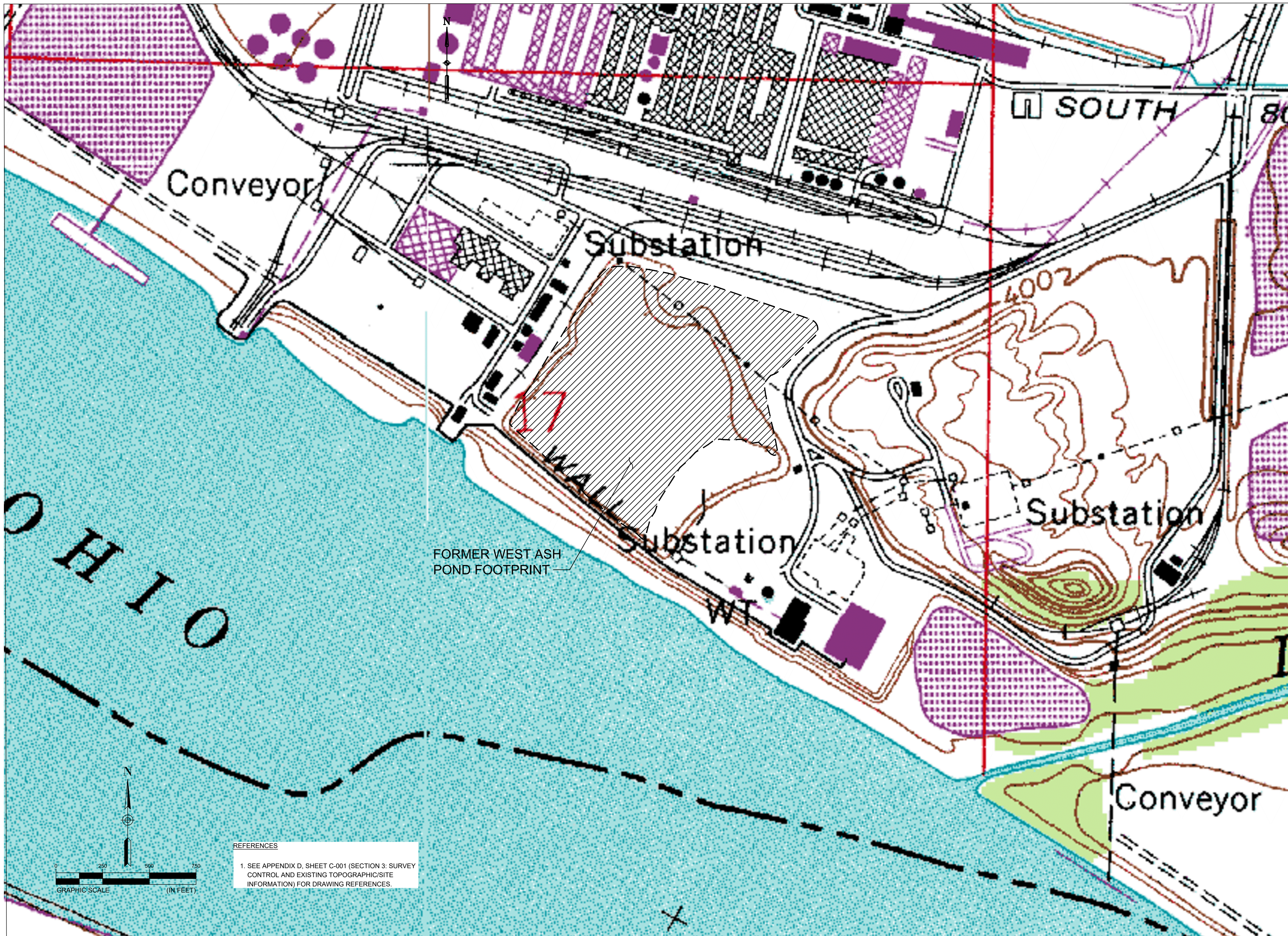
## **Appendix A Figures**

Figure 1 – Site Location Map

Figure 2 – Aerial Site Map

Figure 3 – Site Topography

AECOM DRAWING PATH: C:\Users\Govindarajana\Documents\Working Files Copied to C Drive\Vectren Culley West\470-Reports and Documents\Closure Plan\Draft\DEM version\Appendices\Figures\Figure 3 - Site Location.dwg



**REFERENCES**  
 1. SEE APPENDIX D, SHEET C-001 (SECTION 3: SURVEY CONTROL AND EXISTING TOPOGRAPHIC/SITE INFORMATION) FOR DRAWING REFERENCES.

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F.B. CULLEY  
 GENERATING STATION  
 NEWBURGH, INDIANA

HYBRID CLOSURE OF  
 WEST ASH POND

POST-CLOSURE PLAN

NOT FOR  
 CONSTRUCTION

ISSUED FOR BIDDING \_\_\_\_\_ DATE BY \_\_\_\_\_

ISSUED FOR CONSTRUCTION \_\_\_\_\_ DATE BY \_\_\_\_\_

**REVISIONS**

NO.	DESCRIPTION	DATE
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DESIGNED BY:	AG
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SHEET TITLE

SITE LOCATION

**FIGURE 1**

SHEET 1 OF 3



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### F.B. CULLEY GENERATING STATION NEWBURGH, INDIANA

HYBRID CLOSURE OF  
WEST ASH POND

POST-CLOSURE PLAN

NOT FOR  
CONSTRUCTION

ISSUED FOR BIDDING \_\_\_\_\_ DATE BY \_\_\_\_\_

ISSUED FOR CONSTRUCTION \_\_\_\_\_ DATE BY \_\_\_\_\_

#### REVISIONS

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AERIAL SITE MAP

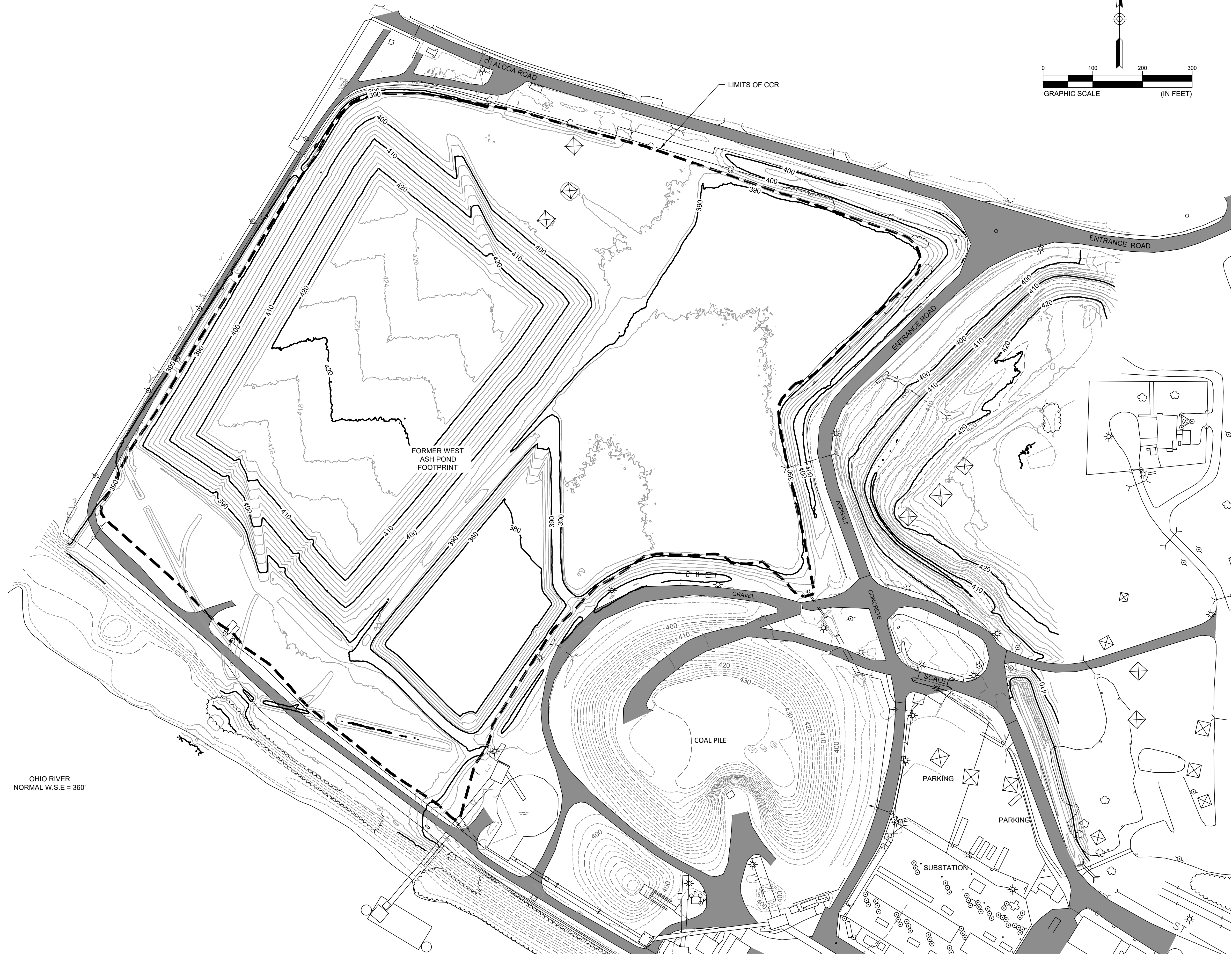
## FIGURE 2

SHEET 2 OF 3

A B C D E F

A B C D E F

OHIO RIVER  
NORMAL W.S.E = 360'



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SITE  
TOPOGRAPHY

**FIGURE 3**

SHEET 3 OF 3



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