

**HAZARD POTENTIAL CLASSIFICATION ASSESSMENT REPORT**  
**METAL CLEANING BASIN**  
**POWERTON STATION**  
**SEPTEMBER 2021**

This initial Hazard Potential Classification Assessment Report has been prepared pursuant to the coal combustion residuals (CCR) rule codified in Title 35 of the Illinois Administrative Code, Section 845.440(a) effective as of April 21, 2021, for the Metal Cleaning Basin (Basin) at Powerton Station in Pekin, Illinois (Station). The purpose of this project is to perform the hazard potential classification assessment by a licensed professional engineer to document the hazard potential classification as either a Class 1 or a Class 2 surface impoundment including the basis for the determination. Civil & Environmental Consultants, Inc. (CEC) completed this hazard potential classification assessment by considering the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the diked section or mis-operation of the diked basin or its appurtenances. The hazardous potential classifications considered include either Class 1 or Class 2, defined as follows:

Class 1: CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

Class 2: CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

The following sections provide a description of physical and operational features followed by an evaluation of potential failure scenarios that show the Basin is a Class 2 CCR surface impoundment.

## **1.0 SITE DESCRIPTION**

The Basin is located at Powerton Station (Station) in Pekin, Illinois, situated northeast of the main power building, south of the Wastewater Building and between the Ash Surge Basin and former Cooling Water Intake Channel, see Figure 1. Measuring 422 feet long and 192 feet wide, the Basin is lined with a 60 mil high-density polyethylene liner. Gravel access roads are located along the north, east, and west sides.

The Basin is a partially incised impoundment with the north, south, and east boundary of the Basin at grade. The west boundary of the Basin is constructed with an earthen embankment. As shown in Figure 1, the former cooling water intake channel is located approximately 75 feet west of the

Basin. Except for an above grade pipe rack and piping, the area between the Basin and former intake channel has no structures or buildings.

Based on information provided by station personnel, the Basin was approved for construction in 1977 and constructed shortly thereafter. Although relined in 2009, the Basin has not undergone significant changes in the geometry. The original operation of the Metal Cleaning Waste System was to collect wash water from the air heaters and boilers, transport the wash water to the metal cleaning waste basin and treat the basin discharge for the removal of dissolved metals and suspended solids to produce an acceptable effluent for discharge to the Ash Surge Basin under the Station's National Pollutant Discharge Elimination System (NPDES) permit. Solids that settle in the Basin are periodically hauled off-site.

Operation of the Basin has changed to also periodically receive dry bottom ash and fly ash from maintenance activities into the Basin for temporary storage. Wastewater is periodically pumped from the Basin (when dry ash is not in the Basin), treated to remove dissolved metals and suspended solids, and discharged into the Ash Surge Basin under the Station's NPDES permit. Other than boiler wastes and precipitation falling on the Basin, the Basin has no inflow. The Basin is inspected weekly by the environmental specialist including checking that the water level is maintained no higher than the weir elevation, which represents approximately 2 feet of water depth.

## **2.0 FAILURE EVALUATION**

To evaluate the Basin hazard classification, impacts as a result of failure or mis-operation of the Basin were evaluated. The following features were considered in the determining the classification.

- Relatively small in size, the volume of water and ash is controlled at low levels through continued maintenance and inspection.
- Other than boiler wash and precipitation falling on the Basin, the Basin has no inflow.
- A flexible membrane liner prevents water from seeping through the earthen embankment thereby preventing potential failure due to loss of embankment through piping.
- The north, south and east sides are incised and not susceptible to a release from the Basin due to catastrophic failure or mis-operation.
- The west side is constructed with an earthen embankment. In the event of catastrophic failure or mis-operation, the downstream inundation area between the Basin and former intake channel have no buildings and is infrequently entered.
- In the event of catastrophic failure or mis-operation, the downstream inundation area is within the former intake channel and fully contained on uninhabited areas on the Powerton Station property.

### 3.0 HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

Based on our assessment of the Basin and surrounding site features, the Basin can be classified as a Class 2 CCR surface impoundment. Potential downstream inundation areas that could be impacted by a failure or mis-operation the Basin have no buildings and are only occasionally accessed for mowing and inspection purposes that result in no probable loss of human life. Potential economic loss, environmental damage, disruption of lifeline facilities, and impact other concerns are allowed under this classification.

### 4.0 LIMITATIONS AND CERTIFICATION

This Initial Hazard Potential Classification Assessment Report has been prepared pursuant to the CCR rule codified in Title 35 of the Illinois Administrative Code, Section 845.440(a) and was prepared under the direction of Mr. M. Dean Jones, P.E.

By affixing my seal to this, I do hereby certify to the best of my knowledge, information, and belief that the information contained in this report is true and correct. I further certify I am licensed to practice in the State of Illinois and that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Seal:



Signature: Dean Jones

Name: M. Dean Jones, P.E.

Date of Certification: September 22, 2021

Illinois Professional Engineer No.: 062-051317

Expiration Date: November 30, 2021

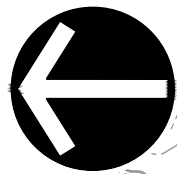
Enclosure: Figure 1 - Site Plan

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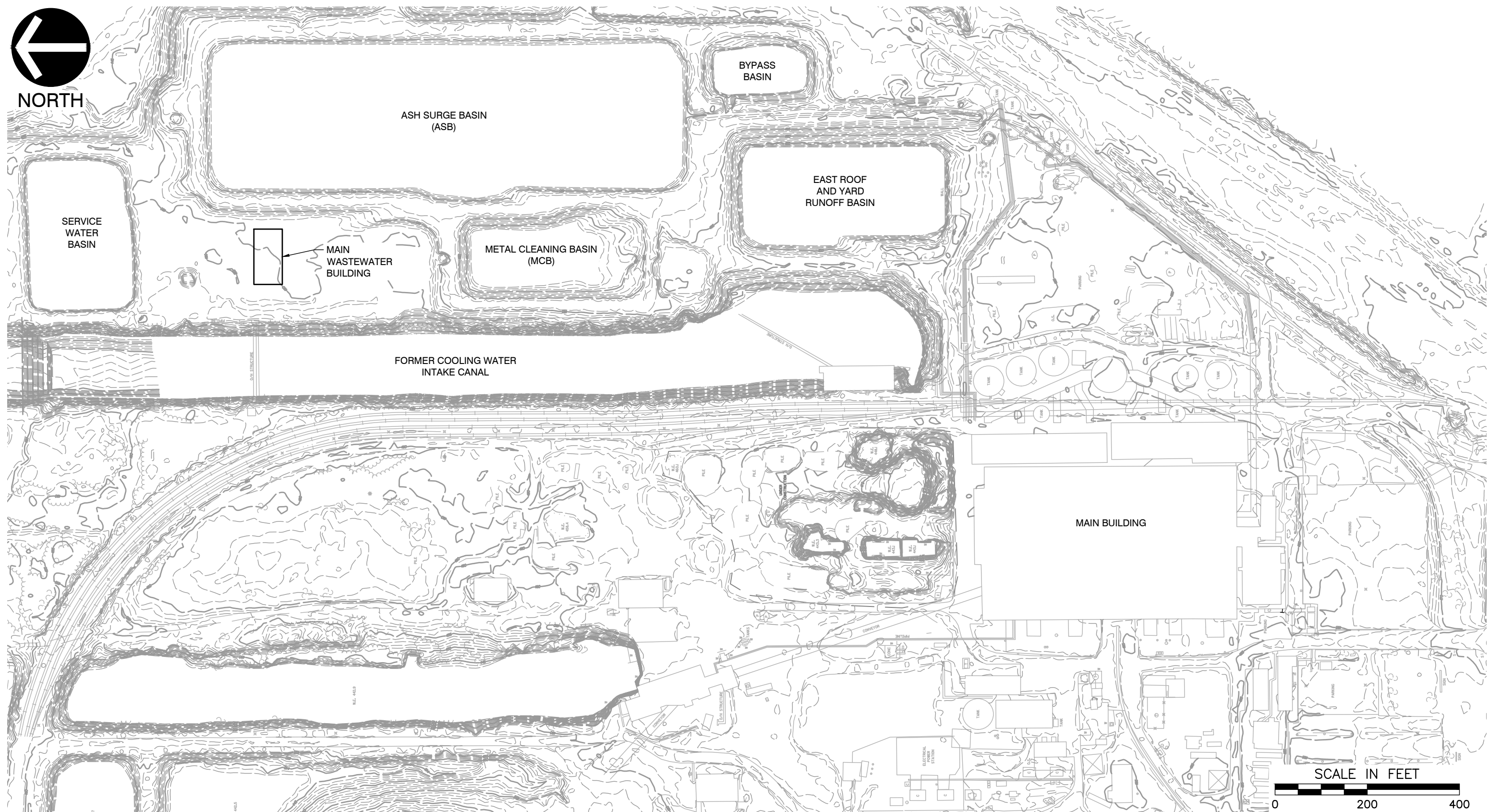
**FIGURE 1**

**SITE PLAN**

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NORTH



P:\310-000\312-192\ -CAD\ Dwg\CV02 Powerton - MCB\312192-CV02-MCB Site Map.dwg[LAYOUT] LS:(9/23/2021 - ccase) - LP: 9/29/2021 2:23 PM

**REFERENCE**

1. TOPOGRAPHIC INFORMATION SOUTH OF SECONDARY ASH SETTLING BASIN AND FAB IS BASED ON AERIAL SURVEY PERFORMED BY AEROMETRIC, INC. DATED JUNE 19, 2008. TOPOGRAPHIC INFORMATION NORTH OF ASH SURGE BASIN IS BASED ON SURVEY BY RIDGELINE CONSULTANTS, PERFORMED IN FEBRUARY AND MARCH, 2016.

\*HAND SIGNATURE ON FILE



**Civil & Environmental Consultants, Inc.**  
 1230 East Diehl Road, Suite 200 - Naperville, IL 60563  
 630-963-6026 · 877-963-6026  
 www.cecinc.com

MIDWEST GENERATION LLC  
 POWERTON STATION  
 METAL CLEANING BASIN HAZARD POTENTIAL  
 PEKIN, TAZEWELL COUNTY, ILLINOIS

**SITE PLAN**

DRAWN BY:	CAC	CHECKED BY:	MDJ	APPROVED BY:	MDJ*	FIGURE NO.:	<b>1</b>
DATE:	SEPTEMBER 2021	DWG SCALE:	1"=200'	PROJECT NO:	312-192		