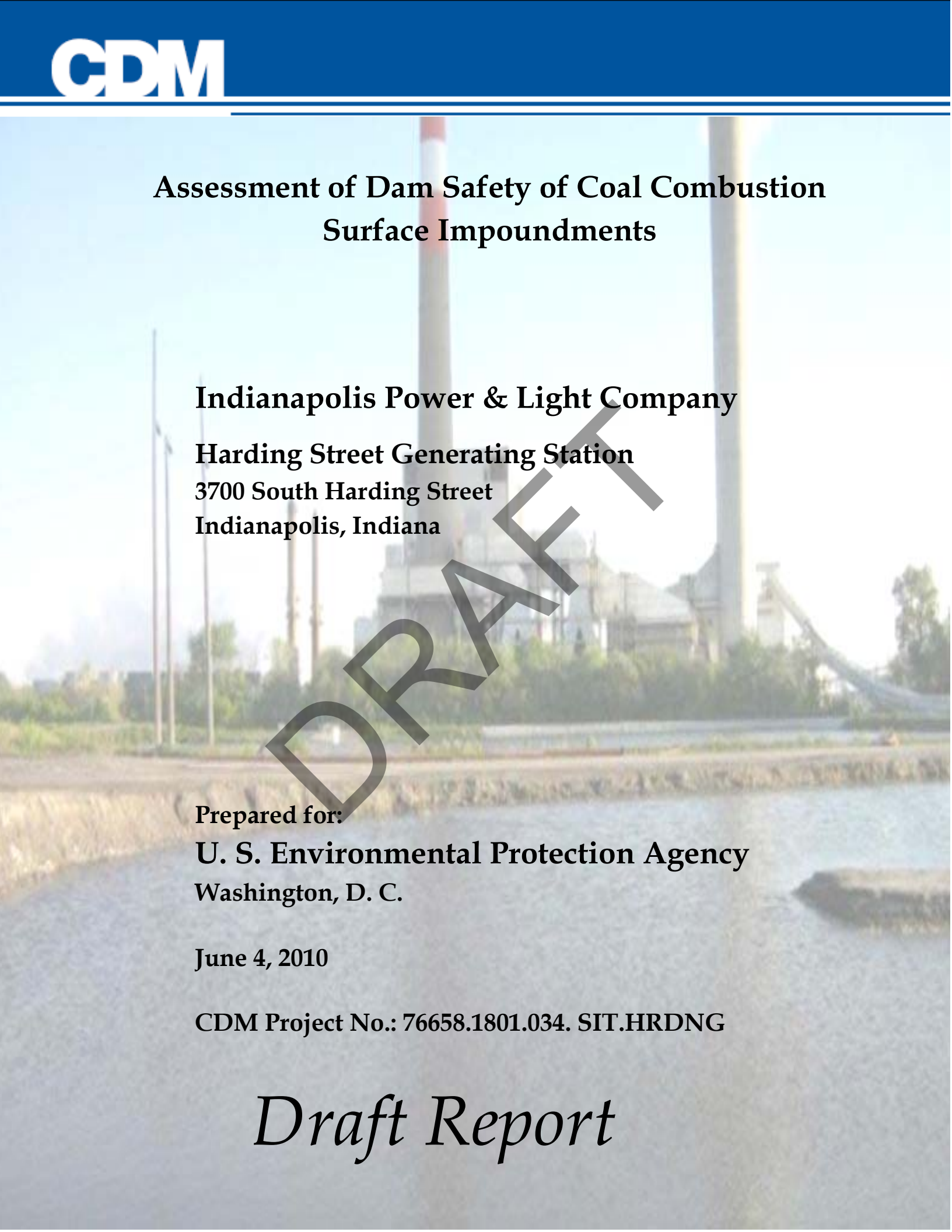

Assessment of Dam Safety of Coal Combustion Surface Impoundments

Indianapolis Power & Light Company

Harding Street Generating Station
3700 South Harding Street
Indianapolis, Indiana

Prepared for:
U. S. Environmental Protection Agency
Washington, D. C.

June 4, 2010

CDM Project No.: 76658.1801.034. SIT.HRDNG

Draft Report

Preface

The assessment of the general condition of the impoundments is based upon available data and visual observations. Detailed investigations and analyses involving topographic mapping, subsurface investigations, testing and detailed computational evaluations are beyond the scope of this report.

In reviewing this report, it should be realized that the reported condition of the impoundments is based on observations of field conditions at the time of assessment, along with data made available to the assessment team. In cases where an impoundment may have been lowered or drained prior to the assessment, such action, while improving the stability and safety of the impoundment, removes the normal load on the structure and may obscure certain conditions, which might otherwise be detectable if inspected under the normal operating environment of the structure.

It is critical to note that the condition of the impoundments depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the impoundment at the time of the assessment is representative of the condition of the impoundment at some point in the future. Only through continued care and assessment can there be any chance that unsafe conditions will be detected.

Prepared By:

CDM

I certify that the management unit (s) referenced herein have been assessed on April 29 and 30, 2010:

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Introduction and Project Description

1.1 Introduction

CDM was contracted by the United States Environmental Protection Agency (USEPA) to perform site assessments of selected coal combustion waste (CCW) surface impoundments. As part of this contract, CDM performed a site assessment at the Harding Street (HS) Generating Station, owned by Indianapolis Power & Light Company (IPL).

CDM made a site visit to the HS Generating Station on April 28 and 29, 2010 to collect relevant information, inventory the impoundments, and perform visual assessments of the impoundments.

CDM representatives William Friers, P.E. and Kyle R. King were accompanied by the following individuals:

Company	Name and Title
IPL	Nysa L. Hogue, Senior Environmental Coordinator (Ash Pond 1)
IPL	Gary Finchum, Plant Leader (Ash Pond 2 and 4)
IPL	Thomas O'Leary, Environmental Coordinator (All Ash Ponds)

1.2 State Regulation

The Indiana Department of Natural Resources (IDNR) Water Division is responsible for the State's dam safety program. It is our understanding that to date IDNR has not been actively involved in the regulation of CCW impoundments. IPL staff stated there are no State inspection reports for the impoundments at the HS Generating Station.

1.2.1 Permits

The IPL HS Generating Station was issued a permit under the National Pollutant Discharge Elimination System (NPDES) authorizing discharge to the White River in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the permit. The station's current permit will expire September 30, 2011. The permit number is IN0004685.

1.3 Datum

Elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29). Directional coordinates are referenced to magnetic north.

1.4 Site Description and Location

The HS Generating Station is located on the southwest side of Indianapolis, Monroe County, Indiana as shown on **Figure 1.** The state boundary with Illinois and Michigan is approximately 70 miles west and 145 miles north of the site, respectively. The HS Generating Station is located within the city limits of Indianapolis. The area around the HS Generating Station showing critical infrastructure within approximately five miles down gradient of the impoundments is shown on **Figure 2.** The nearest residential area which is located approximately 1.5 miles downstream (southwest) from the site is also shown in Figure 2. An aerial view of the Ash Pond Impoundments is shown on **Figure 3.**

1.4.1 CCW Impoundment Construction and Historical Information

The HS Generating Station began operation in September 1941. The CCW is generated by Unit 5 (on line since 1958), Unit 6 (on-line since 1961) and Unit 7 (on-line since 1973).

Based on a survey map dated 1996 (shown on **Figure 4**) and previous reports, the embankment crests for the ponds ranged from El. 682 (Ash Pond 4) to El. 720 (Ash Pond 2).

Ash Pond 1 is the original CCW impoundment at HS and was constructed and commissioned in 1958. In 1995 the crest elevation of the embankment was raised to approximately El. 686. In 1998 the crest was widened to approximately 25 feet to accommodate truck hauling and other vehicle traffic. The interior and exterior slopes of the embankment were constructed at approximately 3H:1V.

Ash Pond 2 was constructed and commissioned in 1968. Based on information contained in IPL project files, a "Wing levee" was constructed in 1980 within Ash Pond 2. In 1992 the "Perry K ash disposal facility" was also constructed within Ash Pond 2. Remnants of several interior embankments were observed at the time of the assessment, however neither the "Wing levee" nor the "Perry K ash disposal facility" were evident. IPL drawing titled "Pond 2 Levee Improvements Ash Pond Area Plan", dated October 27, 2004, called for the removal of several embankments within Ash Pond 2 (shown on **Figure 5**).

Ash Pond 2 embankments crests were raised in 1992 to El. 686. In 2001 they were again raised approximately 17 feet. In 2006 they were raised a final time approximately 20 feet to approximately El. 720. The embankment interior and exterior slopes are approximately 3H:1V and are constructed of compacted ash materials with approximately 6 inches of shale armor. As the embankment was raised a 5-foot-thick geosynthetic clay/clay core was constructed along the exterior edge of the embankment crest. The geosynthetic clay/clay core extends from the top of the embankment to undisturbed soil at the base of the embankment, and then extends

horizontally toward the toe of the exterior slope, as shown on **Figure 6**, Section B-B. The information shown on Section B-B appears to indicate that the expanded embankment may have been constructed over hydraulically placed ash materials previously placed in the pond.

Ash Ponds 2A, 2B and 2C were commissioned in approximately 1992. At some point after the 1992 commissioning, the divider embankment that formed the east side of Ash Pond 2C was removed, combining Ash Ponds 2A and 2C creating a single larger pond named Ash Pond 2A. Information regarding the dimensions of the original embankment construction is not available.

Ash Pond 3 was commissioned in approximately 1977 with modifications and vertical expansions in 1995. In 1998 the embankment crest was widened to approximately 40 feet to accommodate truck traffic. The interior and exterior slopes of the embankment were constructed at approximately 3H:1V.

Ash Pond 4 was gravel borrow pit prior to 1983. Ash Pond 4 was commissioned as a disposal facility in approximately 1983. Modifications and vertical expansions occurred in 1995 and horizontal expansions to accommodate truck traffic in 1998 (as shown on **Figure 7**). Upon completion of the 1998 modifications, the embankment crest had been raised to approximately El. 686. At some time after commissioning, divider embankments were constructed within the original footprint of Ash Pond 4 to create Ash Ponds 4A and 4B.

1.4.2 Current CCW Impoundment Configuration

The impoundments at the HS Generating Station currently are used as settling ponds for CCW waste and other plant wastes. CCW sluiced into the impoundments include:

- Bottom ash;
- Fly ash;
- Boiler slag;
- Ash and pyrite system;
- Flue gas emission control residuals;
- Boiler blowdown; and
- Boiler, condenser, air pre-heater, and cooling cleaning wastes.

Other plant wastes sluiced into the ash ponds include liquids from:

- Recirculating cooling tower blowdown;
- Demineralizer wastes;
- Flue gas desulfurization (FGD) system blowdown;
- Miscellaneous FGD wastes;
- Floor drains;

- Stormwater runoff;
- Water treatment wastes;
- Metal cleaning wastes; and
- River dredging materials.

There are currently eight CCW Units at the HS Generating Station as shown on Figure 3. They include: Ash Pond 1, Ash Pond 2, Ash Pond 2A, Ash Pond 2B, Ash Pond 3, Ash Pond 4, Ash Pond 4A, and Ash Pond 4B. The approximate crest elevations of the embankments and pond areas are shown on **Table 1.**

Table 1 – Approximate Ash Pond Low Crest Elevations and Areas

Ash Pond Number	Approximate Low Crest Elevation	Approximate Ash Pond Area (Acres)
1	685	7
2	720	30
2A	684	3
2B	684	2
3	685	9.5
4	682	21
4A	685	1
4B	684	5

Ash Pond 1 is currently inactive and dry. When in operation, water levels in Ash Pond 1 and Ash Pond 2A are balanced though a 30-inch-diameter Corrugated Metal Pipe (CMP). The invert of the pipe is approximately El. 680.5.

Ash Pond 2 does not have an inlet structure. Historically, IPL has pumped CCW into this pond using a hydraulic dredge. Water contained in the dredge material evaporates and infiltrates the dredge spoils over time. In the event that water levels within the pond reach El. 695 or higher, water will be discharged through an overflow structure, located at the east end of the pond. The 30-inch-diameter CMP overflow structure, with an invert at approximately El. 695, discharges into Pond 2A at approximate invert El. 684.6.

Ash Pond 2A is charged with influent flows through three 8-inch-diameter sump pit (pits 7-1, 7-2, and 7-3) lines and the 8–inch-diameter cinder pit (hydroclone) line. Water flows from Ash Pond 2A into Ash Pond 2B through a 30-inch-diameter CMP outlet pipe, with an approximate invert elevation of El. 680.5. Water also flows from Ash Pond 2A into Ash Pond 1 through a 30-inch-diameter CMP, with an approximate invert elevation of El. 681.5.

Ash Pond 2B is used as a secondary pond for settling of finer material. Water flows from Ash Pond 2B into Ash Pond 4A and is controlled by a 30-inch isolation valve, with a centerline at El. 680.8. The discharge pipe is a 30-inch-diameter CMP with an invert elevation of El. 682.

Ash Pond 3 is the final settling pond before water is discharged into Lick Creek. Flow into Ash Pond 3 comes from Ash Pond 4A and Ash Pond 4B, through 30-inch-diameter CMP. The invert from Ash Pond 4A has an invert of approximately El. 682 and the inlet from Ash Pond 4B has an invert of approximately El. 681.5. Water from Ash Pond 3 flows through three 12–inch-diameter welded steel pipes, with invert elevations of approximately El. 678.5, to a drop outlet structure, and then into Lick Creek via an 18–inch-diameter reinforced concrete pipe.

Ash Pond 4 is charged by four (4) 8-inch-diameter sluice lines and is used as a primary settling pond. Water from Ash Pond 4 discharges into Ash Pond 4B through a 30-inch-diameter CMP with an invert elevation of approximately El. 681.0.

Fly ash and bottom ash contained in Ash Pond 4A are currently being processed. Ash Pond 4B is being used for the settlement of fines. Water levels in Ash Pond 4B and Ash Pond 4A are balanced with a 30-inch-diameter CMP equalizer pipe which extends between the two ponds.

The outlet from Ash Pond 4A to Ash Pond 3 is through a 30-inch-diameter CMP, with an invert elevation of approximately El. 682.0. The outlet from Ash Pond 4B to Ash Pond 3 is through a 30-inch-diameter CMP, with an invert elevation of approximately El. 681.5.

1.4.3 Other Impoundments

No other impoundments were identified at the HS Generating Station.

1.5 Previously Identified Safety Issues

Based on our review of the information provided to CDM by plant personnel and the USEPA, there have been no identified safety issues at the Ash Pond Complex in the last 10 years.

1.6 Site Geology

The Ash Pond Complex is located east of the White River adjacent to the floodplain. The ground surface elevation at the toe of the impoundments is approximately El. 670. According to the Geologic Map of Indiana, bedrock is likely comprised of siltstone, shale, sandstone, and minor amounts of limestone as part of the Borden

Group. Our review of the data indicates that bedrock is anticipated to exist approximately 50 to 80 feet below existing site grades. Based the information reviewed, glacial till overlies bedrock and consists of an unsorted mixture of sand, silt, clay and boulders that was deposited as glaciers advanced into Indiana.

Based on a boring advanced in 2006 by Patriot Engineering, existing soils present in the vicinity of the impoundment systems consist of silty clays and sand with varying amounts of gravel. The boring location plan is shown on **Figure 8a** and the boring log is shown on **Figure 8b**.

Section 2
Field Assessment
2.1 Visual Observations

CDM performed a visual assessment of the CCW impoundments at the HS Generating Station. The perimeter and divider embankments of the impoundments total approximately 17,210 feet in length and are up to 48 feet high. The assessments were completed following the general procedures and considerations contained in Federal Emergency Management Agency's (FEMA's) Federal Guidelines for Dam Safety (April 2004) to make observations concerning settlement, movement, erosion, seepage, leakage, cracking, and deterioration. A Coal Combustion Dam Inspection Checklist and CCW Impoundment Inspection Form, developed by USEPA, were completed on site for each impoundment during the site visit. Copies of these forms are included in **Appendix A**. Photograph Location Plans are shown in **Figures 9a through 9h**, and photographs are included in **Appendix B**. Photograph locations were logged using a GPS device. The photograph coordinates are listed in **Appendix C.**

CDM visited the site on April 29, 2010 and April 30, 2010 to make visual assessments of the impoundments. The weather was generally sunny and windy with daytime high temperatures between 44 and 79 degrees Fahrenheit. The daily total precipitation prior to the site visit is shown in **Table 2**. The data was recorded at the Indianapolis Airport which is approximately five miles west of the HS Generating Station.

Table 2 – Approximate Precipitation Prior to Site Visit

Dates of Site Visits - April 29, 2010 & April 30, 2010		
Day	**Date**	**Precipitation (inches)**
Thursday	April 22	0.00
Friday	April 23	0.05
Saturday	April 24	0.23
Sunday	April 25	0.87
Monday	April 26	0.00
Tuesday	April 27	0.00
Wednesday	April 28	0.00
Thursday	April 29	0.00
Friday	April 30	0.00
Total	**Week Prior to Site Visit**	**1.15**
Total	**Month Prior to Site Visit**	**2.97**

2.2 Ash Pond 1

An overview of Ash Pond 1 photograph locations is shown on Figure 9a. Ash Pond 1 was inactive and dry at the time of the assessment. The pond's west, south and east embankments serve as divider embankments with Ash Ponds 2, 2A and 3, respectively. Based on information provided by IPL, Ash Pond 1 was commissioned in 1958.

2.2.1 Exterior Slope

The exterior slopes appear to be in fair condition. The exterior slope of the north embankment is, for the most part, heavily covered with trees up to 18 inches in diameter and brush (Photograph 14). Although vegetation nearly obscured observations on the north embankment, it appeared that the exterior slope of the north embankment was approximately 3H:1V. Dense vegetation precluded observation of any erosion or rodent burrows on the north embankment (Photograph 14).

The south, east and west embankments were covered with medium dense vegetation ranging from approximately 18 to 48 inches in height. The exterior slopes on the west, south and east embankments ranged from approximately 2.5H:1V to 3H:1V. Riprap, with an underlying geotextile has been placed on sections of the east and south embankments, apparently for erosion protection (Photographs 46, 47, and 79). Surface erosion was observed along portions of the south embankment. An erosion rill on the south embankment had undercut plant sluice lines by as much as 14 inches across a distance of approximately 10 feet (Photographs 48 and 49). The east embankment had areas of erosion, including sections with apparent surfical slope failures and undermining (Photographs 78, 81 and 82).

2.2.2 Crest

The crest of Ash Pond 1 appeared to be in satisfactory condition (Photographs 1, 8, 11, and 12). The crest was approximately 15 feet wide with the exception of the haul road portion of the crest on the north embankment that was approximately 20 feet wide. The entire crest is exposed to vehicle traffic. Depressions and minor ruts, apparently due to vehicle traffic, were observed on the crest of each embankment (Photograph 1, 8 and 12). The crest surface appears to consist of compacted granular soils. A section of the crest of the south embankment has been excavated and remains open, apparently to facilitate the repair of a joint on the cinder pit sluice line (Photograph 5).

2.2.3 Interior Slope

The interior slopes appear to be in fair condition. Light vegetation covers the south and east embankments (Photographs 4 and 9). The interior slopes are approximately 3H:1V. No armoring of the interior slope is present, and much of the pond's interior surface consists of exposed ash. Areas of beaching and erosion were observed on portions of the unprotected slope surface (Photograph 16). Beaching is defined as the progressive erosion of the interior embankment slope caused by repeated wave action

striking the embankment just above the water line, displacing material from the face of the slope and depositing it at a point farther down the slope as the wave recedes, creating a beach. Scarification resulting from equipment tracks was present along the west embankment (Photograph 19).

2.2.4 Outlet Pipe

The outlet pipe in Ash Pond 1 appears to be in good condition. A 30-inch-diameter CMP tee is located at the southwestern end of the pond, connecting the pond with Ash Pond 2A (Photograph 2). No unusual movement was observed around the pipe penetration.

2.3 Ash Pond 2

An overview of Ash Pond 2 photograph locations is shown on Figure 9b. Ash Pond 2 was inactive and dry at the time of the assessment. Water generally leaves the pond through evaporation and infiltration. Based on information provided by IPL, Ash Pond 2 was commissioned in 1968.

2.3.1 Exterior Slope

The exterior slopes of the impoundment are approximately 3H:1V. The slopes appear to be in fair condition. The south embankment slope is generally covered with weathered shale fill. Numerous erosion rills were present on the exterior slope of the south embankment (Photographs 25, 27, 29, and 32). Vegetation including brush and saplings (up to 3 inches in diameter) were observed along the toe of the south embankment (Photos 22 and 23). Riprap has been placed over a geotextile in 3 locations on the south embankment (Photos 28 and 29). The riprap appears to be remediation efforts in the vicinity of erosion rills, previously documented in BT Squared, Inc. (BT^2) and Geosyntec's September 2008 inspection report.

The surface of the west embankment slope is covered with grass and weeds ranging from 6 to 12 inches in height (Photograph 37).

Areas of minor surface erosion were observed on the north embankment exterior slope. An area of the slope face has riprap on the surface placed from the edge of the crest to a point approximately 30 feet above the toe of the slope (Photographs 38 and 39). The north embankment exterior slope has light grass cover. The toe of the slope has heavy vegetation including trees (up to 24 inches in diameter) (Photograph 40).

Riprap has been placed over approximately 50 percent of the east embankment exterior slope (generally on the north part of the embankment). Vegetation on the remaining embankment was sparse and generally 10 to 18 inches high (Photograph 45).

2.3.2 Crest

The crest appears to be in satisfactory condition (Photographs 24 and 40). The average crest width is approximately 25 feet. The entire crest is subjected to vehicle traffic. Depressions and ruts approximately 12 inches deep, apparently due to vehicle traffic, were observed on the crest of the south embankment (Photograph 24).

2.3.3 Interior Slope

The interior slopes appear to be in generally poor condition. The interior slopes are approximately 3H:1V. No armoring of the interior slope is present and much of the pond's interior surface consists of exposed ash. There are deep erosion rills and significant surface sloughs on approximately 40 percent of the south embankment interior slope (Photographs 26, 33, 34 and 35).

Dredge fill material has been deposited in the west end of the impoundment, covering the west embankment interior slope (Photograph 36). Due to the presence of this fill material the interior slope could not be observed.

Erosion rills are present at the toe of the north embankment interior slope (Photograph 41).

The interior slope of the east embankment has been re-graded during summer of 2009 (Photograph 44).

2.3.4 Outlet Pipes

The outlet pipe in Ash Pond 2 appears to be in good condition. A 30-inch-diameter CMP discharges from the Ash Pond 2 precast concrete overflow structure directly into Ash Pond 2A. The invert elevation of the 30-inch-diameter outlet is approximately El. 695. The outlet appeared to be free of debris. No unusual movement was observed around the pipe penetration.

2.4 Ash Pond 2A

An overview of Ash Pond 2A photograph locations is shown on Figure 9c**.** Ash Pond 2A had areas of standing water and ash, with approximately 3.5 feet of freeboard. The pond's north, south, east, and west embankments serve as divider embankments between Ash Pond 1, Ash Pond 2B, Ash Pond 3 and Ash Pond 2 respectively. The pond is charged through two sump pit lines and the cinder pit (hydroclone) line (Photograph 46), located at the northwestern corner of the pond. Based on information provided by IPL, Ash Pond 2A was commissioned in 1992.

2.4.1 Exterior Slope

The exterior slopes appear to be in fair condition. Light vegetation covers the north embankment slope (divider embankment with Ash Pond 1) (Photographs 4 and 9). The north embankment exterior slope is approximately 3H:1V. There is no armoring present on the south embankment slope (divider embankment with Ash Pond 2B) and

much of the surface consists of exposed ash. The remaining exterior slopes have areas of vegetation from 12 to 36 inches in height, and trees with a maximum diameter of approximately 3 inches.

Erosion rills and areas of slope failure were observed on the south embankment (divider embankment with Ash Pond 2B). In the areas of slope failure, the embankment slope is approximately 1H:1V (Photographs 72 and 73).

2.4.2 Crest

The crest appeared to be in fair condition (Photographs 51 and 61). In general, there are no signs of changes in the horizontal alignment. The crest serves as a vehicle access drive to the CCW impoundments. The average width of the embankment crest is 30 feet. A 5-foot-long section of the north embankment crest, in the vicinity of three 8-inch-diameter outfall pipes, has been eroded approximately 5 feet horizontally, resulting in a crest width of about 25 feet. This condition appears to infringe on the access drive (Photograph 46). Several minor depressions and areas of rutting were observed on the north embankment crest (Photograph 51).

2.4.3 Interior Slope

The interior slopes appear to be in fair condition. Erosion rills were observed along the north embankment. Erosion has undercut two active sluice lines in one location along the north embankment (Photographs 48 and 49). Riprap has been placed in several locations along the north embankment (Photograph 46), but in general the surface of the interior slopes defining Ash Pond 2A consists of exposed ash material, covered with light vegetation one to three feet in height (Photograph 55). Riprap on the north embankment near the waterline has been dislodged, apparently due to wave action (Photograph 54). Vegetation, consisting of brush and saplings, generally less than 30 inches in height, was observed on the interior slope of the north embankment (Photographs 52 and 54). The interior slopes generally appear to range from 2.5H:1V to 3H:1V; except in the areas of slope failure. In those areas slopes appear to be approximately 1H:1V.

Scarps and beaching were observed on the east embankment where no armoring was present (Photographs 56 and 57). The embankment slope in these areas is approximately 1H:1V (Photographs 56, 57 and 58).

The south embankment interior slope was armored with a layer of riprap to and elevation just above the water's surface (Photographs 50 and 61). Grass up to 18 inches high was observed along the waterline in this area (Photograph 60).

2.4.4 Outlet Pipes

The outlet pipes appear to be in fair condition. Ash Pond 2A discharges to Ash Pond 2B and Ash Pond 1 (when active). Both outlet pipes are 30-inch-diameter CMPs (Photographs 47 and 59). The outlet to Ash Pond 1 was about 90 percent obstructed by sediment.

2.5 Ash Pond 2B

An overview of Ash Pond 2B photograph locations is shown on Figure 9d. Ash Pond 2B contained standing water and ash at the time of this assessment and approximately 3.5 feet of freeboard. The pond's north, east and west embankments serve as divider embankments with Ash Ponds 2A and 3. Based on information provided by IPL, Ash Pond 2B was commissioned in 1992.

2.5.1 Exterior Slope

The exterior slopes appeared to be in poor condition due to the presence of trees and brush. Trees up to 4 inches in diameter and light brush were observed on the exterior slope of the south embankment (Photograph 65). Sluice lines/pipes from the cinder pit (hydroclone) and sump pump lines run along the north embankment (Photograph 69). Erosion was observed below pipes running along the east crest (Photograph 71). The south embankment slope was approximately 2H:1V.

2.5.2 Crest

The crest appeared to be in fair condition (Photographs 62 and 67). Minor areas of rutting were observed on the east and north embankment crest (Photograph 70). The average crest width of the east embankment (divider embankment with Ash Pond 3) is approximately 18 feet. The average crest width of the north, south and west embankment is approximately 30 feet. The crest surface appears to be compacted ash materials.

2.5.3 Interior Slope

The interior slopes appear to be generally in fair condition. Surface erosion was observed on the west embankment (Photograph 63) and at the eastern end of the north embankment interior slope (Photograph 73). The majority of the south embankment interior slope is armored with riprap (Photograph 62). The interior slopes generally appear to range from 2.5H:1V to 3H:1V, except in the areas of surface erosion and slope failure. In those areas slopes appear to be approximately 1H:1V.

Vegetation, consisting primarily of brush less than 24 inches tall was observed on the interior slopes of the west, east and north embankments (Photographs 63 and 67).

2.5.4 Outlet Structure

The outlet structure between Ash Ponds 2B and 4A appeared to be in good condition (Photograph 66). This structure is controlled with a manually operated vertical slide gate. The outlet to Ash Pond 3 is located along the east embankment. This outlet was below the water surface and could not be observed (Photograph 68).

2.6 Ash Pond 3

An overview of Ash Pond 3 photograph locations is shown on Figure 9e. Ash Pond 3 contained standing water and ash at the time of this assessment. Ash Pond 3 had approximately 6 feet of freeboard. Based on information provided by IPL, Ash Pond 3 was commissioned in 1977.

2.6.1 Exterior Slope

The exterior slopes of Ash Pond 3 appear to be in fair condition. The west and south embankments serve as a divider embankment between Ash Pond 3 and Ash Ponds 2A, 2B and 4A. The HS Limestone Gypsum Conveyors have been installed on fill placed over the exterior slope of Ash Pond 3's east embankment. Heavy vegetation was present along the north embankment which obstructed view of the exterior slope (Photograph 14 is representative).

2.6.2 Crest

The crest appears to be in good condition (Photographs 84 and 90). The east, north and south embankment crests were widened in 1998 and surfaced with compacted gravel and crushed stone to accommodate truck traffic. The measured width of the east, north, and south embankment crests was approximately 40 feet. The surface of the west embankment crest appears to consist of compacted ash materials. The west embankment crest was measured to be approximately 20 feet wide.

2.6.3 Interior Slope

The interior slopes appear to be in poor condition. Much of the north embankment interior slope and a segment of the east embankment slope appeared to be armored with a layer of riprap, extending slightly below the water's surface (Photographs 86, 87 and 90). In general, the balance of the interior slopes is not armored. The interior slopes generally appear to range from 2.5H:1V to 3H:1V; except in areas of slope failure. In those areas slopes appear to be approximately 1H:1V.

Vegetation was observed on the north embankment (Photographs 80 and 85); the east embankment (Photographs 91, 94 and 95); the south embankment (Photograph 96); and the west embankment (Photographs 76, 81, and 101).

Surface erosion and localized sink holes were observed near the top of the west embankment interior slope (Photographs 81 and 82). Localized slope failures were observed (up to 18 feet in length) on the west embankment (Photograph 77, 78, and 103). Vegetation, including brush and saplings with a maximum diameter of approximately 2 inches, lines the south embankment interior slope (Photograph 96 and 97).

Slope failure of the east embankment was observed near the mid-point of the embankments length. The failure extended a distance of approximately 40 feet (Photos 92, 93 and 94). A sluice line (hydroclone) extends along the embankment crest, immediately adjacent to and above the area of the slope failure (Photograph 94). It was observed that further encroachment into the crest may result in undermining of the sluice line. Some vegetation remains intact in vicinity of the east embankment slope failure (Photograph 91). Ash product, likely deposited by strong winds, was observed on the northwest corner of Ash Pond 3 (Photograph 80).

Riprap had been apparently placed in areas where erosion rills had formed in the past. However, some erosion rills were still visible near the top of the slope (Photographs 97 and 98). Erosion rills were observed along the interior slope resulting in a near-vertical slope along the east embankment (Photograph 97). Several rodent burrows were observed; one on the south embankment (Photograph 99) and one on the west embankment (Photograph 102).

2.6.4 Outlet Structure

The outlet structure appears to be in good condition. The outlets consist of three (3) 12-inch-diameter welded steel pipes that discharge into a drop outlet structure (Photograph 89). The submerged outlet appeared to be clear with no debris visible. Discharge from the drop outlet structure to Lick Creek is through an 18-inch-diameter reinforced concrete pipe (Photograph 88). Water was observed flowing into Lick Creek at the time of the site assessment.

2.7 Ash Pond 4

An overview of Ash Pond 4 photograph locations is shown on Figure 9f. Ash Pond 4 had standing water and ash at the time of the assessment, with approximately 4 feet of freeboard. Based on information provided by IPL personnel, Ash Pond 4 was formerly a gravel borrow pit that was commissioned as a CCW impoundment in 1983.

2.7.1 Exterior Slope

The exterior slopes appear to be in fair condition. The south and west embankments' exterior slopes were covered with trees (up to 18 inches in diameter) and heavy vegetation (Photographs 114, 121, and 124). The dense vegetation prohibited visual assessment. The south, east and west embankment slopes generally appear to be

3H:1V. The slope of the east embankment was covered with vegetation consisting of established grass, some shrubs, and small saplings (Photographs 128 and 129). The north embankment serves as a divider embankment for Ash Ponds 4 and Ash Ponds 4A and 4B. The slope is generally not armored, and numerous areas of slope failure and surface erosion were observed. The slope was approximately 1H:1V.

2.7.2 Crest

The crest appears to be in good condition (Photographs 108, 115, 123, 130 and 135). The east, south and west embankment crests were widened in 1998 and surfaced with compacted gravel and crushed stone to accommodate vehicle traffic. The measured width of the east, south and west embankment crests was approximately 40 feet. The surface of the north embankment appears to consist of compacted ash materials. The north embankment crest was measured to be approximately 20 feet wide. Tire ruts up to 6 inches deep were observed along the western embankment crest (Photograph 115).

2.7.3 Interior Slope

The interior slope of Ash Pond 4 appears to be in fair condition. The majority of the east embankment was armored with riprap (Photographs 131, 132, 133 and 134). Surface erosion was observed at the western end of the north embankment's interior slope (Photograph 109) and near the eastern end of the north embankments' interior slope (Photograph 137). There were a number of areas observed where riprap had been placed on the interior slope of the embankment in an apparent effort to address surface erosion (Photographs 122 and 135). At some of the locations where riprap had been placed beaching was observed (Photographs 126 and 127). Vegetation including shrubs, saplings and grass, has grown to a height of about 2 feet on the north embankment (Photographs 105 and 109). Vegetation, generally less than 2 feet in height was present along the west embankment's interior slope (Photograph 117 and 120).

Ash sedimentation has reached the top of embankment along the south end of the west embankment interior slope (Photographs 117 and 118).

2.7.4 Outlet Pipes

The outlet pipes appear to be in good condition. The outlets discharge to Ash Pond 4B and consist of two 30-inch-diameter CMPs (Photograph 136). The CMP inlets and outlets appeared to be clear of sediment and debris.

2.8 Ash Pond 4A

An overview of Ash Pond 4A photograph locations is shown on Figure 9g. Ash Pond 4A had standing water and ash at the time of this assessment, with approximately 1.5 feet of freeboard. Based on information provided by IPL personnel, Ash Pond 4A was formerly a gravel borrow pit that was commissioned as a CCW impoundment in 1983.

2.8.1 Exterior Slope

The exterior slopes of Ash Pond 4A appear to be in fair condition. The north, east and south embankments serve as divider embankments between Ash Pond 4A and Ash Pond 3, Ash Pond 4B and Ash Pond 4, respectively. These slopes are generally not armored. Slope erosion and slope failures were observed. The west embankment exterior slope was covered with trees up to 18 inches in diameter and heavy vegetation (Photograph 152). The heavy vegetation prohibited further visual assessment. The south, east and west embankment slopes generally appear to be 3H:1V.

2.8.2 Crest

The crest appears to be in fair condition. Tire ruts up to 6 inches deep were observed along the north and west embankments (Photographs 143, 147 and 148). Vegetation, consisting primarily of brush, generally less than 1 foot in height, covers the south embankment crest (Photograph 151). The measured width of the east, south and west embankment crests was approximately 40 feet. The surface of the north embankment appears to consist of compacted ash materials. The north embankment crest was approximately 20 feet wide.

2.8.3 Interior Slope

The interior slopes appear to be in poor condition. The north embankment interior slope is not armored. Erosion rills, beaching, and slope failures were observed around the entirety of the interior slope (Photographs 139, 140, 141, 144, 145, 146 and 153). The south embankment, which divides Ash Pond 4A and Pond 4 and serves vehicle traffic, has eroded into the crest by as much as 4 feet (Photograph 150). The interior slope was generally 1H:1V.

The east embankment interior slope has experienced beaching (Photograph 145).

The south embankment interior slope is generally very steep due to erosion.

The west embankment interior slope has eroded to approximately 1H:1V with some undercutting observed (Photograph 152).

2.8.4 Outlet Pipes

The outlet pipe to Ash Pond 4B consists of a 30-inch-diameter CMP and appears to be in poor condition. The pipe was apparently partly crushed in the past by construction equipment. The outlet pipe to Ash Pond 4B has been partly flattened which effectively reduces the cross-section of the pipe (Photograph 150). The outlet was partly submerged during the assessment and visibility was limited. It appeared that that there was flow through the outlet. However, it could not be determined if sedimentation or debris was present at the pipe outlet (Photograph 149). The second outlet is a 30-inch-diameter CMP which discharges to Ash Pond 3. This pipe appears to be in good condition with no apparent obstructions.

2.9 Ash Pond 4B

An overview of the Ash Pond 4B photograph locations is shown on Figure 9h**.** Ash Pond 4B had standing water and ash at the time of this assessment, with approximately 3 feet of freeboard. Based on information provided by IPL personnel, Ash Pond 4B was formerly a gravel borrow pit that was commissioned as a CCW impoundment in 1983.

2.9.1 Exterior Slope

The exterior slopes of Pond 4B appear to be in fair condition. The north, west and south embankments separate Ash Pond 4B from Ash Pond 3, Ash Pond 4A and Ash Pond 4, respectively. These slopes are generally not armored. Slope erosion and significant slope failures (on the divider embankment with Ash Pond 3) were observed. Saplings (approximately 1 to 2 inches in diameter) were observed along the exterior slope (Photograph 163). The south, east and west embankment slopes generally appear to be 3H:1V.

2.9.2 Crest

The crest appears to be in fair condition (Photographs 163, 168 and 170). Ruts were observed along the west embankment crest due to truck traffic (Photograph 170).

2.9.3 Interior Slope

The interior slopes are in fair condition. The north embankment interior slope was observed to have areas of undercutting (Photograph 155) and slope failures (Photograph 157). Vegetation on the north embankment interior slope consisted of brush, grass, and saplings, generally less than 36 inches in height (Photograph 156 and 157). The north embankment interior slope was observed to be approximately 1H:1V.

The east embankment interior slope was observed to have areas of undercutting and slope failures (Photograph 162). The southern end of the interior slope has been stabilized using riprap along approximately 40 percent of embankment (Photograph 162 and 164). The east embankment interior slope was approximately 1H:1V (Photograph 162).

The south embankment interior slope was approximately 1H:1V and was covered with vegetation including brush, grass and saplings. Vegetation was generally less than 30 inches in height (Photographs 164 and 167). Riprap has been used to stabilize some eroded areas (Photograph 166).

The west embankment interior slope was approximately 1H:1V and was covered with vegetation including brush, grass, and saplings. Vegetation was generally less than 30 inches in height (Photographs 158 and 170).

2.9.4 Outlet Pipes

The outlet pipes appear to be in fair condition. Water appeared to be flowing without obstruction through the 30-inch-diameter CMP (Photograph 154) which discharges into Ash Pond 3. A second 30-inch-diameter CMP discharge pipe, located on the west embankment allows flow between Ash Pond 4A and Ash Pond 4B (Photograph 169).

2.10 Monitoring Instrumentation

Based on our review of the information provided to CDM, there is no monitoring instrumentation in place at the HS Generating Facility.

Section 3
Data Evaluation

3.1 Design Assumptions

CDM was not provided with any of the original IPL design assumptions for the CCW impoundments. IPL did provide some construction drawings related to the modifications and vertical expansion of Ash Pond 2 and Ash Pond 1.

3.2 Hydrologic and Hydraulic Design

CDM was not provided with any hydrologic and hydraulic designs and analyses for the impoundments.

CDM performed a preliminary evaluation of the hydraulic capacity of the impoundments to estimate if the ponds are adequately sized to store or pass the design storm event. Based on "General Guidelines for New Dams and Improvements to Existing Dams in Indiana", IDNR (February 2010), the Probable Maximum Precipitation (PMP) for a 6-hour storm event over a 10 square-mile area in the vicinity of the site is approximately 27.3 inches. IDNR requires significant and high hazard structures to pass 50% PMP and 100% PMP, respectively. The drainage area contributing to the ponds at this site is limited to the storage area within the impoundments. Preliminary evaluations indicate that there is enough storage capacity and freeboard in Ponds 1, 2A, 2B, 4A and 4B at the current operating pools to safely store a 50% of the PMP event without being overtopped. Preliminary evaluation of Ponds 2, 3 and 4 indicates that there is enough storage capacity and freeboard at the current operating pool to safely store 100% of the PMP event without being overtopped.

3.3 Structural Adequacy and Stability

The IDNR requires new and existing structures to be evaluated under standard design guidelines. Procedures established by the United States Army Corps of Engineers (USACE), the United States Bureau of Reclamation, the Federal Energy Regulatory Commission, and the Natural Resources Conservation Service are generally accepted engineering practice. Minimum required factors of safety outlined by the USACE in EM 1110-2-1902, Table 3-1 and seismic factors of safety by FEMA Federal Guidelines for Dam Safety, Earthquake Analyses and Design of Dams (pgs. 31, 32 and 38, May 2005) are provided in **Table 3**.

Table 3 - Minimum Safety Factors Required

Load Case	Minimum Required Factor of Safety
Steady-State Condition at Normal Pool or Maximum Storage Pool Elevation	1.5
Rapid Drawdown Condition from Normal Pool Elevation	1.2
Maximum Surcharge Pool (Flood) Condition	1.4
Seismic Condition from at Normal Pool Elevation	1.0
Liquefaction	1.3

3.3.1 Ash Pond Impoundments

CDM was not provided with any information regarding the structural adequacy and stability of the HS Generating Station ash ponds. CDM was not able to perform stability analyses for the embankments because CDM was not provided with any information on the properties of the foundation and embankment soils.

3.4 Foundation Conditions

CDM was not provided with sufficient information to evaluate if the ash pond impoundments were constructed on wet ash, slag, or other unsuitable materials. Section B-B, Typical Levee Section, shown on the IPL drawing titled "Pond 2 Levee Improvement Ash Pond Area Plan", dated 10/27/04, indicates that the embankment of Ash Pond 2 may have been constructed over hydraulically placed ash materials. Based upon the available information, it is not possible to completely evaluate the nature of the foundation material underlying the Ash Pond 2 embankment.

3.5 Operations and Maintenance

IPL personnel indicated that there is no written formal operation or maintenance program. They also do not have an emergency action plan. IPL personnel also indicated that there is no instrumentation in place to monitor water levels in the impoundments.

IPL HS Generating Station personnel were trained by BT² to perform visual inspections of the Ash Ponds. IPL personnel complete visual inspections of the impoundments every two weeks. A copy of the typical inspection checklist is provided in **Figure 10**. As issues are observed, work orders are placed at the plant for

identified deficiencies to be repaired. Additional observations are made on a daily basis by IPL personnel familiar with the operation of the impoundments. These observations are not documented. Since 2008, semi-annual detailed visual inspections have also been performed by at the HS Generating Station by BT[2]. Inspection reports, with conclusions and recommendations, are prepared and submitted to IPL.

Section 4
Conclusions and Recommendations

4.1 Hazard Classification

The HS Generating Station impoundments currently do not have an IDNR-developed Hazard Potential Classification. Based on the USEPA classification system as presented on page 2 of the USEPA check list (**Appendix A**) and our review of the site and downstream areas, recommended hazard ratings have been assigned to the impoundments as summarized in **Table 4** below:

Table 4 – Recommended Impoundment Hazard Classification Ratings

Impoundment	Recommended Hazard Rating	Basis
Ash Pond 1	Significant Hazard	• A breach could have an environmental impact on Lick Creek and the White River. • A breach could damage/washout plant access and haul roads. • A breach could cause failure of adjacent lower ponds with discharge into Lick Creek.
Ash Pond 2	High Hazard	• A breach of south embankment could adversely affect adjacent stone quarry operations, and possible result in worker's loss of life. • A breach of the north embankment could have an environmental impact on Lick Creek and White River and possible property damage and loss of life downstream. • A breach could cause failure of adjacent lower ponds with discharge into Lick Creek.
Ash Pond 2A	Low Hazard	• A breach could damage plant haul roads.
Ash Pond 2B	Low Hazard	• A breach could damage plant haul roads and slurry lines which discharge into Pond 2A.
Ash Pond 3	High Hazard	• A breach into Lick Creek and White River could cause possible property damage and loss of life downstream.
Ash Pond 4	High Hazard	• A breach of south embankment could cause property damage at an adjacent stone quarry and possible result in worker's loss of life. • A breach could cause failure of adjacent lower ponds with discharge into Lick Creek.
Ash Pond 4A	Low Hazard	• A breach could impact haul roads and drainage ditches.
Ash Pond 4B	Low Hazard	• A breach could impact plant haul roads and drainage ditches.

4.2 Acknowledgement of CCW Impoundment Unit Condition

CDM acknowledges that the management units (Ash Ponds 1, 2, 2A, 2B, 3, 4, 4A, and 4B) referenced herein were assessed by William J. Friers, P.E. and Kyle R. King. Ash Ponds 1, 2, 2A, 2B, 3, 4, 4A, and 4B were judged to be in **POOR** condition based on site observations. An assessment of poor for these ponds is due to conditions at the time of the assessment and lack of documentation relative to the design and construction of these facilities. Observations at the time of the site assessment revealed severely eroded pond embankments and excessive vegetation. It is not known if critical studies or investigations (stability, hydrologic, hydraulic, seismic) have been performed to confirm that potential safety deficiencies do not exist. Additional documentation and future studies performed to confirm the condition and performance of these impoundments and maintenance activities may be sufficient to substantiate and improved condition assessment.

As described in the following sections, further studies, maintenance, and monitoring could improve the condition of these impoundments.

4.3 Maintaining and Controlling Vegetation Growth

Dense vegetation obscured observation of the north embankment exterior slope of Ash Pond 1 and the west embankment exterior slope of Ash Pond 4. Vegetation including shrubs, brush and saplings, was prevalent on both internal and external embankment slopes of Ash Ponds 2B and 3 and the interior slopes of Ash Pond 2A. Tree roots can allow for the seepage of the retained water through the embankments. This may lead to internal erosion of the embankment, resulting in a slope failure. In addition, uprooting of trees during storms or other adverse conditions can create large voids in the embankment that are then susceptible to erosion. Brush also obscures the surface, limiting visual observations, provides a haven for burrowing animals, and retards growth of desirable grass vegetation.

CDM recommends that all trees and brush be cleared from the interior and exterior slopes of all ash pond embankments in accordance with the procedures outlined in "FEMA 534 Technical Manual for Dam Owners – Impacts of Plants on Earthen Dams". CDM further recommends that stumps and all roots greater than 1 inch in diameter be removed. The area should then be graded to adjacent contours, using compacted structural fill and reseeded with desirable grass vegetation.

Areas of sparse vegetation observed on the exterior slope of Ash Pond 2. CDM recommends that IPL perform reseeding maintenance in these areas. CDM recommends that vegetation be cut on a regular basis to ensure that adequate visual observations can be made during scheduled inspections.

4.4 Erosion Protection and Repair

Erosion rills, beaching, surfical slope failures, and subsequent loss of grass cover were observed on multiple embankment slopes of all ash ponds as discussed in Section 2. CDM recommends corrective actions be taken for the specific conditions identified below:

- Deep erosion rills observed on the south embankment exterior slope of Ash Pond 2 and the north embankment exterior slope of Ash Pond 1:
  - IPL should repair by placing and compacting select structural fill in the rills and grading to adjacent contours. The area should be reseeded with desirable grass vegetation. Repairs made to erosion rills on slopes exceeding 25 feet in length should include installation of temporary erosion resistant matting or sod after regrading.
- Deep erosion rills the south embankment interior slope of Ash Pond 2 and erosion rills observed on slopes of divider embankments:
  - IPL should repair by placing and compacting select structural fill in the rills and grading to adjacent contours. Place rock riprap consisting of a heterogeneous mixture of irregular shaped rocks placed over the compact fill and a geotextile fabric, both extending at least 3 feet below the anticipated low water level. The maximum rock size and weight must be large enough to dissipate up the energy of the maximum anticipated wave action while holding the smaller stones in place.

    IPL should note that caution will be required when working adjacent/below near vertical embankments created by surfical slope failures. Prior to start of work, the stability of the existing slope should be evaluated and a stabilization plan should be developed by a professional engineer as appropriate.
- Surfical slope failures on the south embankment interior slope of Ash Pond 2 and beaching and surfical slope failures observed on slopes of divider embankments:
  - IPL should repair by excavating the un-compacted eroded materials and organics (grass, brush, other vegetation) in the slide area to neat lines at the slide limits down to competent undisturbed materials. Restore the embankment face to a slope no steeper than 2.5H: 1V or the original contour (whichever is flatter) with compacted select structural fill. Place rock riprap consisting of a heterogeneous mixture of irregular shaped rocks placed over the compact fill and a geotextile fabric, both extending at least 3 feet below the anticipated low water level. The maximum rock size and weight must be large enough to dissipate the energy of the maximum anticipated wave action while holding the smaller stones in place.

- Excavated south embankment of Ash Pond 1 at cinder pit sluice repair:
    - Repair by removing un-compacted eroded materials to neat lines. Restore the embankment slope to a slope no steeper than 2.5H: 1V or the original contour (whichever is flatter) with compact select structural fill. Place rock riprap consisting of a heterogeneous mixture of irregular shaped rocks placed over the compact fill and a geotextile fabric, both extending at least 3 feet below the anticipated low water level. The maximum rock size and weight must be large enough to break up the energy of the maximum anticipated wave action and hold the smaller stones in place.
- All repairs should be designed by a registered professional engineer experienced with earthen dam design.

4.5 Animal Control

Evidence of rodent burrows was observed on the west and south embankments of Ash Pond 3. Although not seen on other embankments, vegetation cover may have hidden additional rodent burrows. CDM recommends that IPL accurately document areas disturbed by animal activity, remove the animals, and repair the areas to protect the integrity of the embankments.

4.6 Instrumentation

Currently no information about existing instrumentation was available to CDM. An earth embankment that is safe under current conditions may not be safe in the future if conditions change. Conditions that may change include changes in the phreatic surface, embankment deformation, or changes in seepage patterns. CDM recommends installation of piezometers at selective locations so that parameters related to these conditions can be measured and preemptive measures can be taken in response to these observations.

4.7 Impoundment Hydraulic and Stability Analysis

IPL was not able to provide CDM with a hydraulic analysis showing the ability of the ash ponds to safely pass the 50% or 100% PMP event. However, a preliminary evaluation performed by CDM suggests there is enough storage capacity at the current operating pool levels to safely store precipitation from to 50% PMP. CDM recommends IPL perform a complete study to confirm this opinion and update the study if operating parameters of the ponds change in the information regarding stability analyses performed prior, during, or post construction for any ash ponds, nor information regarding properties of the embankment and foundation soils. It is recommended that detailed stability analyses be performed for all ash ponds.

The stability analyses for each pond should include a subsurface investigation program to determine the existing soil parameters in the embankments and foundation soils and the installation of piezometers to measure the phreatic surface.

CDM recommends IPL perform a study of the Ash Pond 2 embankment to determine the nature of the materials underlying the embankment and determine corrective measures required to address identified issues.

CDM was not provided with information regarding hydraulic analyses showing the ability of the Ash Pond Complex to safely pass the PMP event. It is recommended that detailed hydraulic analyses be performed to confirm the hydraulic stability of the Ash Pond Complex, and update the study if operating levels of the ponds change in the future or the embankment system is reclassified.

4.8 Inspection Recommendations

Based on the information reviewed by CDM it does not appear that IPL has adequate inspection practices. Currently inspection documentation prepared by plant personnel consist of limited checklists completed every two weeks for all five ponds to document the presence of any failures, erosion, vegetative cover in a "yes" or "no" format and to document operation conditions such as work activities. The inspection checklists are inadequate to document specific potential items that need to be addressed and the area where they are located. CDM recommends that plant personnel develop more-detailed inspection documentation procedures to aid in ensuring that they are performing adequate inspections and adequately documenting observations over time. Documentation should include a sketch of relevant features observed, and the documentation should be periodically reviewed to identify if conditions are worsening and/or if significant changes are occurring which could lead to additional maintenance issues or safety concerns.

A staff gage should be installed at outlet structures to record water levels in the impoundments, if applicable. In addition, inspections should be made following heavy rainfall and/or high water events on the White River, and the occurrence of these events should be documented. It is recommended that inspection records be retained at the facility for a minimum of three years.

4.9 Emergency Action Plan

IPL does not have an Emergency Action Plan (EAP) for Ash Ponds 2, 3 and 4, judged by CDM to be High Hazard structures. CDM recommends that IPL develop an EAP for Ash Ponds 2, 3 and 4.

Section 5
Closing

The information presented in this report is based on visual field observations and review of reports and data provided to CDM by IPL for the Harding Street Generating Station surface impoundments. The conclusions and recommendations presented are based, in part, on limited information available at the time of this report. This report has been prepared in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made. Should additional information or changes in field conditions occur, the conclusions and recommendations provided in this report should be re-evaluated by a qualified professional engineer.

Section 6
Reports and References

The following is a list of reports and drawings that were provided by Indianapolis Power & Light Company and were utilized during the preparation of this report and the development of the conclusions and recommendations presented herein.

1. Response to U.S. EPA 104(e) Information Request, prepared by Indianapolis Power & Light Company, March 26, 2009

2. 2008 Dike Inspection – Harding Street Generating Station Ash Pond Facilities, prepared by BT² and Geosyntec Consultants, September 5, 2008

3. 2009 Dike Inspection-Harding Street Generating Station Ash Pond Facilities, BT² Project #3573, prepared by BT², August 7, 2009

4. Section III, Technical Specifications, prepared by Indianapolis Power & Light Company, October 13, 2004 (date of email)

5. General Guidelines for New Dams and Improvements to Existing Dams in Indiana, prepared by the Department of Natural Resources, Division of Water, Indianapolis, Indiana, 2001 Edition

6. Log of Boring B-102 and corresponding Boring Location Plan, prepared by Patriot Engineering and Environmental, Inc., January 04, 2006 (date of boring)

7. Drawing No. Y-01, "Ash Disposal System Site Plan," prepared by Burns and McDonnell, July 28, 1992

8. Drawing No. 006-00-6-Y-D-44AA "Harding Street Plot Plan," prepared by Indianapolis Power & Light Company, July 22, 1991, revised January 9, 2009

9. Drawing No. 6-1-1-4-1, "Aerial Survey Topographic Map," prepared by Indianapolis Power & Light Company, March, 1969

10. Drawing No. 6A6-156, "Property Plan," prepared by Indianapolis Power & Light Company, September 26, 1968, revised April 5, 1980

11. Drawing No. C-1, "Pond 2 Levee Improvements Ash Pond Area Plan," prepared by Indianapolis Power & Light Company, March, 2000

12. Drawing No. Unidentified, "Pond 2 Levee Improvements Ash Pond Area Plan," prepared by Indianapolis Power & Light Company, October 27, 2004

13. Drawing No. 006-00-6-Y-D-42T, "Ash Pond Access Road Improvements," prepared by Indianapolis Power & Light Company, September 15,1997

14. Drawing No. 006-00-6-Y-D-42V, "Isolation Valve, Civil Details, Pond 2C," prepared by Indianapolis Power & Light Company, October 7, 1998

15. Drawing No. 006-00-6-Y-D-42M, "Ash Disposal System Site Plan," prepared by Indianapolis Power & Light Company, July 28, 1992

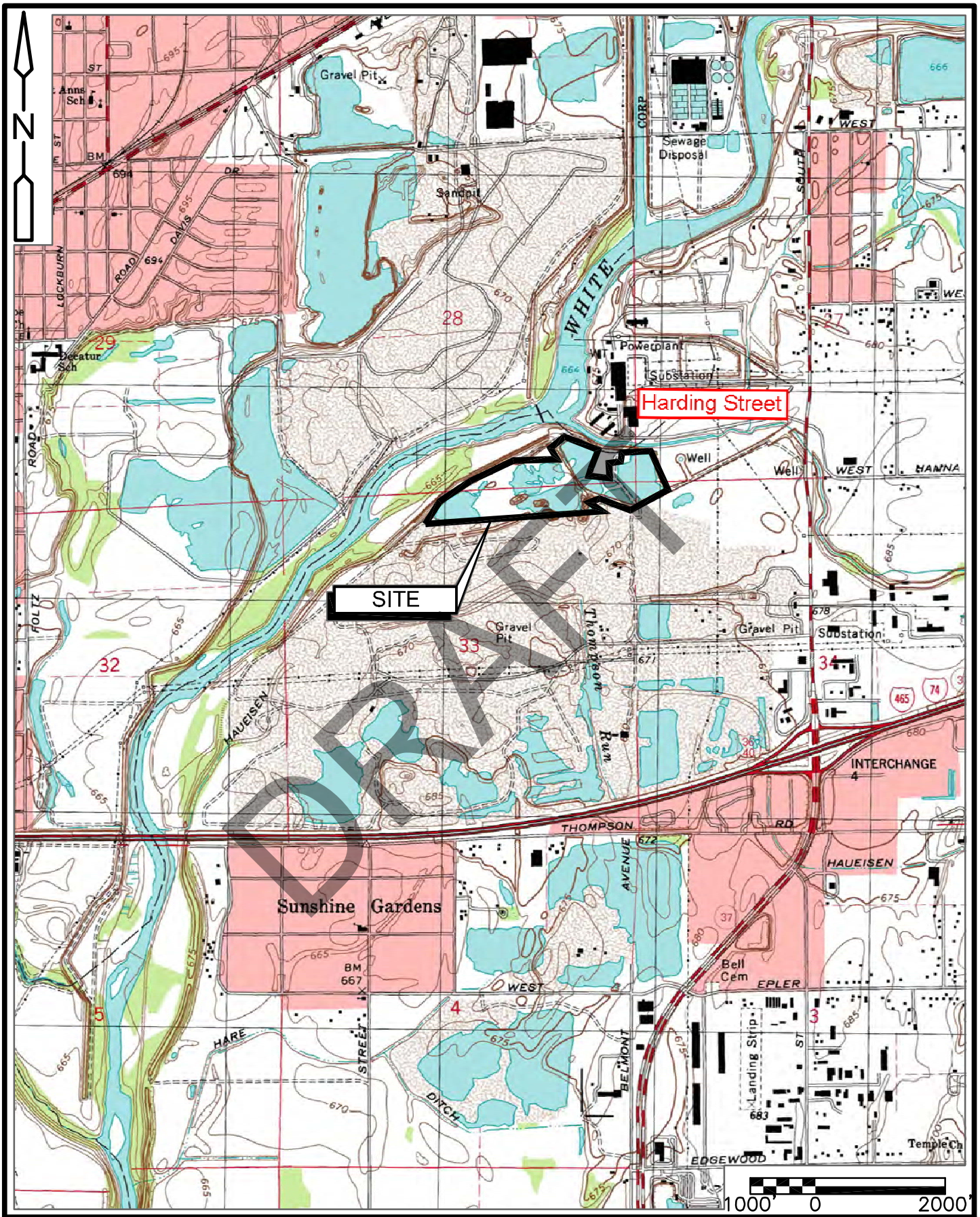
16. Drawing No. Y-01-C, "Ash Disposal System Site Plan," prepared by Indianapolis Power & Light Corporation, July 28, 1992

17. Drawing No. 006-00-6-Y-D-42P, "Ash Pond System Site Plan," prepared by Indianapolis Power & Light Company, March 20, 1996

18. Drawing No. 006-00-6-Y-D-42Q, "Ash Pond System Elevations and Details," prepared by Indianapolis Power & Light Company, March 20, 1996

19. Drawing No. 006-00-6-Y-F-42A, "Fly Ash Ponds Sheet #1, Stout Plant," prepared by Indianapolis Power & Light Company, July 3, 1974

Figures



USGS TOPOGRAPHIC MAPS
MAYWOOD QUADRANGLE MAP
CONTOURS AND ELEVATIONS IN FEET

INDIANAPOLIS, INDIANA
HARDING STREET GENERATING STATION
INDIANAPOLIS POWER & LIGHT COMPANY

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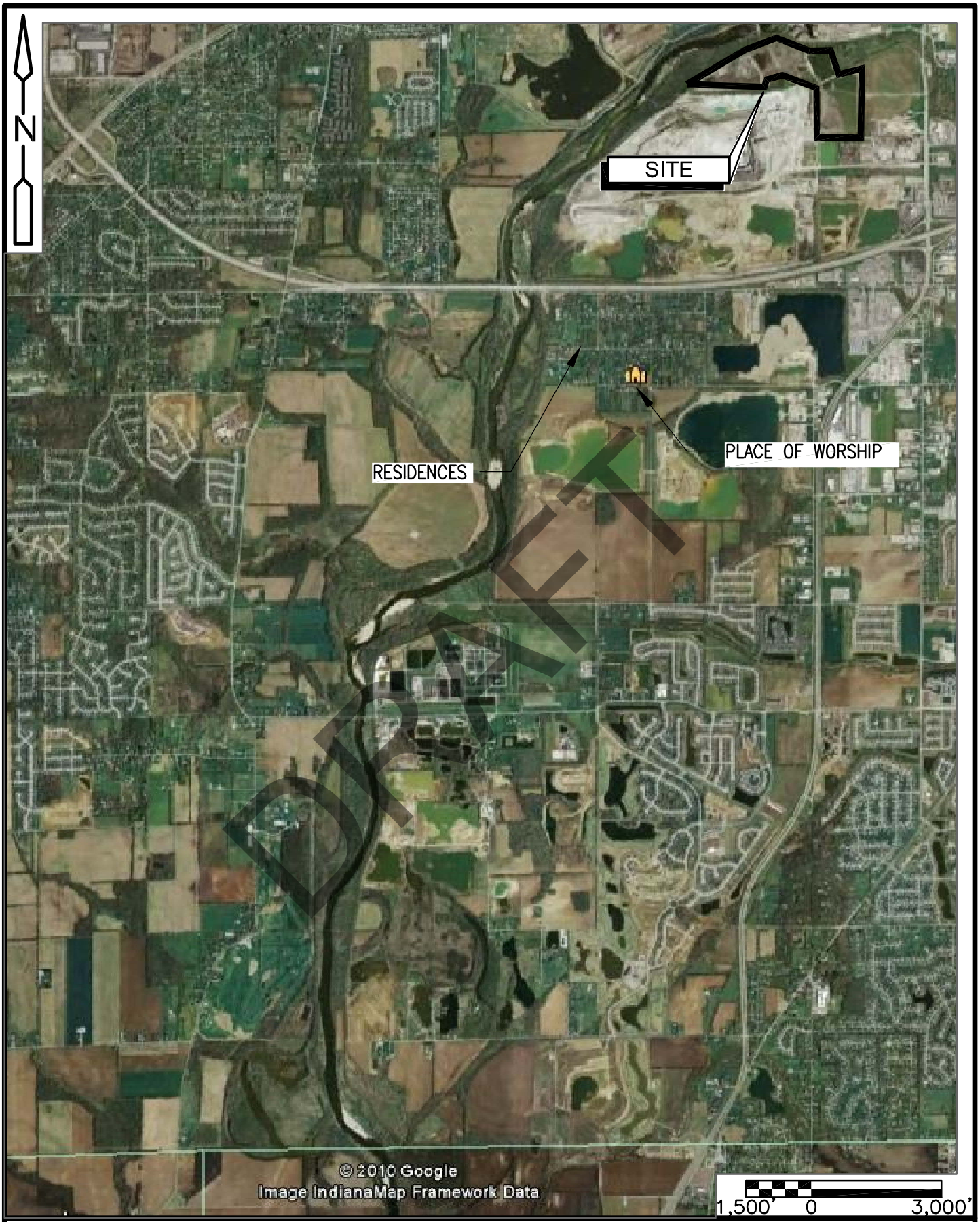
LOCUS PLAN
MAY 2010

FIGURE 1



AERIAL PHOTOGRAPH SOURCE:
GOOGLE EARTH PRO. (IMAGERY DATED MAY 10, 2010)

INDIANAPOLIS, INDIANA
HARDING STREET GENERATING STATION
INDIANAPOLIS POWER & LIGHT COMPANY

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CRITICAL INFRASTRUCTURE PLAN
MAY 2010 FIGURE 2

N

WHITE RIVER

FLOW

GENERATING FACILITY

FLOW

LICK CREEK

ASH POND 1

ASH POND 3

ASH POND 2A

ASH POND 2

ASH POND 4B

ASH POND 2B

ASH POND 4A

ASH POND 4

150 0 300

AERIAL PHOTOGRAPH SOURCE:
GOOGLE EARTH PRO. (IMAGERY DATED MAY 10, 2010)

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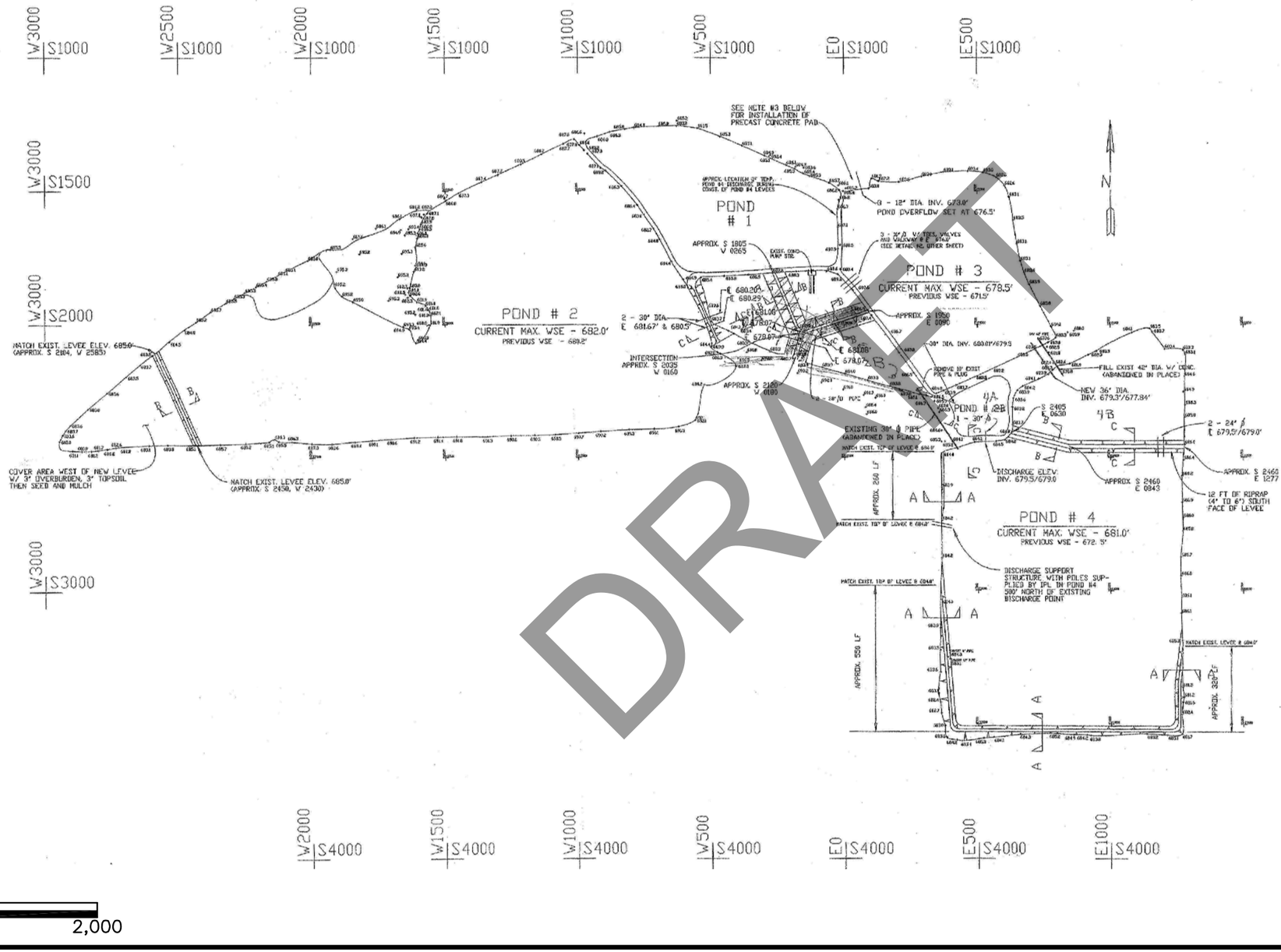
HARDING STREET GENERATING STATION
INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

AERIAL MAP
FIGURE 3



NOTES:

1. SURVEY FROM INDIANAPOLIS POWER & LIGHT COMPANY "ASH POND SYSTEM SITE PLAN." MARCH 20, 1996
2. SURVEY WAS CONDUCTED BEFORE THE FINAL RAISING OF EMBANKMENTS ON ASH POND 2. SEE FIGURE 5.
3. PLANT DATUM IS −2.1' NGVD 29 DATUM.

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INDIANAPOLIS, INDIANA

1996 SURVEY MAP
FIGURE 4

NOTES:

1. FIGURE FROM INDIANAPOLIS POWER & LIGHT COMPANY "POND 2 LEVEE IMPROVEMENTS ASH POND AREA PLAN." OCTOBER 27, 2004
2. PLANT DATUM IS −2.1' NGVD 29 DATUM.

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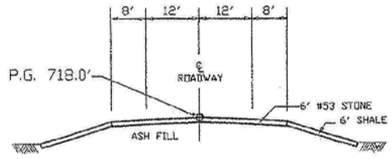
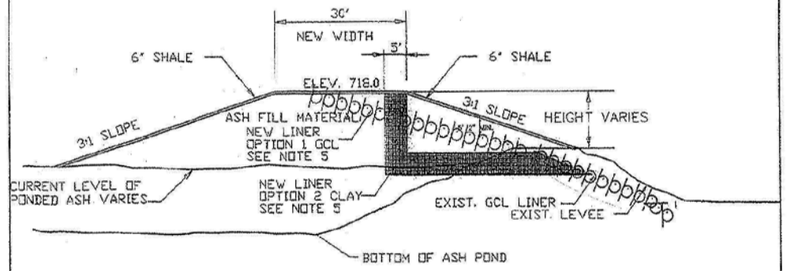
INDIANAPOLIS, INDIANA

ASH POND 2 FINAL LEVEE IMPROVEMENTS
FIGURE 5



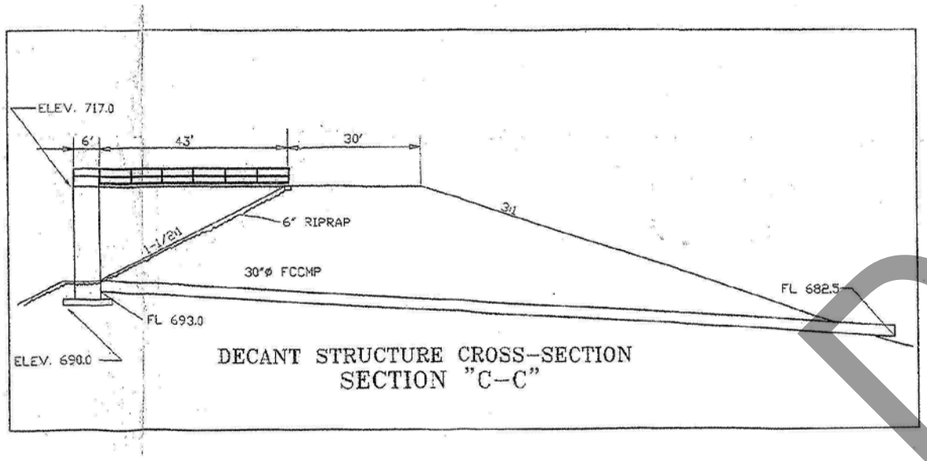
TYPICAL ROADWAY SECTION
SECTION "A-A"



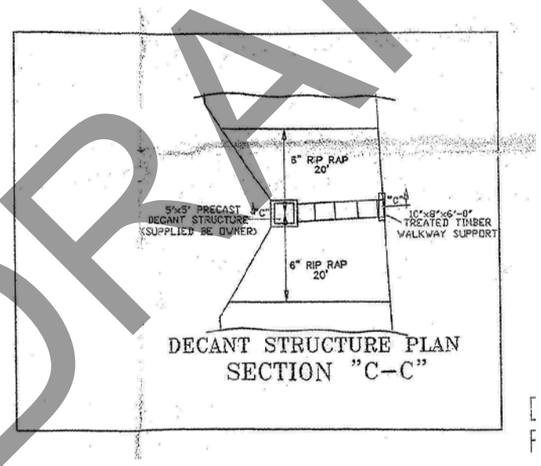
TYPICAL LEVEE SECTION
SECTION "B-B"

NOTES:

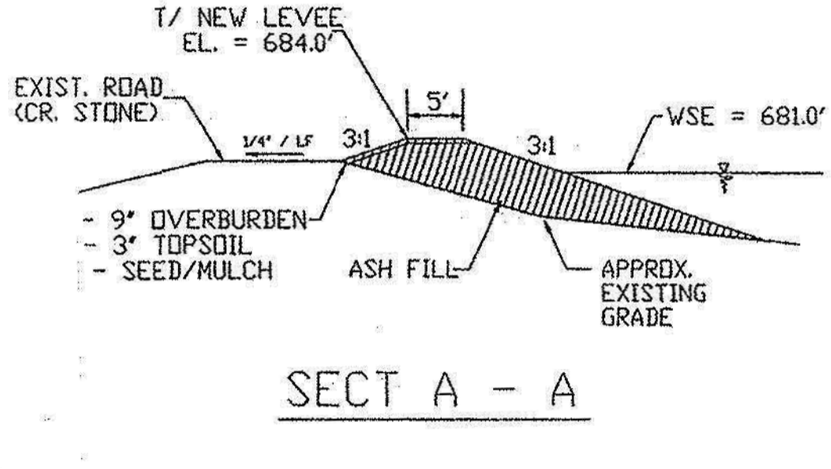
1. SECTIONS FROM INDIANAPOLIS POWER & LIGHT COMPANY "ASH POND ACCESS ROAD IMPROVEMENTS," SEPTEMBER 15, 1997 (FIGURE 5)
2. PLANT DATUM IS –2.1' NGVD 29 DATUM.



DECANT STRUCTURE CROSS-SECTION
SECTION "C-C"



DECANT STRUCTURE PLAN
SECTION "C-C"



SECT A - A

NOTES:

1. SECTIONS FROM INDIANAPOLIS POWER & LIGHT COMPANY "ASH POND ACCESS ROAD IMPROVEMENTS," SEPTEMBER 15, 1997 (FIGURE 5)
2. PLANT DATUM IS –2.1' NGVD 29 DATUM.

NOTES:

1. SURVEY FROM INDIANAPOLIS POWER & LIGHT COMPANY "ASH POND SYSTEM SITE PLAN." MARCH 20, 1996 (FIGURE 4)
2. PLANT DATUM IS –2.1' NGVD 29 DATUM.

SCALE: NTS

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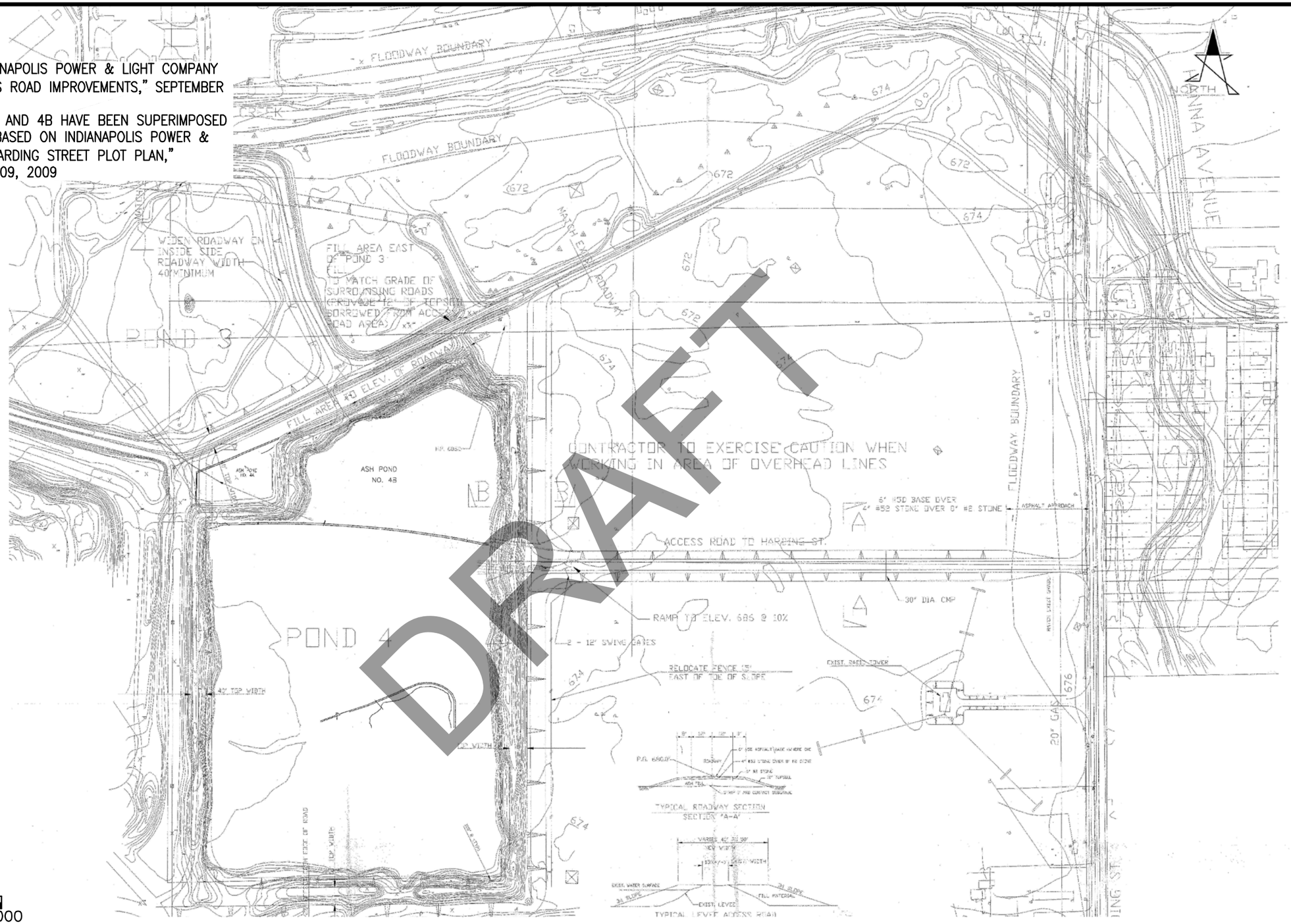
INDIANAPOLIS, INDIANA

ASH POND DETAILS
FIGURE 6

NOTES:

1. FIGURE FROM INDIANAPOLIS POWER & LIGHT COMPANY "ASH POND ACCESS ROAD IMPROVEMENTS," SEPTEMBER 15, 1997
2. ASH PONDS 4, 4A, AND 4B HAVE BEEN SUPERIMPOSED ON THE DRAWING BASED ON INDIANAPOLIS POWER & LIGHT COMPANY "HARDING STREET PLOT PLAN," UPDATED JANUARY 09, 2009



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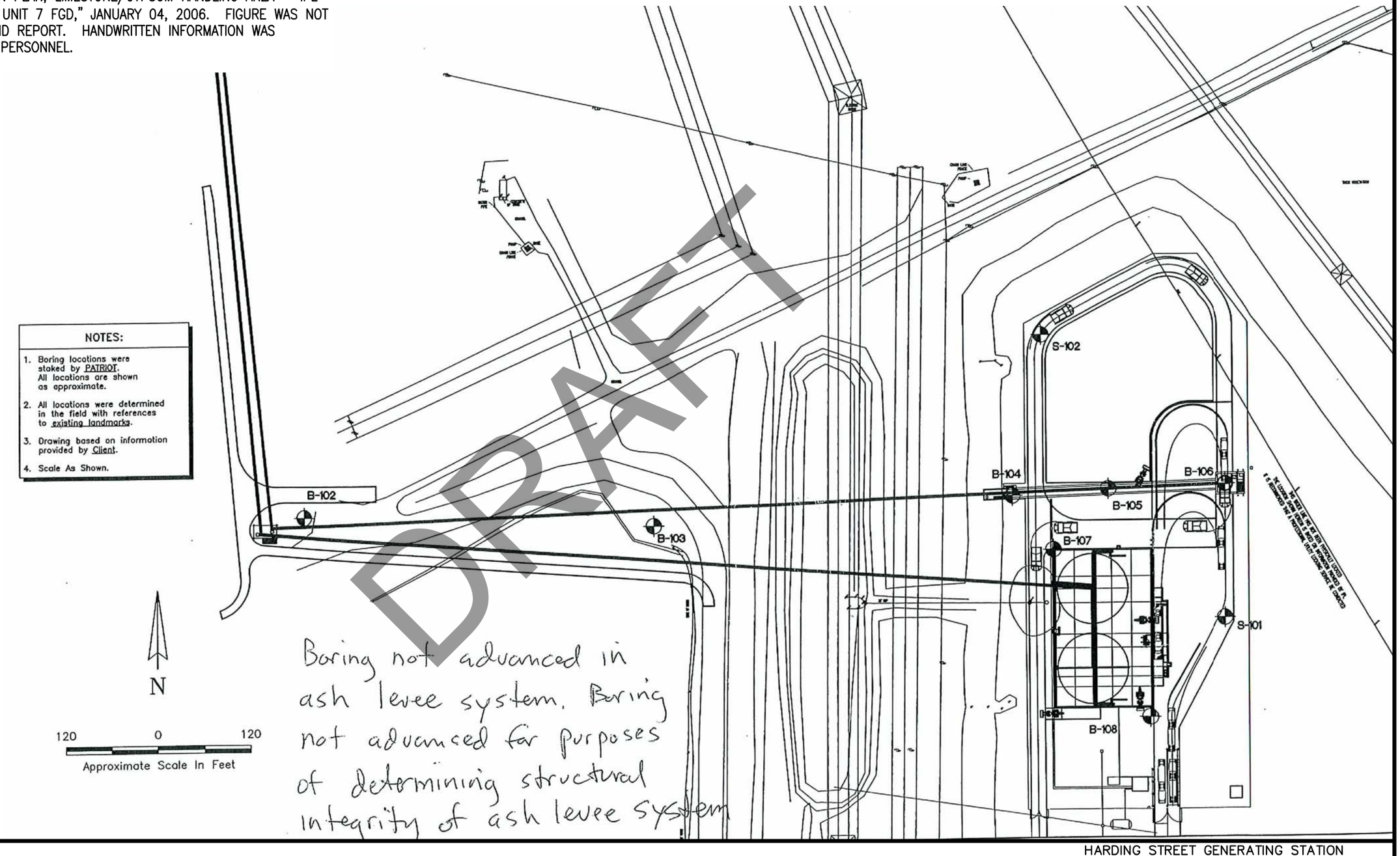
INDIANAPOLIS, INDIANA

ASH PONDS 3 AND 4 PLAN VIEW
FIGURE 7

NOTES:

1. FIGURE FROM PATRIOT ENGINEERING AND ENVIRONMENTAL, INC. "BORING LOCATION PLAN, LIMESTONE/GYPSUM HANDLING AREA – IPL HARDING STREET UNIT 7 FGD," JANUARY 04, 2006. FIGURE WAS NOT PART OF A BOUND REPORT. HANDWRITTEN INFORMATION WAS DRAFTED BY IPL PERSONNEL.



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PATRIOT ENGINEERING BORING LOCATION PLAN
FIGURE 8a

NOTES:

1. BORING LOG PROVIDED BY IPL PERSONNEL AND WAS NOT PART OF A BOUND REPORT. HANDWRITTEN INFORMATION WAS DRAFTED BY IPL PERSONNEL.

PATRIOT ENGINEERING and Environmental Inc.
Indianapolis, Terre Haute, Evansville, Fort Wayne, South Bend, Lafayette, Louisville KY, Dayton OH, Charleston IL, Paducah KY

LOG OF BORING B-102

(Page 1 of 2)

IPL Harding Street Station
Unit 7 FGD
Indianapolis, Indiana

Client Name	: Indianapolis Power & Light	Driller	: R. Sumler
Project Number	: 1-05-0709	Sampling	: Splitspoon
Logged By	: R. Elliott	Elevation	: 686.37 feet
Start Date	: 01/04/06	Northing	: -2052.18 feet
Drilling Method	: HSA	Easting	: 765.91 feet

Water Levels
▼ During Drilling
▽ After Completion
◆ After 24 Hours

Depth in Feet	Water Level	USCS	GRAPHIC	DESCRIPTION	Samples	Rec %	SPT Results	qp tsf	w %	REMARKS
0		ML		Dark gray, slightly moist, dense to medium dense, FLY ASH with varying amounts of sandy silt (FILL)	1	100	15/25/20		15	Boring not advanced in ash pond levee system. Boring not advanced for purposes of determining structural integrity of ash pond levee system TEO 4/29/10
					2	87	8/9/7			
5		ML		Dark gray, moist, very loose, FLY ASH with varying amounts of sandy silt (FILL)	3	100	1/1/1			
10	▽				4	100	1/2/1			
15		CL		Dark gray and brown, moist, medium stiff, SILTY CLAY with trace sand and trace organics	5	100	1/3/5	0.75	23	
20		CL		Gray, very moist, medium stiff, SILTY CLAY with trace sand, trace organics and trace shell fragments	6	100	2/3/3	0.5	32	Boring caved to 19 feet upon auger removal.
25	▼				7	100	2/3/5	0.5	34	Sample No. 7: Organic Content = 2.1%
30		SP-SM		Brown to gray, saturated, medium dense to dense, SAND and little gravel and trace silt	8	100	9/8/7			
35					9	100	13/13/10			
40					10	78	18/12/10			

02-08-2006 I:\Mtech2002\Projects\20051\1-0709\B102.bor

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Indianapolis, Terre Haute, Evansville, Fort Wayne, South Bend, Lafayette, Louisville KY, Dayton OH, Charleston IL, Paducah KY

LOG OF BORING B-102

(Page 2 of 2)

IPL Harding Street Station
Unit 7 FGD
Indianapolis, Indiana

Client Name	: Indianapolis Power & Light	Driller	: R. Sumler
Project Number	: 1-05-0709	Sampling	: Splitspoon
Logged By	: R. Elliott	Elevation	: 686.37 feet
Start Date	: 01/04/06	Northing	: -2052.18 feet
Drilling Method	: HSA	Easting	: 765.91 feet

Water Levels
▼ During Drilling
▽ After Completion
◆ After 24 Hours

Depth in Feet	Water Level	USCS	GRAPHIC	DESCRIPTION	Samples	Rec %	SPT Results	qp tsf	w %	REMARKS
40		SW-SM		Brown to gray, saturated, medium dense to dense, SAND and gravel and trace silt	11	78	18/17/21			Boring not advanced in ash pond levee system. Boring not advanced for purposes of determining structural integrity of ash pond levee system TEO 4/29/10
45										
50					12	100	11/7/7			
55		SW-SM		Gray, saturated, very dense, SAND and gravel and trace silt	13	100	40/31/30			
					14	100	39/26/24			
60				Boring terminated at 60 feet.						
65										
70										
75										
80										

02-08-2006 I:\Mtech2002\Projects\20051\1-0709\B102.bor

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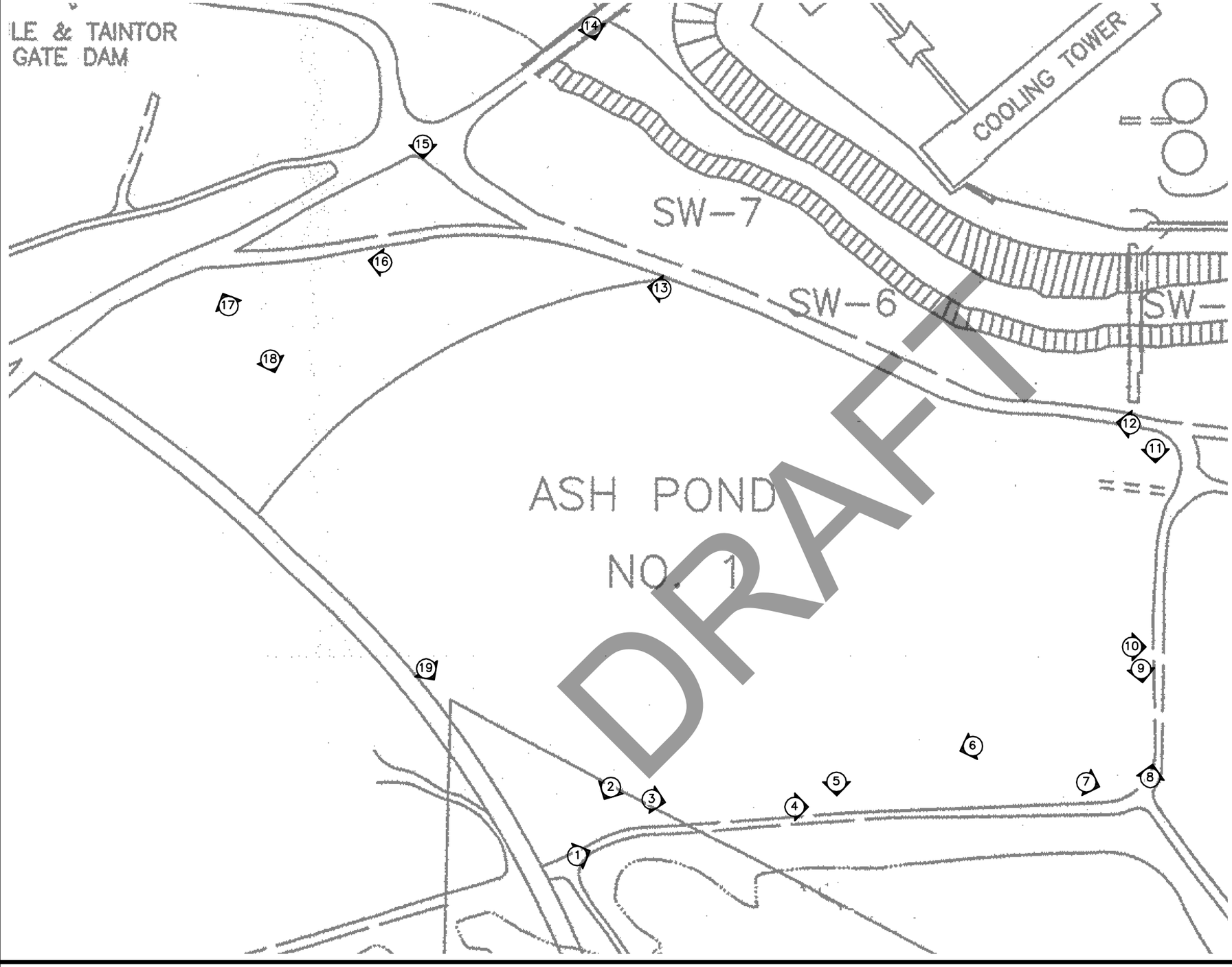
INDIANAPOLIS, INDIANA

PATRIOT ENGINEERING BORING LOG
FIGURE 8b



LEGEND:

(2) PHOTOGRAPH NUMBER AND ORIENTATION

N

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

50' 0 100'

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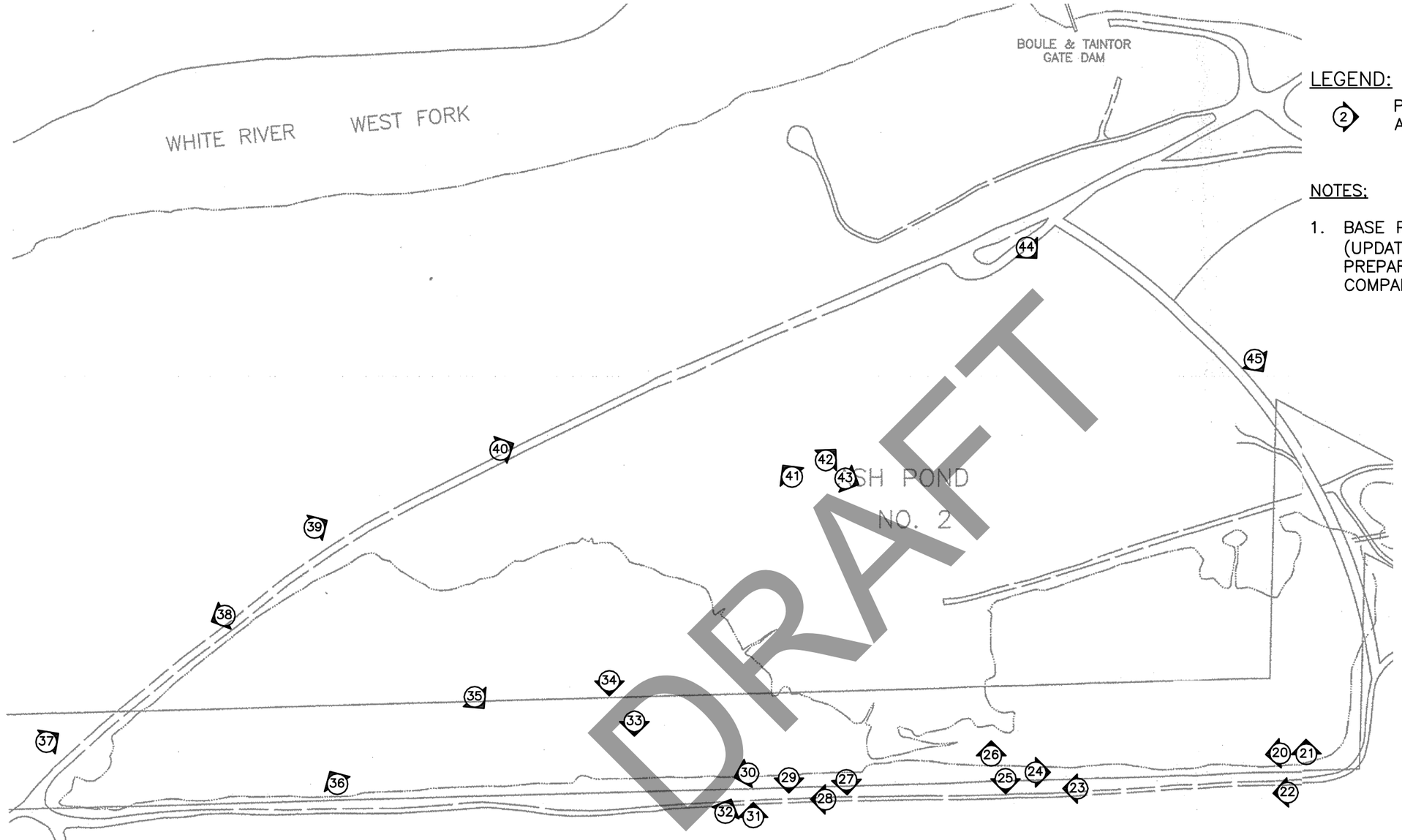
INDIANAPOLIS, INDIANA

ASH POND 1 PHOTOGRAPH LOCATION PLAN

FIGURE 9a



LEGEND:

(2) PHOTOGRAPH NUMBER AND ORIENTATION

N

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

100' 0 200'

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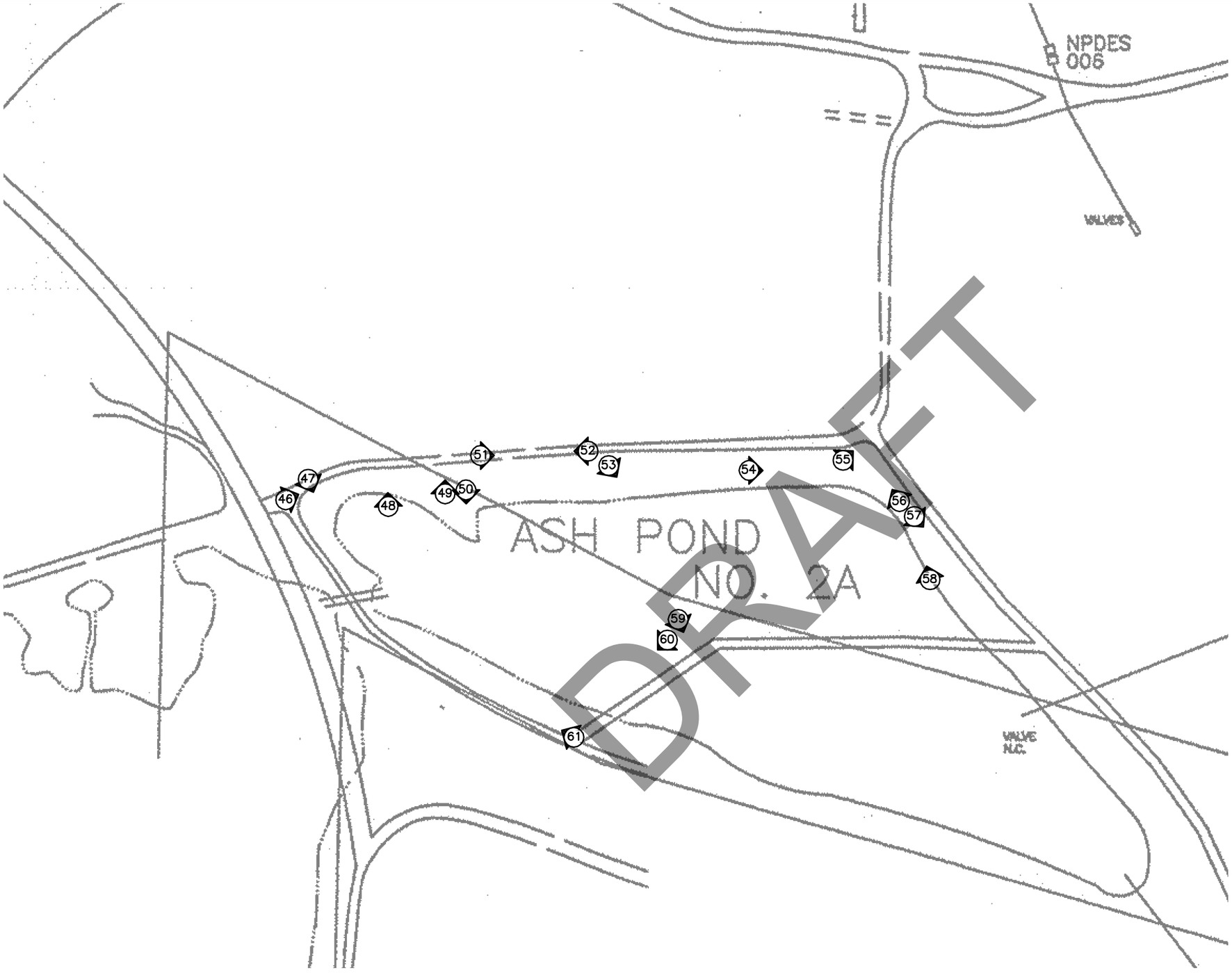
ASH POND 2 PHOTOGRAPH LOCATION PLAN

FIGURE 9b



LEGEND:

(2) PHOTOGRAPH NUMBER AND ORIENTATION

N

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

50' 0 100'

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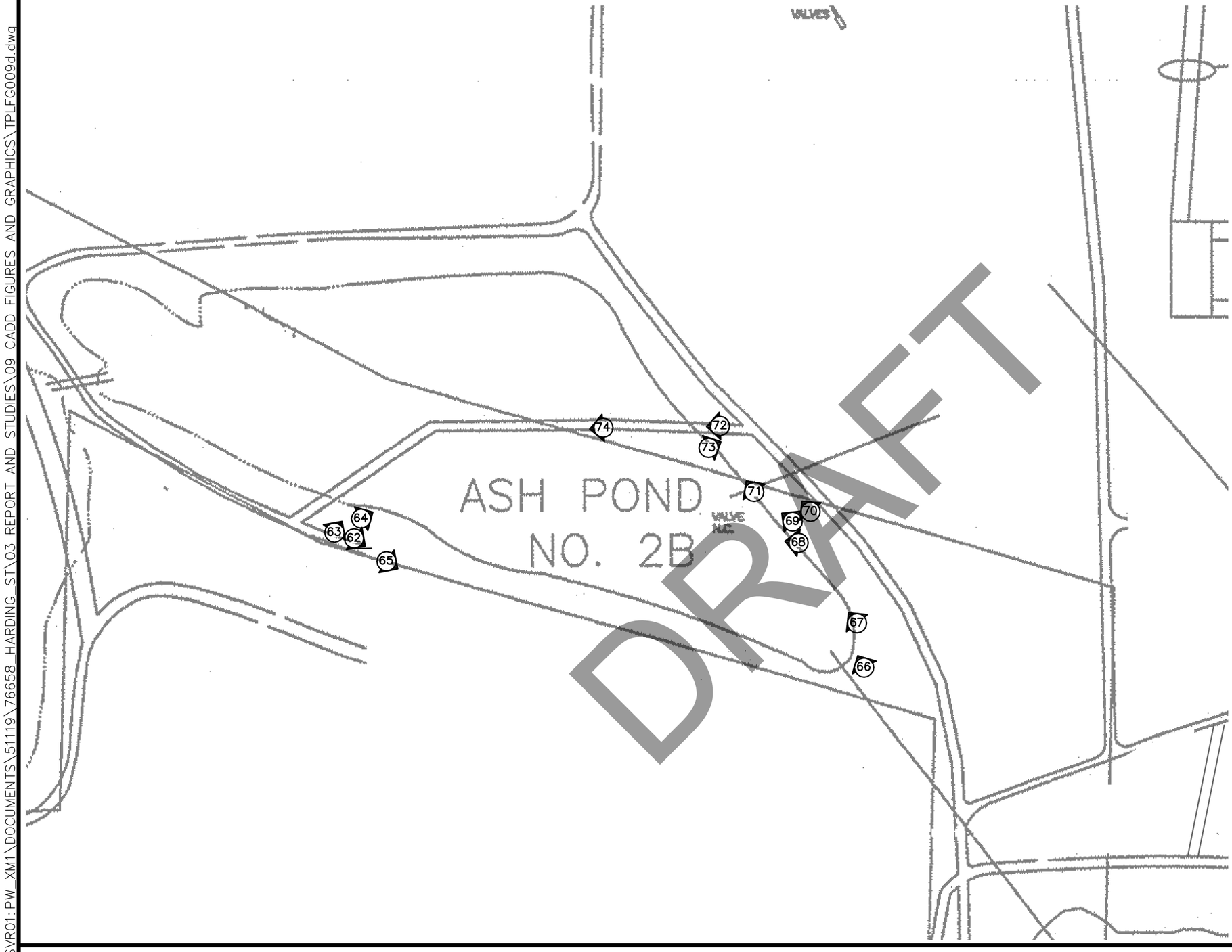
INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

ASH POND 2A PHOTOGRAPH LOCATION PLAN

FIGURE 9c



LEGEND:

(2) PHOTOGRAPH NUMBER AND ORIENTATION

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

N

50' 0 100'

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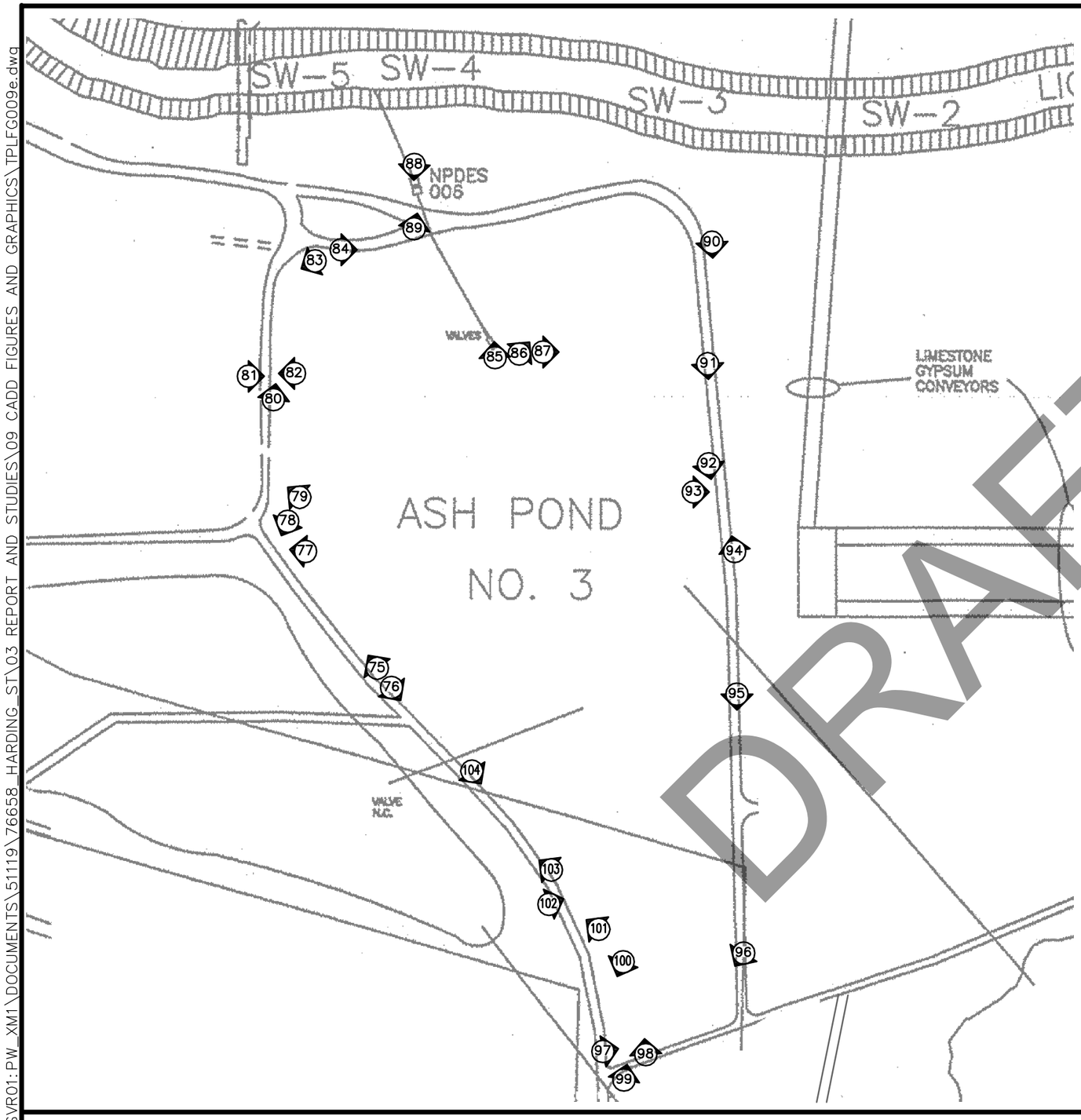
INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

ASH POND 2B PHOTOGRAPH LOCATION PLAN

FIGURE 9d



LEGEND:

(2) PHOTOGRAPH NUMBER AND ORIENTATION

N

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

75' 0 125'

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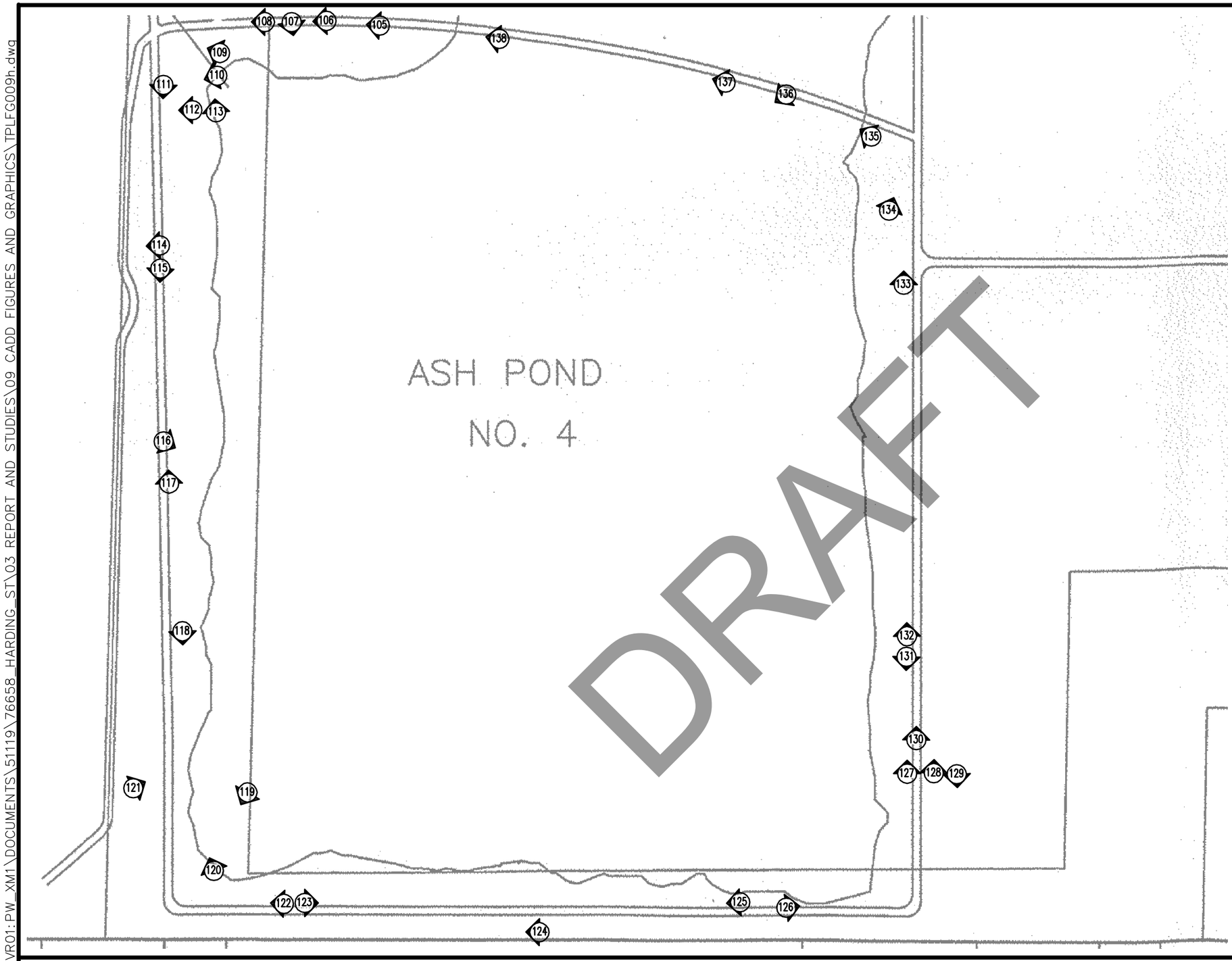
ASH POND 3 PHOTOGRAPH LOCATION PLAN

FIGURE 9e



LEGEND:

(2) PHOTOGRAPH NUMBER AND ORIENTATION

N

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

75' 0 125'

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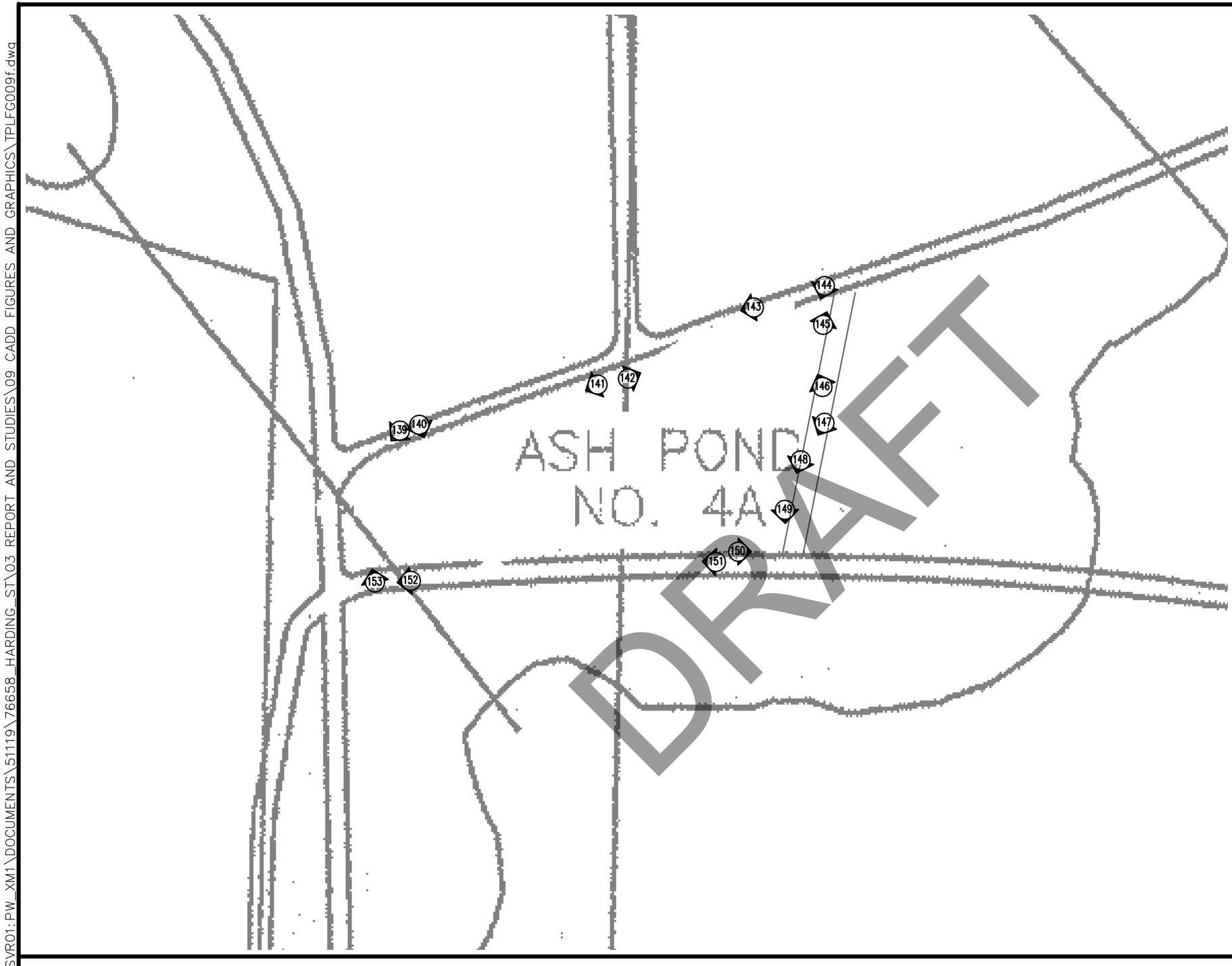
INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

ASH POND 4 PHOTOGRAPH LOCATION PLAN

FIGURE 9f



LEGEND:

2 PHOTOGRAPH NUMBER AND ORIENTATION

N

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

25' 0 50'

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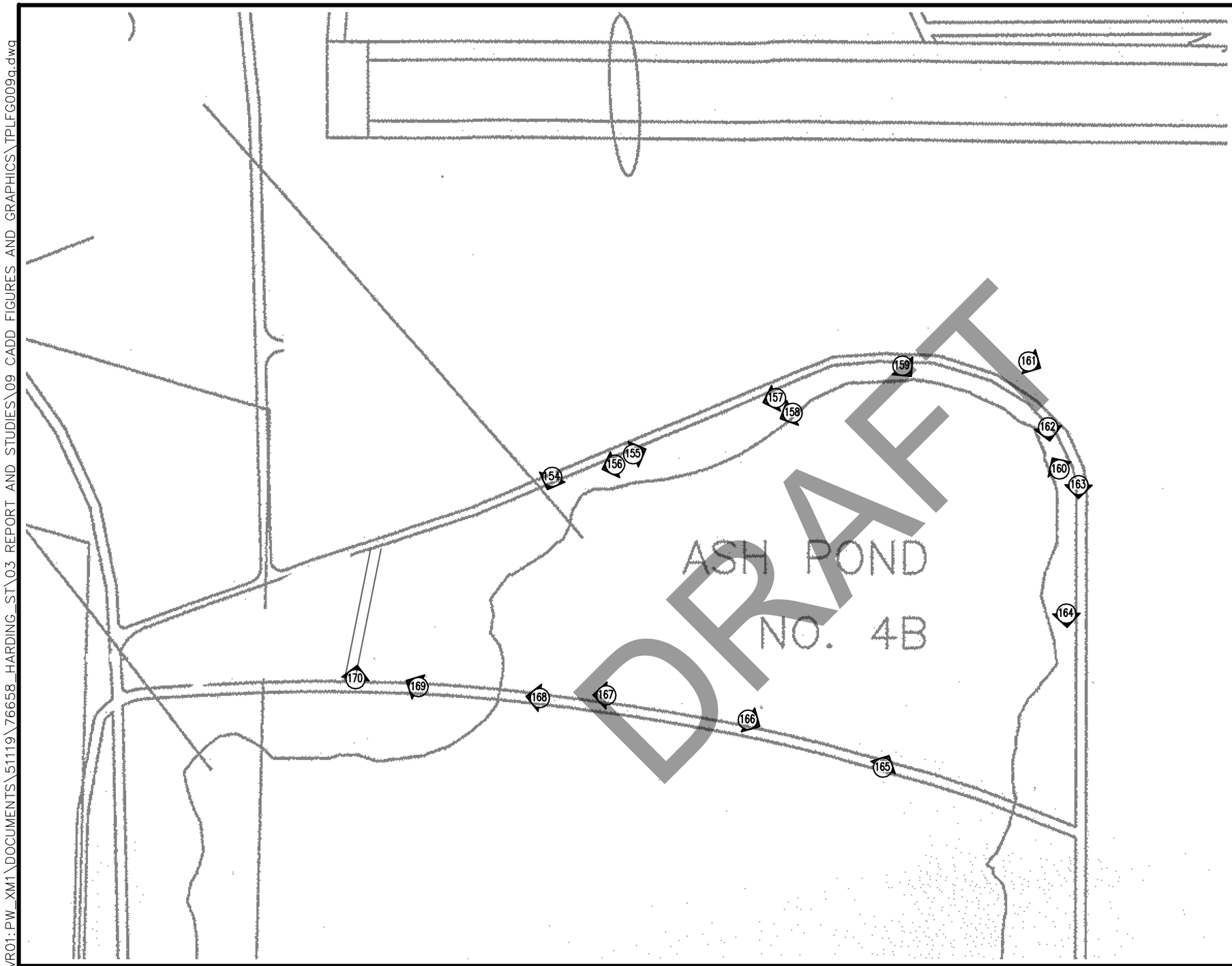
INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

ASH POND 4A PHOTOGRAPH LOCATION PLAN
FIGURE 9g



N

LEGEND:

2 PHOTOGRAPH NUMBER AND ORIENTATION

NOTES:

1. BASE PLAN DEVELOPED FROM JULY 22, 1991 (UPDATED JANUARY 9, 2009) DRAWING PREPARED BY INDIANAPOLIS POWER & LIGHT COMPANY

50' 0 100'

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INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

ASH POND 4B PHOTOGRAPH LOCATION PLAN
FIGURE 9h

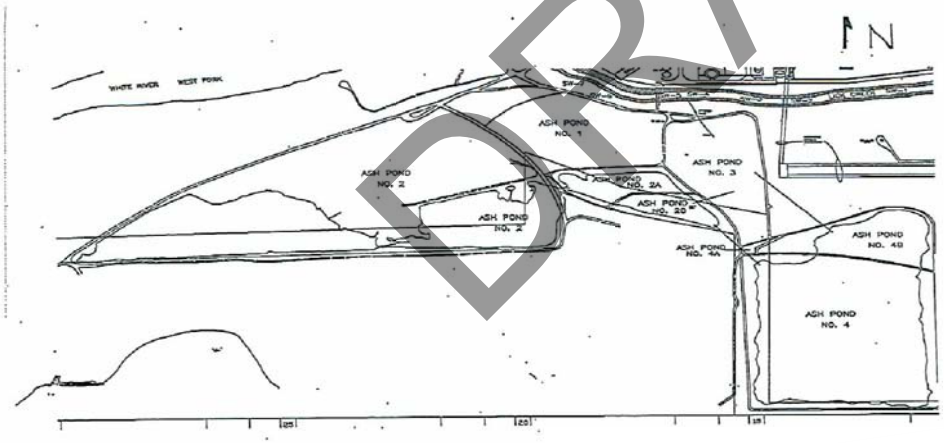
ASH POND(S) INSPECTION RECORD
HARDING STREET STATION

Date: 4/15/10 **Time:** 4:00pm

Ash Pond Description (Name/ID)	Erosion Along Crest or Embankment Slopes (Normal/ Abnormal)	Appearance of Sinkholes or Failure (Y/N)	Tension Cracks Along Crest or Slope Faces (Y/N)	Presence of Vegetation Cover Along the Embankment Slopes (Y/N)	Changes in Dike Alignment (Y/N)	Appearance of Erosion/Deterioration Around Outlet Structures (Normal/Abnormal)	Description of Current Operational Conditions (Normal/ Abnormal)	Initials Personnel
1	Normal	No	No	Yes	No	Normal	Normal Dry	TBD
2	↓	↓	↓	rip rap	↓	↓	↓	TBD
2A	↓	↓	↓	↓	↓	↓	Normal/wet	↓
2B	↓	↓	↓	↓	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓	↓	↓
4	↓	↓	↓	↓	↓	↓	↓	↓
4A	↓	↓	↓	↓	↓	↓	↓	↓
4B	↓	↓	↓	↓	↓	↓	↓	↓

This record is completed following twice monthly ash pond inspections

NOTES:



Ash Pond Inspection Log 1_2009.doc

IPL INSPECTION CHECKLIST

HARDING STREET GENERATING STATION
INDIANAPOLIS POWER & LIGHT COMPANY
INDIANAPOLIS, INDIANA

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TYPICAL BI-WEEKLY INSPECTION CHECKLIST
MAY 2010

FIGURE 10

Appendix A
USEPA Coal Combustion Dam Inspection Checklist Forms

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 29, 2010
Unit Name:	Ash Pond 1	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	High (Significant) Low
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	683.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)?	n/a		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?	see note 20	
5. Lowest dam crest elevation (operator records)?	685.0		Is water exiting outlet, but not entering inlet?	see note 20	
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	see note 20	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)	x		At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?		x	At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
9. Vegetation overgrowth (small saplings, 1 to 2" diameter) along south embankment interior slope. Heavy vegetation and trees (up to 18" in diameter) located along north embankment exterior slope.
17,18,19. A 5' by 3' section of the south embankment was excavated to repair damage to a sluice line. Surface erosion along the northwest embankment interior slope Surface erosion of the north embankment interior slope.
20. Pond is currently empty.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 1

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 1

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?		X
Is water or ccw currently being pumped into the impoundment?		X

IMPOUNDMENT FUNCTION: Fly ash and bottom ash processing.

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:

Longitude 86 Degrees 11 Minutes 56.72 Seconds W

Latitude 39 Degrees 42 Minutes 29.49 Seconds N

State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

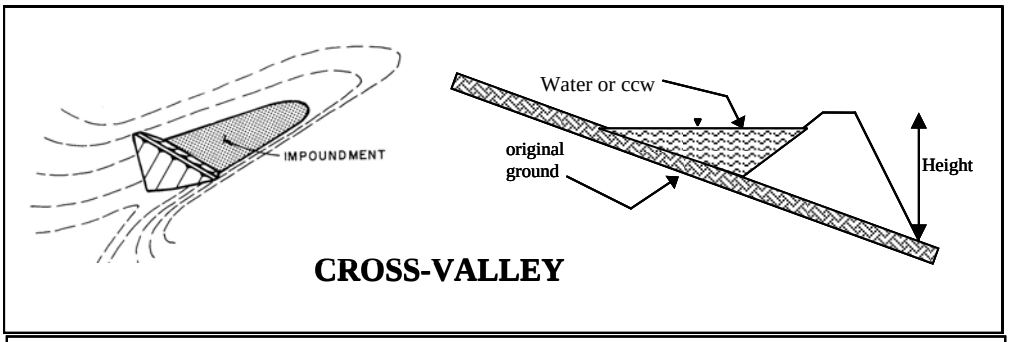
__X__ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

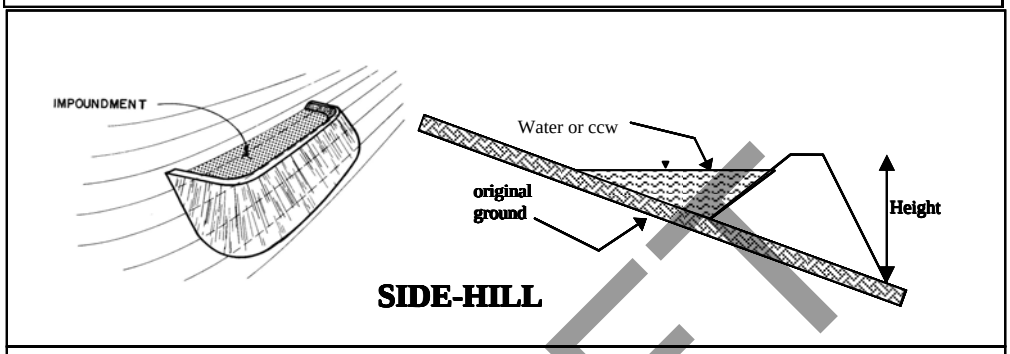
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

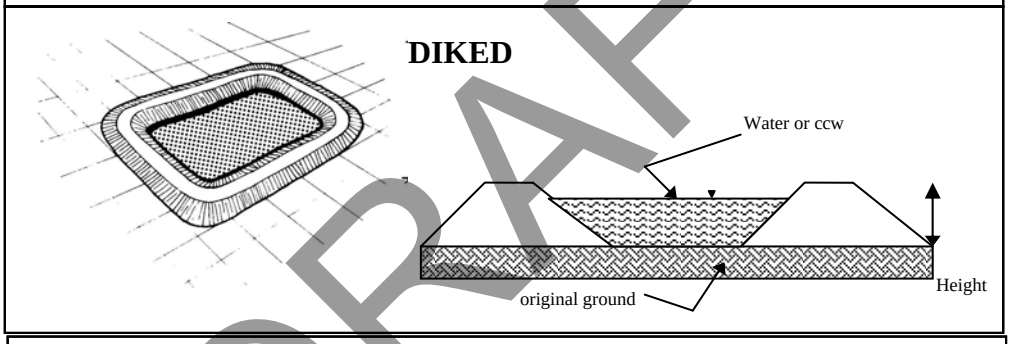
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

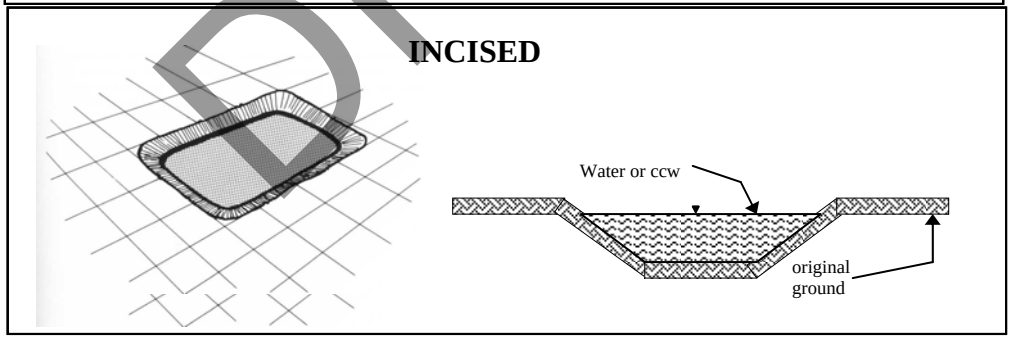
1) A breach could have an environmental impact on Lick Creek and the White River.
2) A breach could damage/washout plant access and haul roads.
3) A breach could cause failure of adjacent lower ponds with discharge into Lick Creek.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

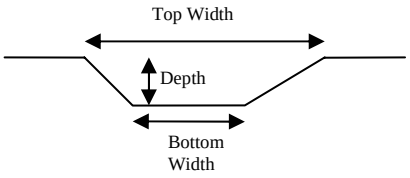
Lowest Embankment Height __13____ feet Embankment Material___Earthen_____
Pool Area _7_____ acres Liner ___None_____
Current Freeboard ___d/n/a____ feet Liner Permeability ____d/n/a_____
Pond is dry

n/a = Not Available
d/n/a = Does Not Apply

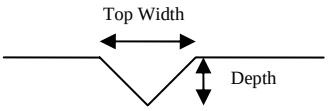
TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

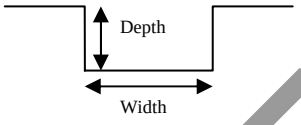


TRIANGULAR

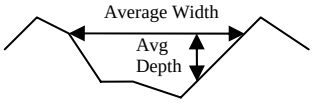


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

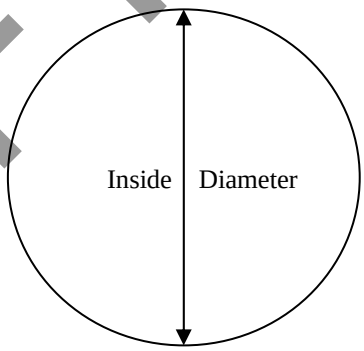


IRREGULAR



X **Outlet**

1-30" inside diameter



Material
_X_ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES _____ NO __X__

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 29, 2010
Unit Name:	Ash Pond 2	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	(High) Significant Low
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	692.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)?	706.0		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	n/a		Is water entering inlet, but not exiting outlet?	see note 20	
5. Lowest dam crest elevation (operator records)?	720.0		Is water exiting outlet, but not entering inlet?	see note 20	
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	see note 20	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)	x		At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?	x		At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?	x		Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
9. Trees (3" diameter) located at toe of south embankment exterior slope. Vegetation at toe of north embankment exterior slope.
10,11. Ruts along crest from truck traffic.
17,18,19. Small surface erosion area down south embankment exterior slope. Deep erosion rills along south embankment interior slope. Significant slough at toe of south embankment interior slope.
20. Pond is currently empty.

n/a = Not Available
d/n/a = Does Not Apply

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 2

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 2

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	_____	X

IMPOUNDMENT FUNCTION: Processing dredge spoils from Ponds 1 and 4.

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:
Longitude 86 Degrees 12 Minutes 08.70 Seconds W
Latitude 39 Degrees 42 Minutes 23.96 Seconds N
State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

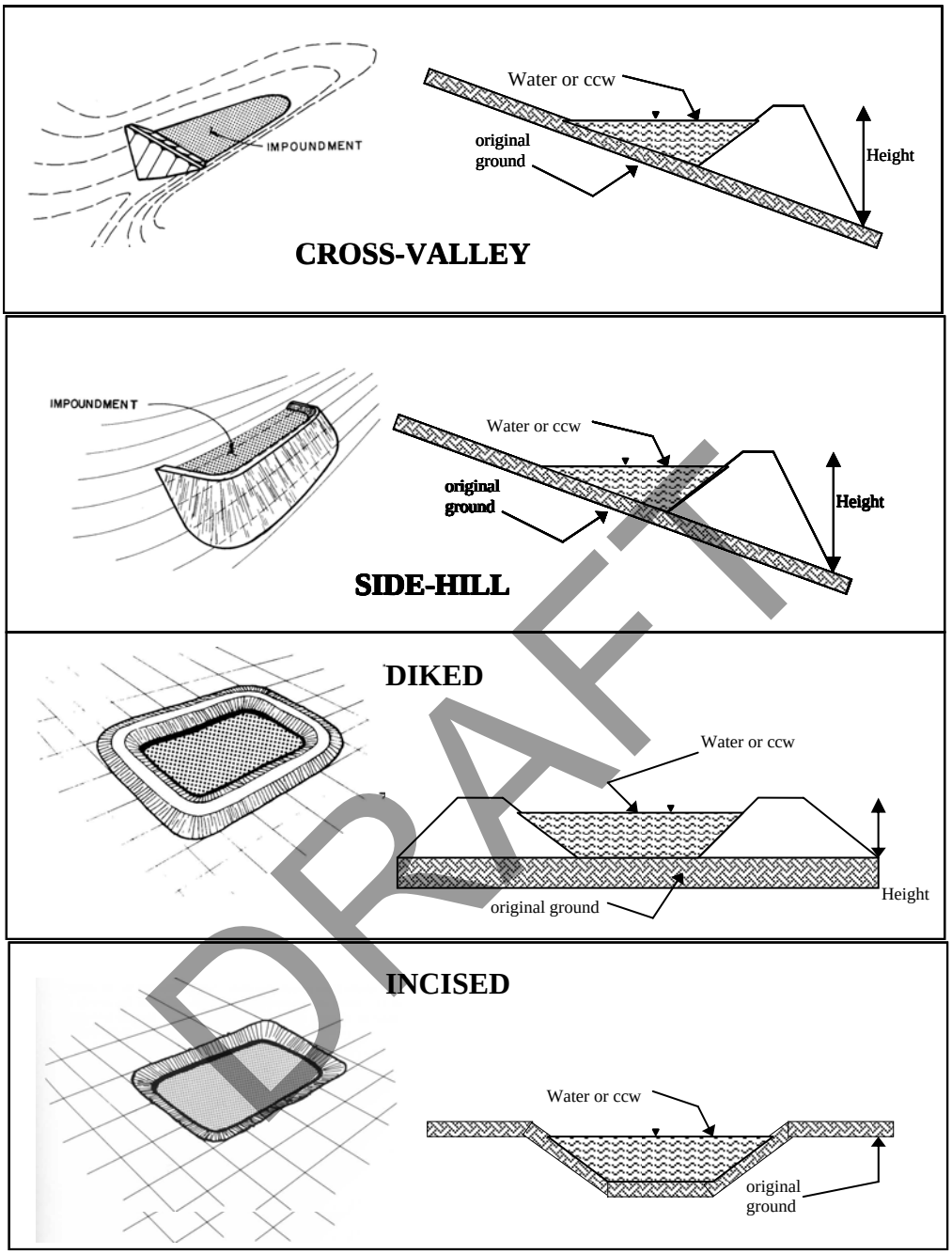
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_X_ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

1) A breach of south embankment could adversely affect adjacent stone quarry operations, and possible result in worker's loss of life.
2) A breach of the north embankment could have an environmental impact on Lick Creek and White River and possible property damage and loss of life downstream.
3) A breach cold cause failure of adjacent lower ponds with discharge into Lick Creek.

CONFIGURATION:



_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

Lowest Embankment Height 42 feet
Pool Area 30 acres
Current Freeboard d/n/a feet
Pond is dry

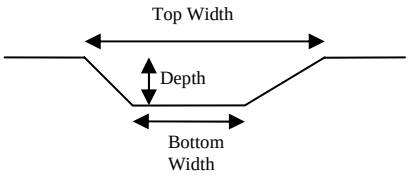
Embankment Material Earthen
Liner None
Liner Permeability d/n/a

n/a = Not Available
d/n/a = Does Not Apply

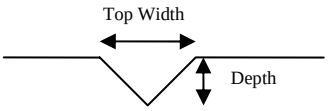
TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

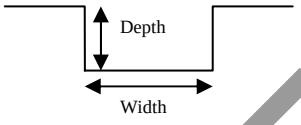


TRIANGULAR

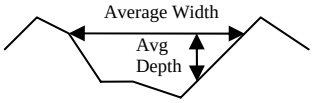


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

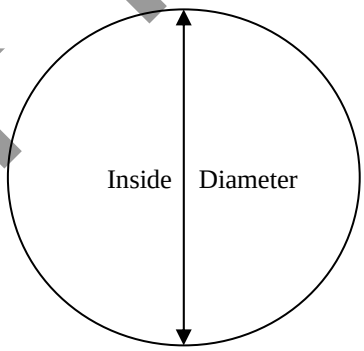


IRREGULAR



X **Outlet** Outlet acts as overflow into Pond #2A, water leaves pond through evaporation

1-26" inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
_X_ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES _____ NO __X__

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 29, 2010
Unit Name:	Ash Pond 2A	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	High **Significant** (Low)
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	682.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)?	679.0		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?		x
5. Lowest dam crest elevation (operator records)?	684.0		Is water exiting outlet, but not entering inlet?		x
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	x	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)		x	At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?		x	At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
9. Shrubs and brush (small saplings, 1 to 2" in diameter) and erosion at northeastern embankment.
17,18,19. Surface erosion along north embankment interior slope (1'x10'). East embankment interior slope is approximately 1H:1V. Erosion runs below sluice pipes on north embankment.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 2A

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 2A

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Processing ash from hydroclone, cinder pit and sumps

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:
Longitude 86 Degrees 11 Minutes 54.26 Seconds W
Latitude 39 Degrees 42 Minutes 25.79 Seconds N
State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

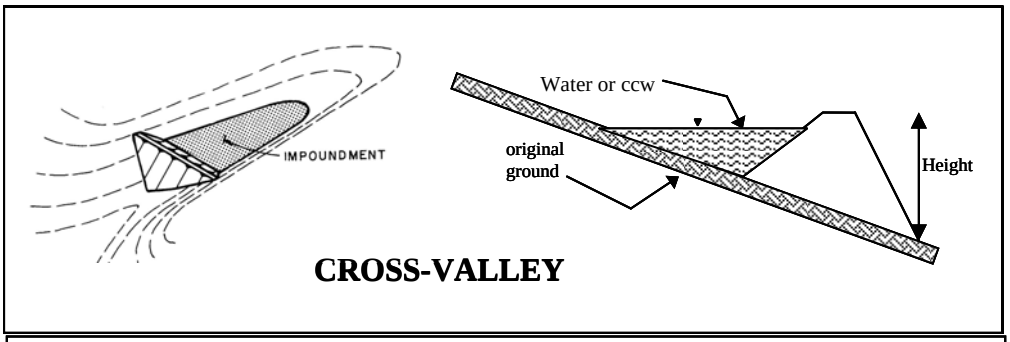
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

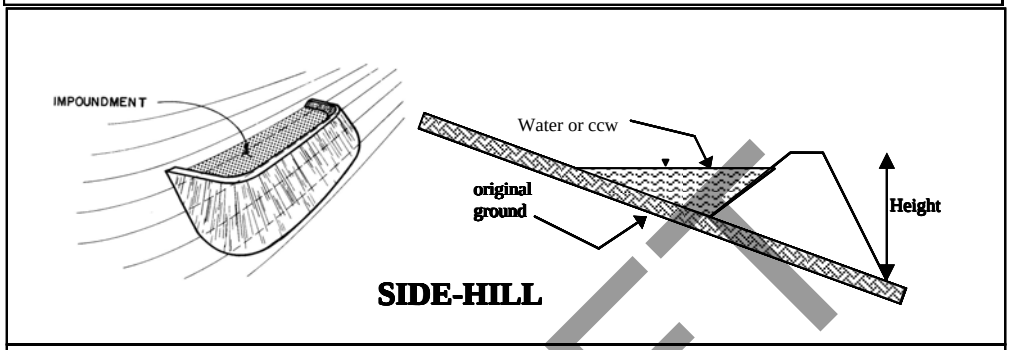
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

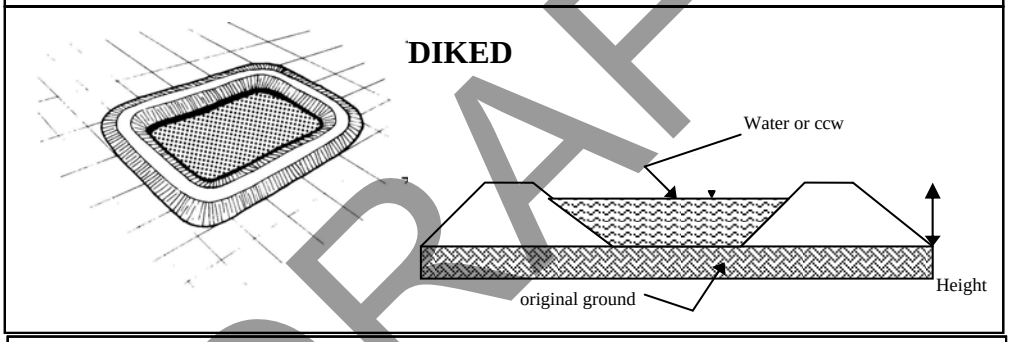
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

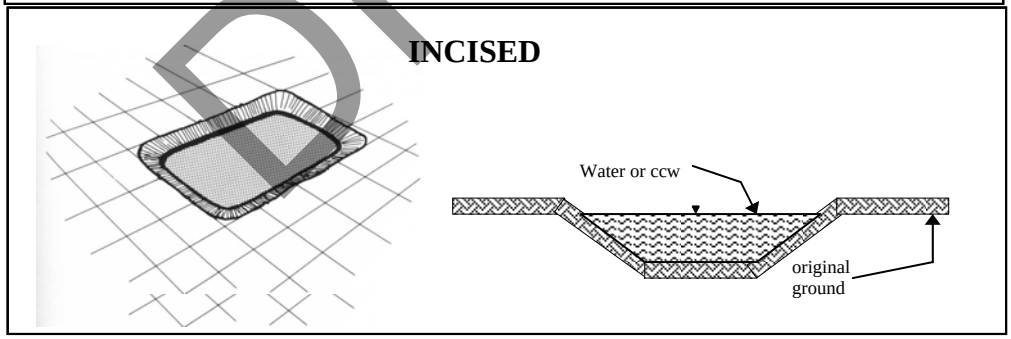
A breach of Ash Pond 2A embankments could damage plant haul roads.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

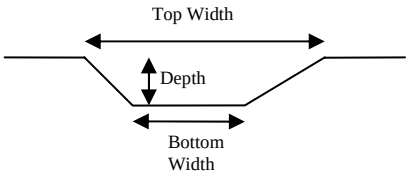
Lowest Embankment Height ___12___ feet Embankment Material___Earthen_____
Pool Area _3_____ acres Liner ____None_____
Lowest Current Freeboard ___3.5_____ feet Liner Permeability ____d/n/a_____

n/a = Not Available
d/n/a = Does Not Apply

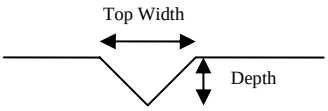
TYPE OF OUTLET (Mark all that apply)

_d/n/a_ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

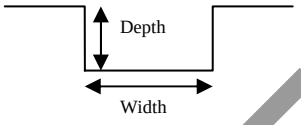


TRIANGULAR

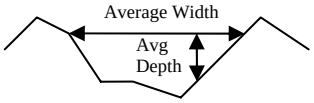


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

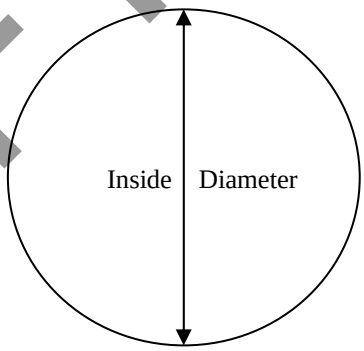


IRREGULAR



_X_ **Outlet**

_2-30"_ inside diameter



Material
_X_ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES _X_ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 29, 2010
Unit Name:	Ash Pond 2B	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	High Significant (Low)
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	682.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)?	679.0		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?		x
5. Lowest dam crest elevation (operator records)?	684.0		Is water exiting outlet, but not entering inlet?		x
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	x	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)	x		At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?		x	At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
9. Vegetation (brush and small saplings, 1 to 2" in diameter) along the east embankment interior slope. Heavy vegetation/trees (4" in diameter) on south embankment exterior slope.
17,18,19. Erosion rills run under pipes along the east embankment crest. South embankment exterior slope is approximately 1H:1V. Erosion rills along the north embankment interior slope.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 2B

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 2B

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Secondary processing of fly ash and bottom ash.

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:
Longitude 86 Degrees 11 Minutes 50.35 Seconds W
Latitude 39 Degrees 42 Minutes 23.94 Seconds N
State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

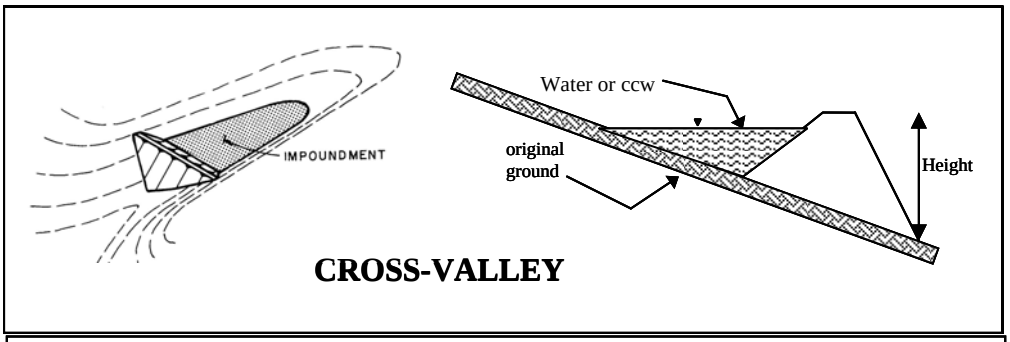
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

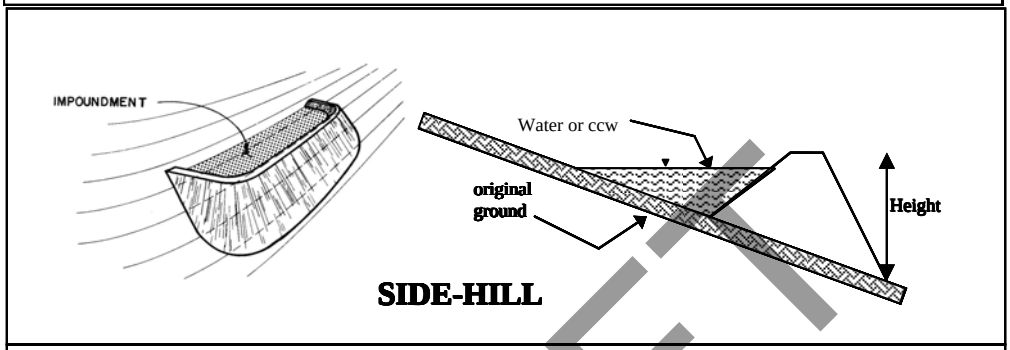
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

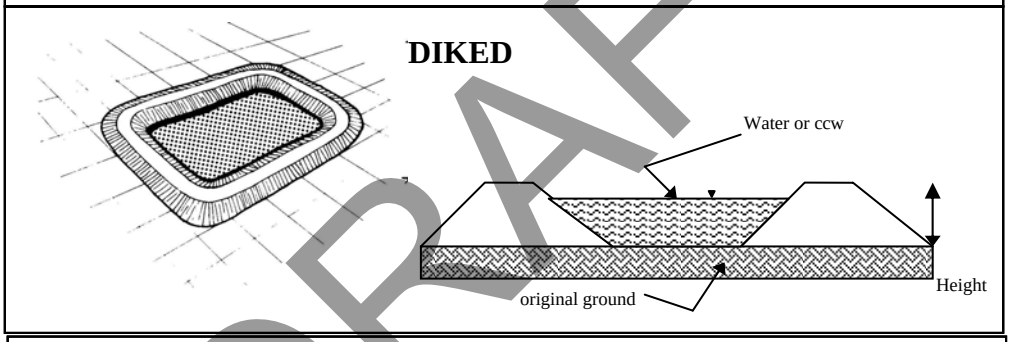
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

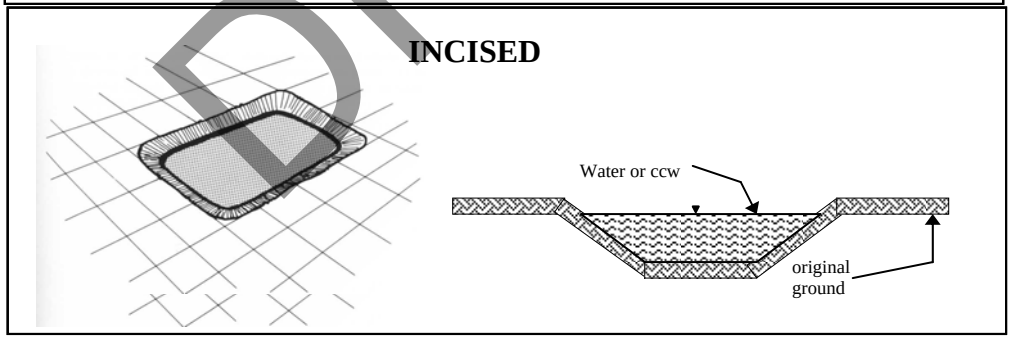
A breach of Ash Pond 2B embankments could damage plant haul roads and slurry lines that discharge into Ash Pond 2A.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

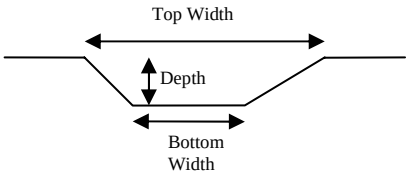
Lowest Embankment Height __13____ feet Embankment Material___Earthen_____
Pool Area _____2____ acres Liner ____None_____
Lowest Current Freeboard ____3.5_____ feet Liner Permeability _d/n/a_____

n/a = Not Available
d/n/a = Does Not Apply

TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL



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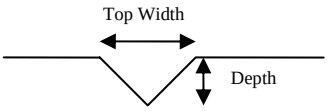
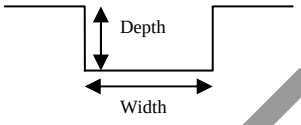
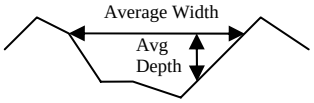


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

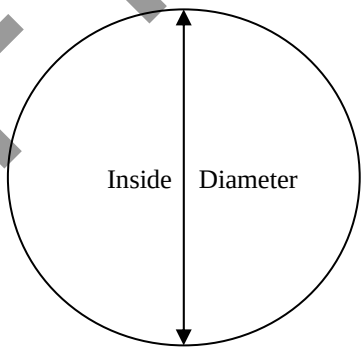


IRREGULAR



X **Outlet**

2-30" inside diameter



Material
_X_ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 29, 2010
Unit Name:	Ash Pond 3	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	(High) Significant Low
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	679.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)?	n/a		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?		x
5. Lowest dam crest elevation (operator records)?	685.0		Is water exiting outlet, but not entering inlet?		x
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	x	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)		x	At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?		x	At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
17,18,19. Erosion and slope failure (18' x5') along west embankment interior slope leaving section of the slope undercut and very steep. Slough observed near north end of the west embankment interior slope. Rodent burrows were encountered in the south and west embankment interior slopes.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 3

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 3
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	_____	X

IMPOUNDMENT FUNCTION: Final processing, "Clean Water Pond." Discharges into Lick Creek.

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:
Longitude 86 Degrees 11 Minutes 46.33 Seconds W
Latitude 39 Degrees 42 Minutes 26.87 Seconds N
State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

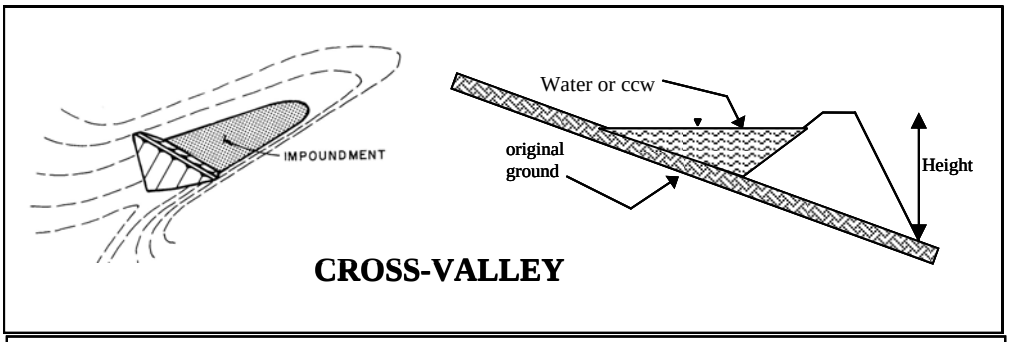
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

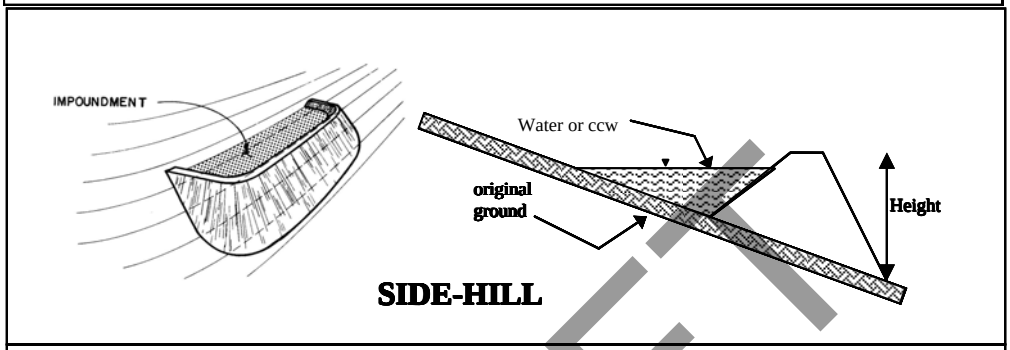
_X_ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

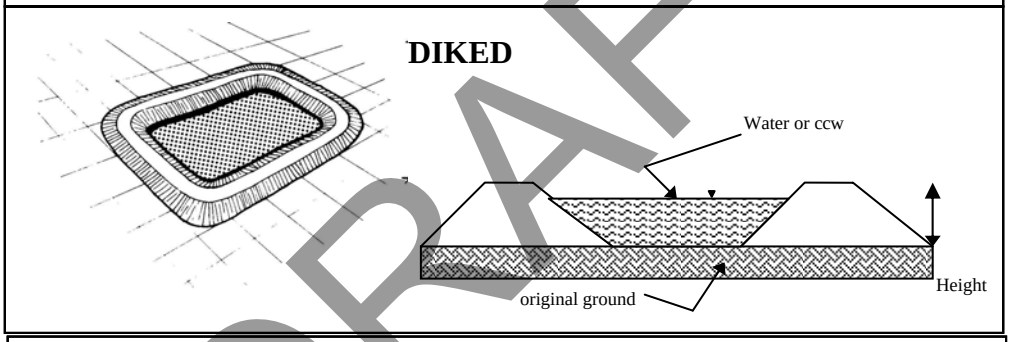
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

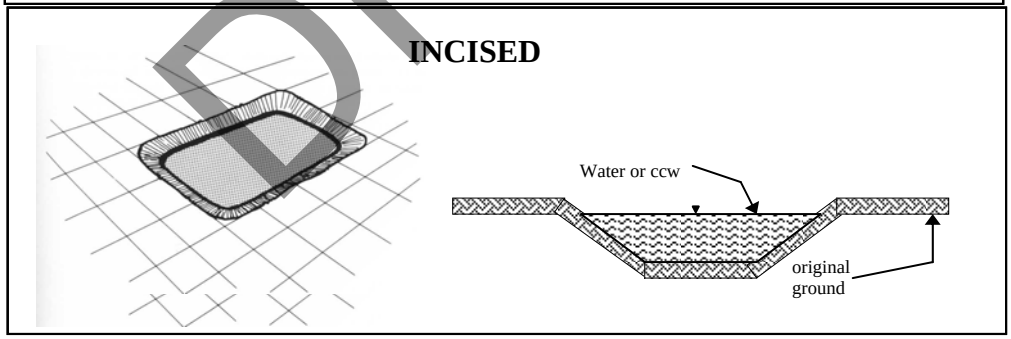
A breach of Ash Pond 3 embankments into Lick Creek and White River could cause possible property damage and loss of life downstream.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

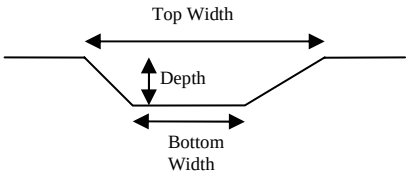
Lowest Embankment Height __13_____ feet Embankment Material___Earthen_____
Pool Area _____9.5_____ acres Liner ____None_____
Lowest Current Freeboard ____6____ feet Liner Permeability _d/n/a_____

n/a = Not Available
d/n/a = Does Not Apply

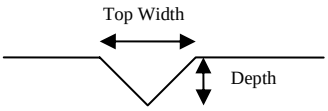
TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

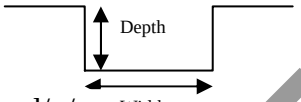


TRIANGULAR



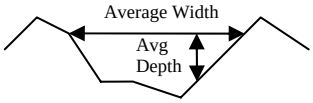
_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR



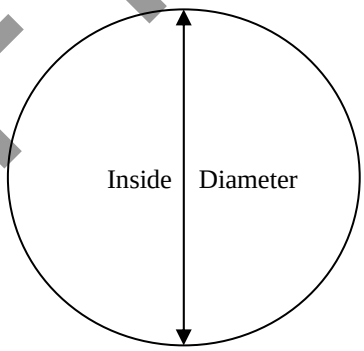
d/n/a

IRREGULAR



X **Outlet**

3-12" inside diameter



Material
_____ corrugated metal
__X__ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 30, 2010
Unit Name:	Ash Pond 4	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	(High) Significant Low
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?		x
2. Pool elevation (operator records)? max	680.0		19. Major erosion or slope deterioration?		x
3. Decant inlet elevation (operator records)?	see note 3		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?		x
5. Lowest dam crest elevation (operator records)?	682.0		Is water exiting outlet, but not entering inlet?		x
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	x	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)	x		At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?	x		At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
3. Inlet below water surface, not visible.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
9. Heavy vegetation (trees up to 18" in diameter) on slope of west embankment exterior slope.
10. Ruts along west embankment crest.
17. Surface scarps on north embankment interior slope.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 4

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 4

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Fly ash and bottom ash processing.

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:

Longitude 86 Degrees 11 Minutes 40.07 Seconds W

Latitude 39 Degrees 42 Minutes 15.12 Seconds N

State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

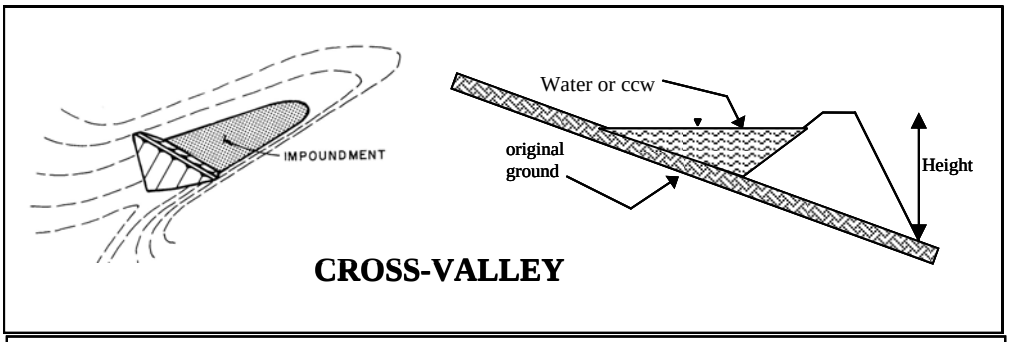
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

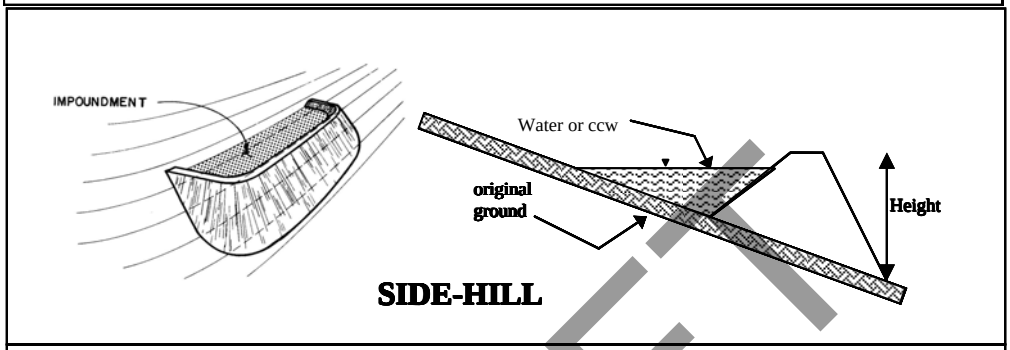
X_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

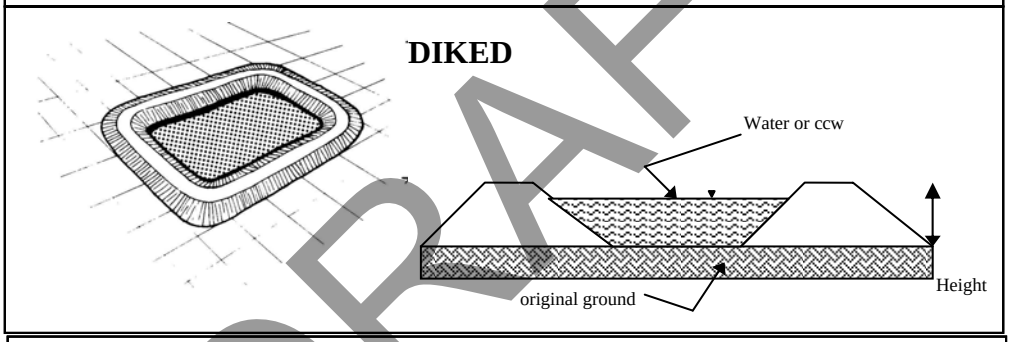
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

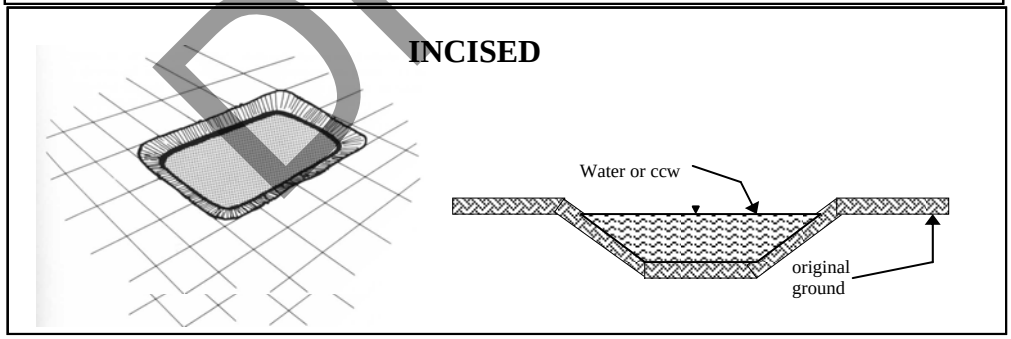
1) A breach of southern embankment could cause property damage at an adjacent stone quarry and worker loss of life.
2) A breach could cause failure of adjacent lower ponds with discharge into Lick Creek.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

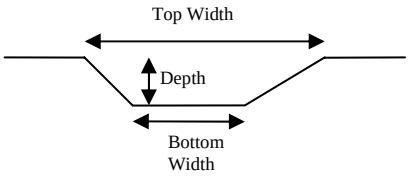
Lowest Embankment Height __12_____ feet Embankment Material___Earthen_____
Pool Area _____21___ acres Liner ____None_____
Lowest Current Freeboard ____4___ feet Liner Permeability _d/n/a_____

n/a = Not Available
d/n/a = Does Not Apply

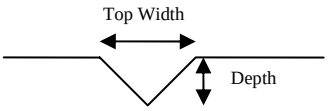
TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

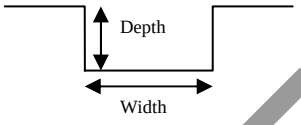


TRIANGULAR

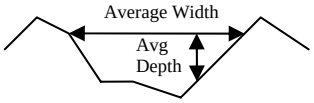


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

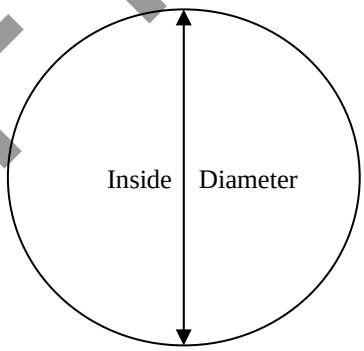


IRREGULAR



X **Outlet**

2-30" inside diameter



Material
__X__ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 30, 2010
Unit Name:	Ash Pond 4A	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	High **Significant** (Low)
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	682.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)?	681.6		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?		x
5. Lowest dam crest elevation (operator records)?	685.0		Is water exiting outlet, but not entering inlet?		x
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?	x	
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)		x	At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?		x	At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
17,18,19. Erosion rills along north embankment interior slope. Erosion rills and scarp/slough along east embankment interior slope. Erosion rills at east end of south embankment interior slope.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 4A

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 4A

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	_____	X

IMPOUNDMENT FUNCTION: Fly ash and bottom ash processing.

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:

Longitude 86 Degrees 11 Minutes 43.97 Seconds W

Latitude 39 Degrees 42 Minutes 21.74 Seconds N

State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_X_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

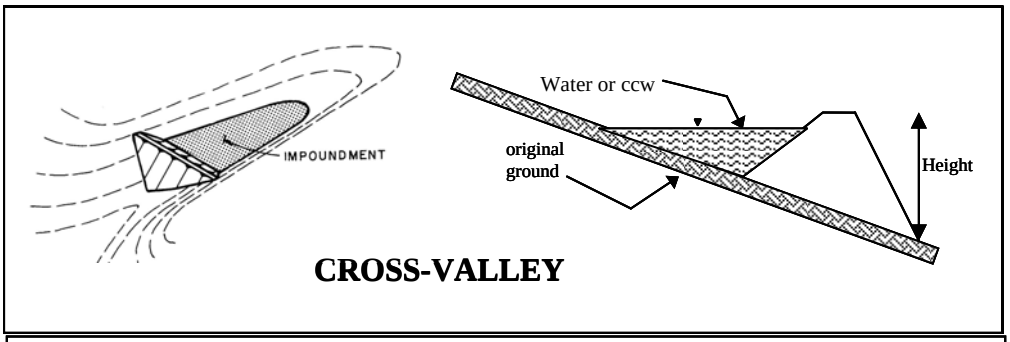
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

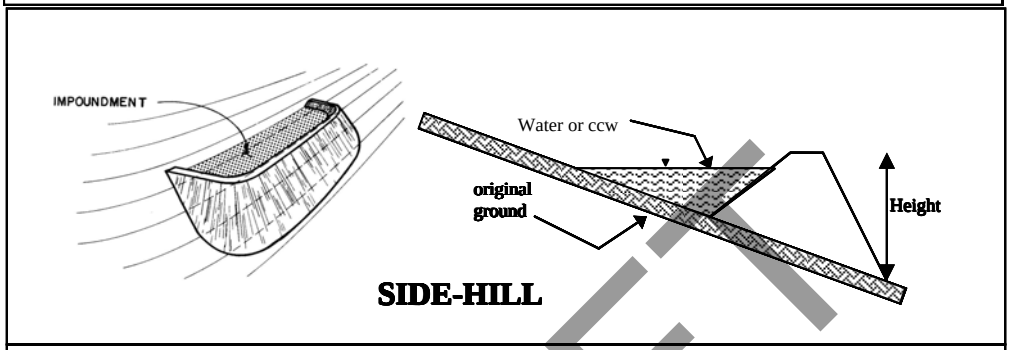
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

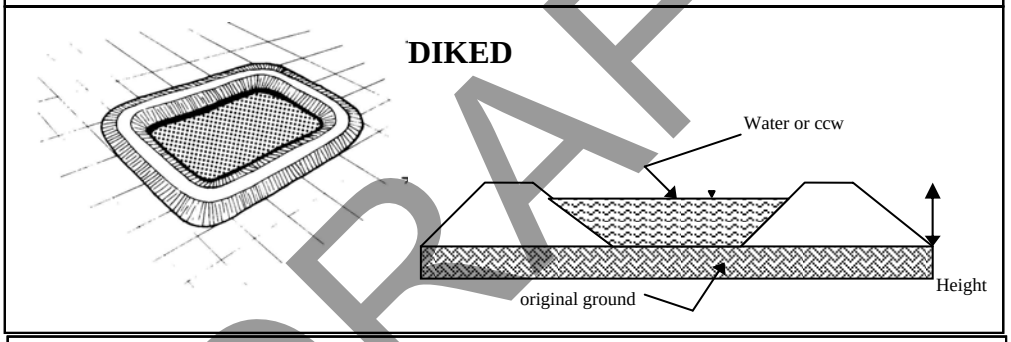
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

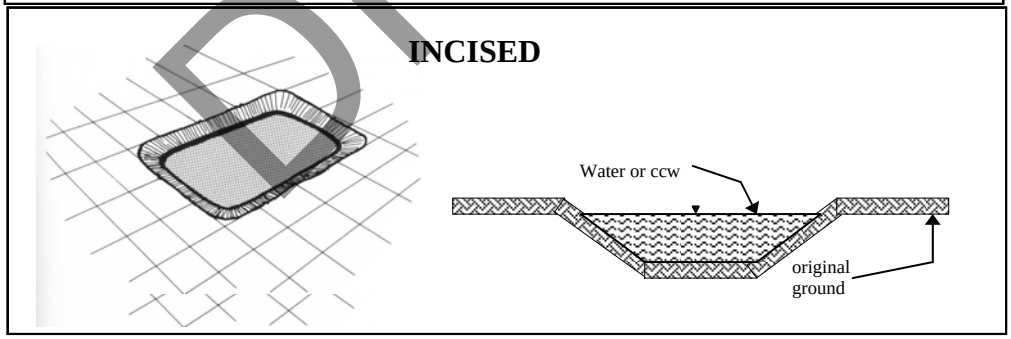
A breach in Ash Pond 4A embankment could impact plant haul roads and drainage ditches.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

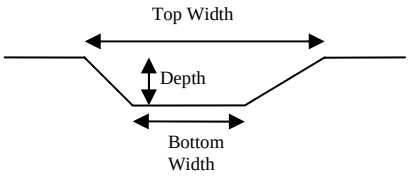
Lowest Embankment Height __13____ feet Embankment Material___Earthen_____
Pool Area _____1_____ acres Liner ____None_____
Lowest Current Freeboard ____1.5___ feet Liner Permeability d/n/a _____

n/a = Not Available
d/n/a = Does Not Apply

TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL



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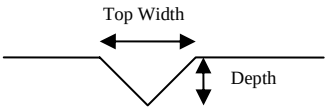
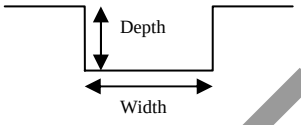
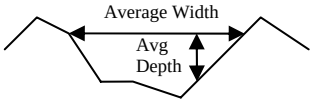


_____ depth
_____ bottom (or average) width
_____ top width

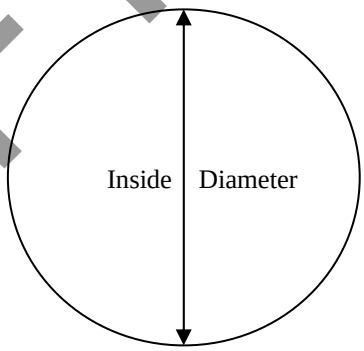
RECTANGULAR



IRREGULAR



X **Outlet**
1-30"
1-24" inside diameter



Material
__X__ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA
_____

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	IPL Harding Street Generating Station	Date:	April 30, 2010
Unit Name:	Ash Pond 4B	Operator's Name:	Indianapolis Power & Light Company
Unit I.D.:	n/a	Hazard Potential Classification:	High **Significant** (Low)
Inspector's Name:	Kyle King, Bill Friers		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	see note 1		18. Sloughing or bulging on slopes?	x	
2. Pool elevation (operator records)? max	682.0		19. Major erosion or slope deterioration?	x	
3. Decant inlet elevation (operator records)? approx	679.0		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	d/n/a		Is water entering inlet, but not exiting outlet?		x
5. Lowest dam crest elevation (operator records)?	684.0		Is water exiting outlet, but not entering inlet?		x
6. If instrumentation is present, are readings recorded (operator records)?	d/n/a		Is water exiting outlet flowing clear?		x
7. Is the embankment currently under construction?		x	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?		x	From underdrain?		x
9. Trees growing on embankment? (If so, indicate largest diameter below)		x	At isolated points on embankment slopes?		x
10. Cracks or scarps on crest?	x		At natural hillside in the embankment area?		x
11. Is there significant settlement along the crest?		x	Over widespread areas?		x
12. Are decant trashracks clear and in place?	d/n/a		From downstream foundation area?		x
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		x	"Boils" beneath stream or ponded water?		x
14. Clogged spillways, groin or diversion ditches?		x	Around the outside of the decant pipe?		x
15. Are spillway or ditch linings deteriorated?		x	22. Surface movements in valley bottom or on hillside?		x
16. Are outlets of decant or underdrains blocked?		x	23. Water against downstream toe?		x
17. Cracks or scarps on slopes?	x		24. Were Photos taken during the dam inspection?	x	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments

1. Inspections performed by plant personnel every two weeks. Semi-annual detailed inspection by independent consultant.
2,6. No instrumentation is in place.
2,3,4,5. Elevations shown reference NGVD 29. IPL's Harding Street Plant Datum is 2.1 feet lower than NGVD 29.
10. Surface crack along south embankment crest.
17,18,19. Scarp/slough of interior slopes is prevalent on north, south, and west embankments. East embankment interior slope has been stabilized with riprap.

n/a = Not Available
d/n/a = Does Not Apply

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # IN0004685 INSPECTOR Kyle King, Bill Friers

Date April 29, 2010

Impoundment Name Ash Pond 4B

Impoundment Company Indiana Power & Light Company (IPL)

EPA Region 5

State Agency (Field Office) Addresss 402 West Washington Street, Room W264
Indianapolis, IN 46204

Name of Impoundment Ash Pond 4B

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	_____	X

IMPOUNDMENT FUNCTION: Tertiary treatment process of fly ash and bottom ash

Nearest Downstream Town : Name Indianapolis, Indiana

Distance from the impoundment 1.5 Miles

Impoundment Location:
Longitude 86 Degrees 11 Minutes 37.65 Seconds W
Latitude 39 Degrees 42 Minutes 22.19 Seconds N
State Indiana County Marion

Does a state agency regulate this impoundment? YES _____ NO X*

If So Which State Agency?_____

*Indiana Department of Natural Resources (IDNR) is responsible for the State's dam safety program, however IDNR has not been actively involved in the regulation of Coal Combustion Waste Impoundments to date. The owner indicates there are no State inspection reports for this impoundment.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

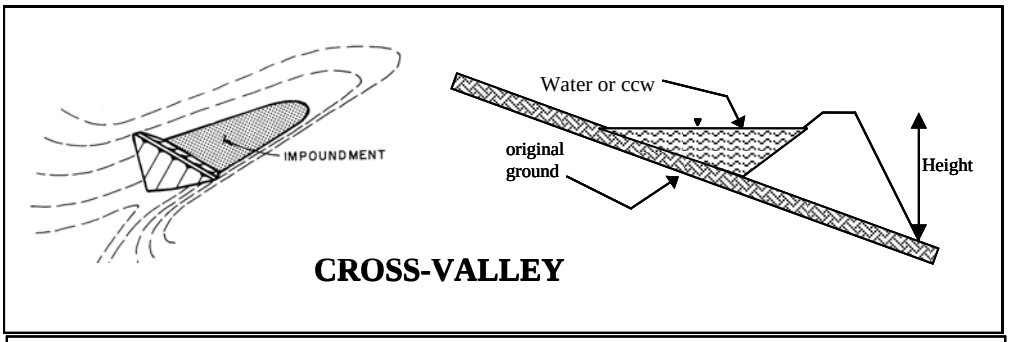
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

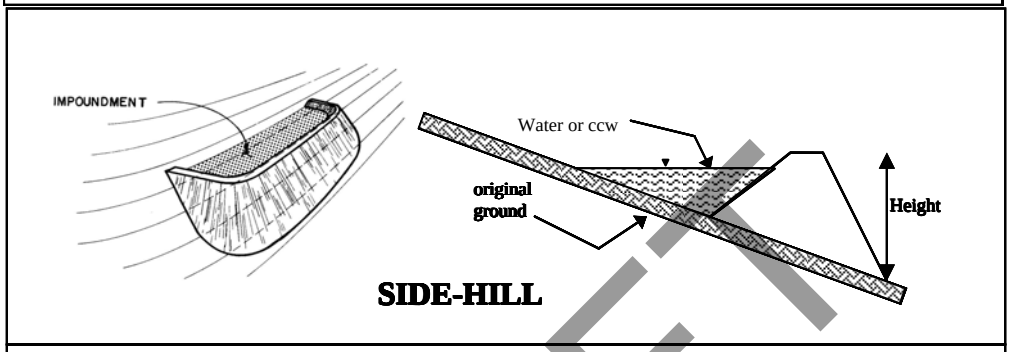
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

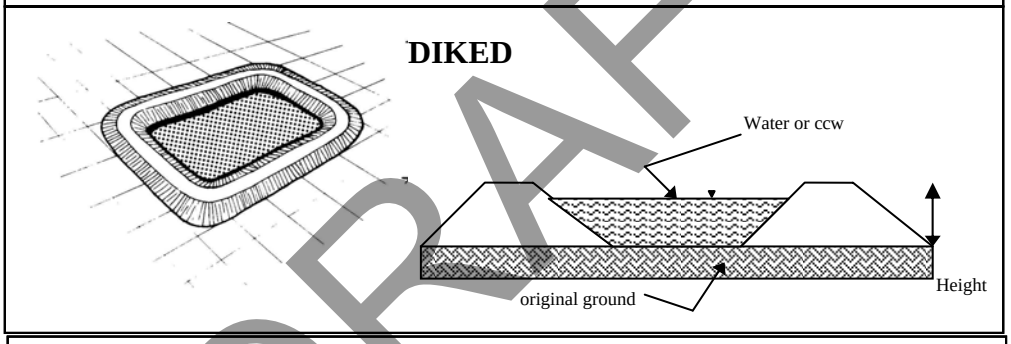
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

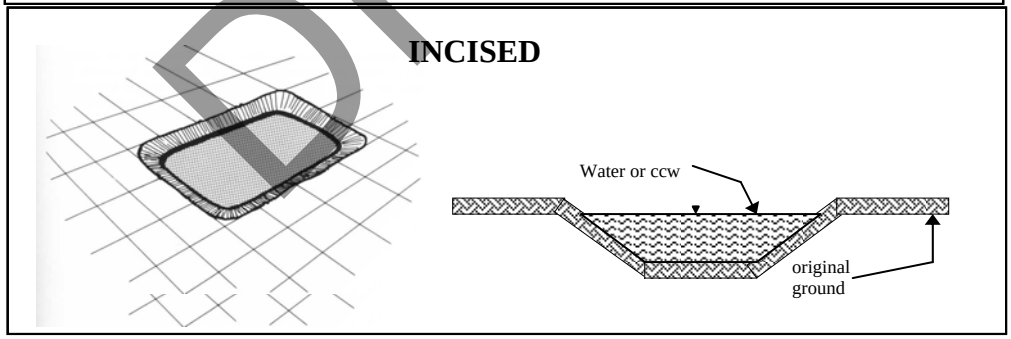
A breach of Ash Pond 4B embankment could impact plant haul roads and drainage ditches.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
__X__ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

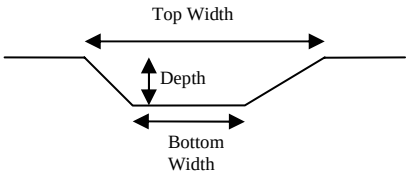
Lowest Embankment Height __12_____ feet Embankment Material___Earthen_____
Pool Area ___5_____ acres Liner ____None_____
Lowest Current Freeboard ____3_____ feet Liner Permeability _d/n/a_____

n/a = Not Available
d/n/a = Does Not Apply

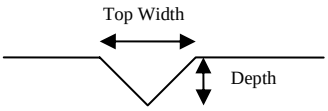
TYPE OF OUTLET (Mark all that apply)

d/n/a **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

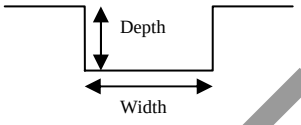


TRIANGULAR

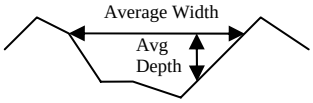


_____ depth
_____ bottom (or average) width
_____ top width

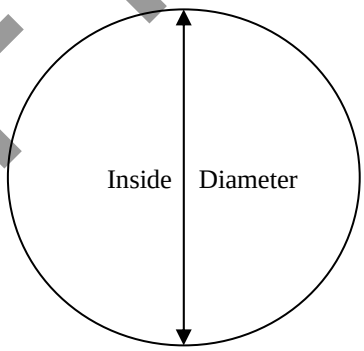
RECTANGULAR



IRREGULAR



X **Outlet**
1-30"
1-24" inside diameter



Material
__X__ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Trans-Ash Inc. USA

n/a = Not Available
d/n/a = Does Not Apply

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Appendix B
Photographs

1. Ash Pond 1 - South Embankment Crest, Looking East

2. Ash Pond 1 - Inlet from Ash Pond 2A (30-inch-diameter CMP), Located at South Embankment Interior Slope

3. Ash Pond 1 - South Embankment Interior Slope, Looking East

4. Ash Pond 1 - Vegetation on South Embankment Interior Slope, Looking East

5. Ash Pond 1 - South Embankment Crest, Repaired 8 inch Diameter Sluice Line

6. Ash Pond 1 - Excavation of Basin Floor (Approximately 6 feet deep, 55 feet long, 30 feet wide)

7. Ash Pond 1 - Sluice Line Repair at South Embankment Interior Slope

8. Ash Pond 1 - East Embankment Crest, Looking North

9. Ash Pond 1 - East Embankment Interior Slope, Looking South

10. Ash Pond 1 - East Embankment Crest with Four (4) 8-inch-Diameter Sluice Lines and Vegetation

11. Ash Pond 1 - Four (4) 8-inch-Diameter Slice Lines along East Embankment Crest, Looking South

12. Ash Pond 1 - North Embankment Crest, Looking West, Depression Visible in Distance

13. Ash Pond 1 - North Embankment Interior Slope, Looking West, Area of Beaching is Visible in Distance

14. Ash Pond 1 - Dense Vegetation along North Embankment Exterior Slope, View from Bridge Over Lick Creek

15. Ash Pond 1 - North Embankment Exterior Slope

16. Ash Pond 1 - Beaching and Surface Erosion at the top of the North Embankment Interior Slope, Looking West

17. Ash Pond 1 - Erosion Rill West of the North Embankment

18. Ash Pond 1 - West Embankment Interior Slope, Looking South

19. Ash Pond 1 - Scarified Surface of West Embankment Interior Slope, Looking South

20. Ash Pond 2 - South Embankment Interior Slope, Looking West, Sparse Vegetation and Erosion Rills are Visible

21. Ash Pond 2 - Outlet Structure on East Embankment Interior Slope, Looking North

22. Ash Pond 2 - South Embankment Exterior Slope, Looking West

23. Ash Pond 2 - South Embankment Exterior Slope, Looking North, Vegetation Located at on Slope and Toe

24. Ash Pond 2 - Ruts along South Embankment Crest, Looking East

25. Ash Pond 2 - Erosion Rill on South Embankment Exterior Slope

26. Ash Pond 2 - Erosion Rills on South Embankment Interior Slope

27. Ash Pond 2 - Surface Erosion along South Embankment Exterior Slope (Approximately 8′ Width, 4′ Deep, 30′ Long)

28. Ash Pond 2 - Riprap used to fill in Erosion Rills, South Embankment Exterior Slope, Looking West

29. Ash Pond 2 - Erosion Rills Adjacent to Riprap on South Embankment Exterior Slope

30. Ash Pond 2 - Ruts along South Embankment Crest

31. Ash Pond 2 - Filter Fabric under Riprap Layer. Filter Fabric is used when Erosion Rill Extended to Crest

32. Ash Pond 2 - Surface Erosion below Riprap along South Embankment Exterior Slope

33. Ash Pond 2 - Deep Erosion Rill on South Embankment Interior Slope

34. Ash Pond 2 - Slope Failure of South Embankment Interior Slope, Looking South from Basin Floor

35. Ash Pond 2 - Erosion Rills and Slope Failure on South Embankment Interior Slope, Looking East from Basin Floor

36. Ash Pond 2 - Dredging Spoil, West Embankment Interior Slope, Looking North

37. Ash Pond 2 - West Embankment Exterior Slope, Looking North (Slope is approximately 3H:1V)

38. Ash Pond 2 - Northwest Embankment Exterior Slope, Looking West

39. Ash Pond 2 - North Embankment Exterior Slope, Looking East

40. Ash Pond 2 - North Embankment Crest, Looking East, Established Vegetation on Exterior Slope

41. Ash Pond 2 - North Embankment Interior Slope, Looking North from Basin Floor

42. Ash Pond 2 - East Embankment Interior Slope, View from Basin Floor

43. Ash Pond 2 - East Embankment Interior Slope, View from Basin

44. Ash Pond 2 - East Embankment Interior Slope, Looking South

45. Ash Pond 2 - East Embankment Exterior Slope, Looking South

46. Ash Pond 2A - North Embankment Interior Slope, Looking East, Three (3) 8-inch-Diameter Outfall Pipes

47. Ash Pond 2A - North Embankment Interior Slope, Riprap above 30-inch-Diameter Outlet and Erosion Rill on the Right

48. Ash Pond 2A - Erosion Rill along North Embankment Interior Slope, View from Pond (Approximately 1' Wide, 10' Long)

49. Ash Pond 2A - North Embankment Interior Slope, Erosion Rill Undercuts Active Sluice Lines

50. Ash Pond 2A - Vegetation along South Embankment Interior Slope, Looking South

51. Ash Pond 2A - North Embankment Crest, Looking East

52. Ash Pond 2A - North Embankment Interior Slope, Looking West

53. Ash Pond 2A - South Embankment Interior Slope, Looking South

54. Ash Pond 2A - North Embankment Interior Slope, Looking East, Riprap Erosion at Waterline

55. Ash Pond 2A - Vegetation and Erosion on North Embankment

56. Ash Pond 2A - East Embankment Interior Slope, Looking North, Approximate 1H:1V Slope

57. Ash Pond 2A - East Embankment Interior Slope, Looking South, Slope Failure

58. Ash Pond 2A - Overview of Steep East Embankment Interior Slope, Looking North, Approximate 1H:1V Slope

59. Ash Pond 2A - Outlet into Ash Pond 2B along the South Embankment Interior Slope, 30-inch-Diameter CMP

60. Ash Pond 2A - South Embankment Interior Slope, Looking South

61. Ash Pond 2A - South Embankment Crest, Looking West

62. Ash Pond 2B - South Embankment Crest and Interior Slope, Looking East

63. Ash Pond 2B - West Embankment Interior Slope, Looking North

64. Ash Pond 2B - North Embankment Interior Slope, Looking North

65. Ash Pond 2B - Vegetation along South Embankment Exterior Slope

66. Ash Pond 2B - Outlet Structure at East End of South Embankment

67. Ash Pond 2B - East Embankment Interior Slope, Looking North, Vegetation and Steep Slopes

68. Ash Pond 2B - Valved Outlet Access from East Embankment

69. Ash Pond 2B - Sluice Lines (Hydroclone and Sump) along Crest and Interior Slope of East Embankment, Looking North

70. Ash Pond 2B - East Embankment Crest, Looking North

71. Ash Pond 2B - Erosion below Sluice Line along the East Embankment Interior Slope

72. Ash Pond 2B - North Embankment Interior Slope, Looking West

73. Ash Pond 2B - Erosion and Slope Failure of Northeastern Embankment Interior Slope

74. Ash Pond 2B - North Embankment Interior Slope, Looking West

75. Ash Pond 3 - Inlet (3 Valves) Along West Embankment Interior Slope, Looking North

76. Ash Pond 3 - West Embankment Interior Slope, Looking South

77. Ash Pond 3 - Local Slope Failure along West Embankment Interior Slope (Approximately 18 feet Long by 5 feet in Height)

78. Ash Pond 3 - Slope Failure and Beaching along West Embankment Interior Slope

79. Ash Pond 3 - Riprap used to Stabilize Slope along West Embankment Interior Slope

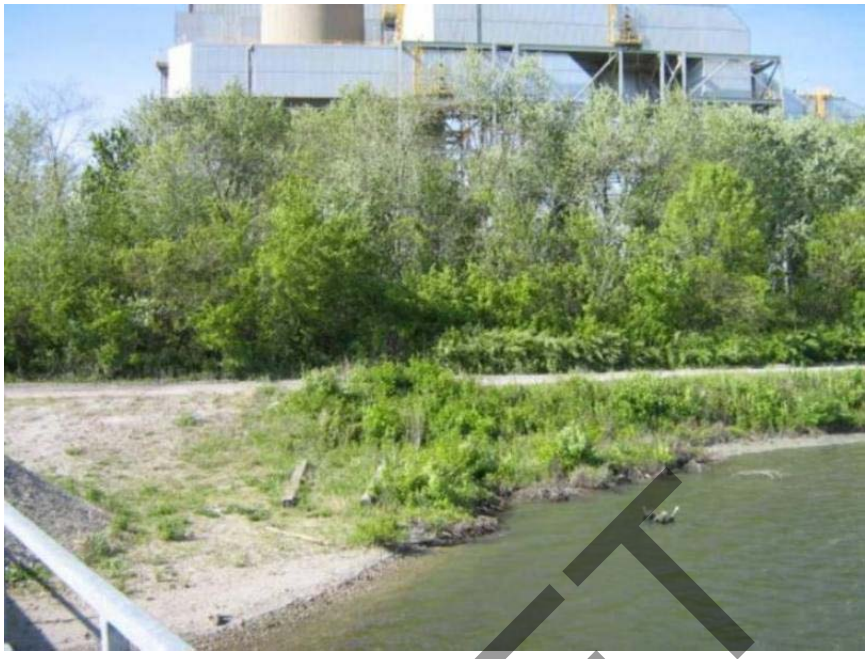
80. Ash Pond 3 - Fines in Northwestern Corner of Pond

81. Ash Pond 3 - Surface Erosion at top of West Embankment Interior Slope

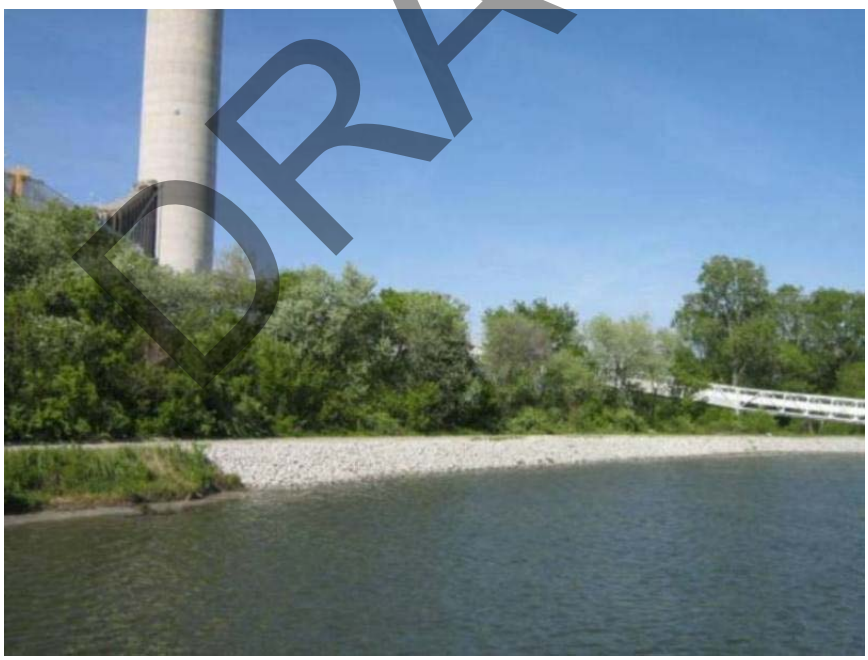
82. Ash Pond 3 - Sink Holes on the West Embankment Interior Slope

83. Ash Pond 3 - Vegetation on West Embankment Interior Slope, Looking West

84. Ash Pond 3 - North Embankment Crest, Looking East



85. Ash Pond 3 - North Embankment Interior Slope, Looking North From Outlet Control Structure



86. Ash Pond 3 - North Embankment Interior Slope, View from Outlet Control Structure

87. Ash Pond 3 - East Embankment Interior Slope, View from Outlet Control Structure

88. Ash Pond 3 - Discharge into Lick Creek, North of Ash Pond 3

89. Ash Pond 3 - Ash Pond 3 Drop Inlet Structure/Discharge to Lick Creek, Looking North

90. Ash Pond 3 - East Embankment Crest, Looking South

91. Ash Pond 3 - Beaching Along East Embankment Interior Slope, Looking South

92. Ash Pond 3 - East Embankment Interior Slope, Looking South, Extensive Erosion and Steep Slopes

93. Ash Pond 3 - Erosion Rills on top of East Embankment Interior Slope

94. Ash Pond 3 - Slope Erosion along East Embankment Interior Slope so as the Distance between the top of Slope and Hydroclone pipe is Approximately 2 feet

95. Ash Pond 3 - Southeastern Embankment Interior Slope, Looking South, Vegetation

96. Ash Pond 3 - Inflow from Ash Pond 4A Located at Southeastern Corner of Pond

97. Ash Pond 3 - South Embankment Interior Slope, Looking East

98. Ash Pond 3 - Erosion Rill above and Adjacent to Riprap along South Embankment Interior Slope

99. Ash Pond 3 - Rodent Burrow located in South Embankment Interior Slope

100. Ash Pond 3 - South Embankment Interior Slope, Looking South

101. Ash Pond 3 - West Embankment Interior Slope, Looking North, Slope is Undercut

102. Ash Pond 3 - Rodent Burrows in West Embankment Interior Slope

103. Ash Pond 3 - Erosion Rills and Beaching on West Embankment Interior Slope

104. Ash Pond 3 - West Embankment Interior Slope, Looking South

105. Ash Pond 4 - North Embankment Interior Slope, Looking West

106. Ash Pond 4 - Gate Valve located on North Embankment Crest

107. Ash Pond 4 - Submerged Inlet from Ash Pond 4A

108. Ash Pond 4 - North Embankment Crest, Looking West

109. Ash Pond 4 - Erosion along the Northwestern Embankment Interior Slope

110. Ash Pond 4 - West Embankment Interior Slope, View from Pond

111. Ash Pond 4 - Sluice Lines Located along West Embankment Interior Slope, Looking South

112. Ash Pond 4 - West Embankment Interior Slope, Riprap under Sluice Line to Address Undercut

113. Ash Pond 4 - Freeboard along North Embankment Interior Slope

114. Ash Pond 4 - West Embankment Interior Slope, Looking West

115. Ash Pond 4 - West Embankment Crest, Looking South, Showing Ruts along Crest

116. Ash Pond 4 - Discharge into Pond along West Embankment Crest

117. Ash Pond 4 - West Embankment Interior Slope and Pipeline, Looking North

118. Ash Pond 4 - West Embankment Interior Slope, Looking South, Ash Sediment Near top of Crest

119. Ash Pond 4 - Riprap used to Repair Erosion at Western Embankment Interior Slope

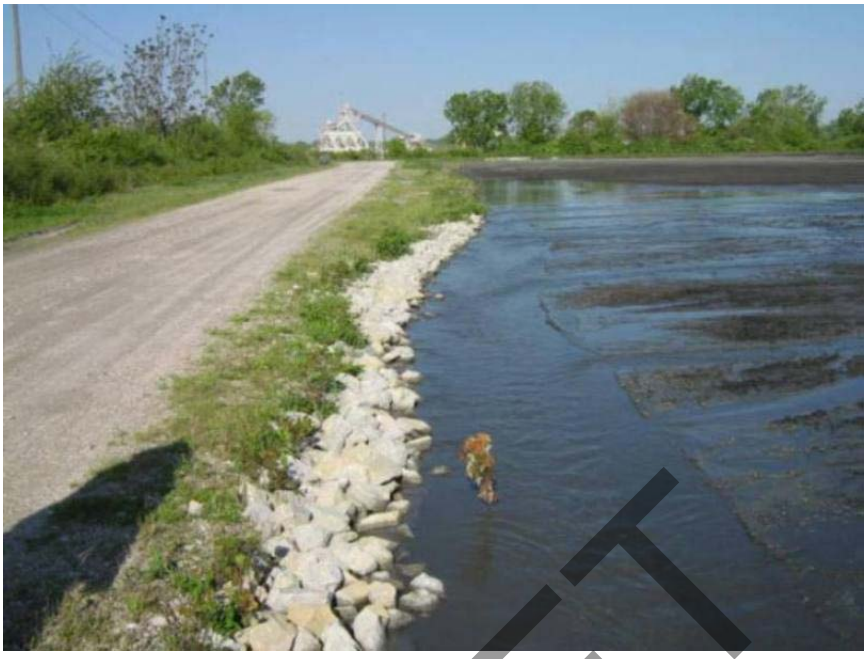
120. Ash Pond 4 - Vegetation along West Embankment Interior Slope, Looking North

121. Ash Pond 4 - West Embankment Exterior Slope, Heavy Vegetation on Slope

122. Ash Pond 4 - West Embankment Interior Slope, Looking West

123. Ash Pond 4 - South Embankment Crest and Interior Slope, Looking East

124. Ash Pond 4 - South Embankment Exterior Slope, Looking West, Heavy Vegetation Present



125. Ash Pond 4 - South Embankment Interior Slope, Looking West, Riprap Placed to Waterline

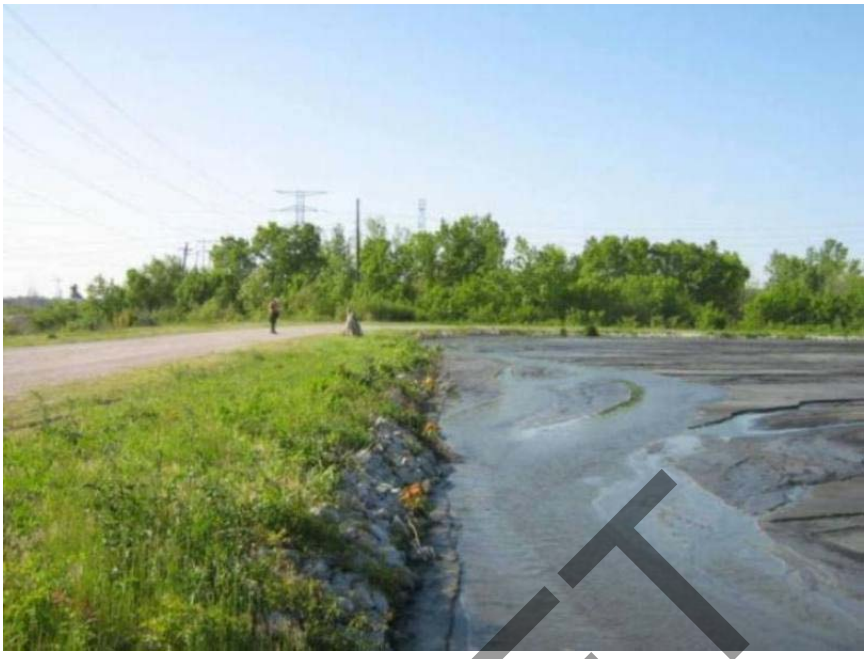
126. Ash Pond 4 - Southeastern Embankment Interior Slope, Looking East

127. Ash Pond 4 - East Embankment Interior Slope, Looking North

128. Ash Pond 4 - East Embankment Exterior Slope, Looking North, Established Vegetation on Slope, Brush and Saplings at Base of Slope

129. Ash Pond 4 - East Embankment Exterior Slope, Looking South

130. Ash Pond 4 - East Embankment Crest, Looking North



131. Ash Pond 4 - East Embankment Interior Slope, Looking South

132. Ash Pond 4 - East Embankment Interior Slope, Looking North

133. Ash Pond 4 - East Embankment Interior Slope, Looking North, Riprap lines the Interior Embankment

134. Ash Pond 4 - Northeastern Embankment Interior Slope, Looking North, Riprap lines the Interior Embankment

135. Ash Pond 4 - North Embankment Interior Slope, Looking West, Vegetation is Present

136. Ash Pond 4 - Two (2) 30-inch-Diamter CMP Outlets to Ash Pond 4B

137. Ash Pond 4 - Slope Failure along the North Embankment Interior Slope, Looking West

138. Ash Pond 4 - North Embankment Interior Slope, Looking West

139. Ash Pond 4A - North Embankment Interior Slope, Looking West

140. Ash Pond 4A - Erosion Rill on North Embankment Interior Slope

141. Ash Pond 4A - North Embankment Interior Slope, Looking Southwest from Pond

142. Ash Pond 4A - Erosion Rills on North Embankment Interior Slope, Looking Northeast from Pond

143. Ash Pond 4A - North Embankment Crest, Looking West

144. Ash Pond 4A - Erosion Rill on North Embankment Interior Slope

145. Ash Pond 4A - Beaching at Base of East Embankment Interior Slope, Looking North

146. Ash Pond 4A - Erosion Rills and Beaching along North Embankment Interior Slope, Looking North

147. Ash Pond 4A - East Embankment Crest, Looking South

148. Ash Pond 4A - South Embankment Interior Slope, Looking South

149. Ash Pond 4A - Inlet/Outlet to Ash Pond 4B at Southeastern Corner of Pond, Damage to 30-inch-Diameter CMP Visible

150. Ash Pond 4A - Erosion and Slope Failure along South Embankment Interior Slope, Looking East

151. Ash Pond 4A - South Embankment Crest, Looking West

152. Ash Pond 4A - Slope Failure West Embankment Interior Slope, Looking West

153. Ash Pond 4A - Erosion Rills and Slope Failure at North Embankment Interior Slope, Looking North

154. Ash Pond 4B - Outlet to Ash Pond 3 Located at Northeastern Corner of Pond

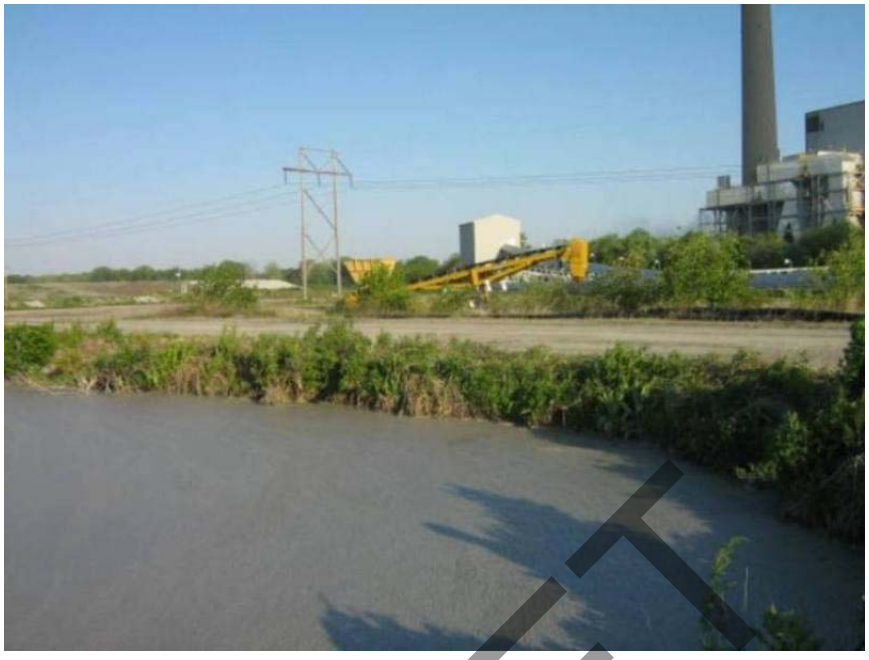
155. Ash Pond 4B - Undercut North Embankment Interior Slope, Looking East

156. Ash Pond 4B - North Embankment Interior Slope, Looking West

157. Ash Pond 4B - North Embankment Interior Slope, Looking West

158. Ash Pond 4B - West Embankment Interior Slope, Looking West, Erosion Visible

159. Ash Pond 4B - East Embankment Interior Slope, Looking South



160. Ash Pond 4B - North Embankment Interior Slope, Looking North

161. Ash Pond 4B - Tee-Joint, Typical of Pond Outlets

162. Ash Pond 4B - East Embankment Interior Slope, Looking South

163. Ash Pond 4B - East Embankment Exterior Slope, Looking South

164. Ash Pond 4B - Riprap used to Stabilize Slope along East Embankment Interior Slope, Looking South

165. Ash Pond 4B - High Inlet from Ash Pond 4, Low Inlet is approximately 5 feet West, Both Inlets are 30-inch-Diameter CMP's

166. Ash Pond 4B - Riprap on South Embankment Interior Slope, Looking East

167. Ash Pond 4B - South Embankment Interior Slope, Looking West

168. Ash Pond 4B - South Embankment Crest, Looking West

169. Ash Pond 4B - Inlet/Outlet to Ash Pond 4A located along West Embankment Interior Slope

170. Ash Pond 4B - West Embankment Crest, Looking North, Ruts from Vehicle Traffic Visible

Appendix C
Photo GPS Locations

Appendix C
Photo GPS Locations

Site: IPL Harding Street Generating Station
System: US State Plane 1983
Zone: Indiana West 1302
Datum: NAD 1983
Coordinate Units: Feet

Photo No.	Northing	Easting
1	1,625,316.43	3,201,393.48
2	1,625,382.87	3,201,431.52
3	1,625,370.41	3,201,470.81
4	1,625,371.97	3,201,606.98
5	1,625,385.60	3,201,642.70
6	1,625,422.43	3,201,777.64
7	1,625,389.84	3,201,886.87
8	1,625,389.87	3,201,949.51
9	1,625,504.52	3,201,915.73
10	1,625,512.65	3,201,924.19
11	1,625,517.13	3,201,922.61
12	1,625,708.96	3,201,932.05
13	1,625,861.16	3,201,481.11
14	1,625,888.28	3,201,214.90
15	1,625,995.15	3,201,251.00
16	1,626,109.24	3,201,387.94
17	1,625,845.37	3,201,059.46
18	1,625,795.21	3,201,101.03
19	1,625,472.57	3,201,270.25
20	1,624,939.71	3,201,285.43
21	1,624,939.71	3,201,285.43
22	1,624,865.80	3,201,292.32
23	1,624,834.43	3,200,996.37
24	1,624,860.27	3,200,917.61
25	1,624,846.83	3,200,870.56
26	1,624,888.17	3,200,837.64
27	1,624,785.38	3,200,590.74
28	1,624,789.99	3,200,559.13
29	1,624,812.54	3,200,506.01
30	1,624,834.42	3,200,421.18
31	1,624,755.99	3,200,399.23
32	1,624,747.91	3,200,312.43
33	1,624,892.15	3,200,222.96
34	1,624,940.65	3,200,191.31
35	1,624,930.18	3,200,113.34
36	1,624,804.90	3,199,874.74
37	1,624,819.20	3,199,495.63
38	1,625,044.80	3,199,634.09
39	1,625,188.54	3,199,733.10
40	1,625,284.78	3,200,060.16
41	1,625,269.36	3,200,538.21
42	1,625,290.63	3,200,576.42
43	1,625,290.63	3,200,576.42
44	1,625,692.97	3,200,855.51

Appendix C
Photo GPS Locations

Site: IPL Harding Street Generating Station
System: US State Plane 1983
Zone: Indiana West 1302
Datum: NAD 1983
Coordinate Units: Feet

Photo No.	Northing	Easting
45	1,625,486.87	3,201,173.55
46	1,625,307.96	3,201,409.21
47	1,625,315.88	3,201,422.88
48	1,625,301.35	3,201,515.75
49	1,625,311.07	3,201,568.00
50	1,625,310.33	3,201,582.42
51	1,625,346.57	3,201,601.01
52	1,625,337.82	3,201,726.49
53	1,625,328.83	3,201,854.73
54	1,625,350.16	3,201,704.33
55	1,625,336.64	3,201,953.34
56	1,625,290.60	3,202,011.37
57	1,625,300.06	3,202,001.31
58	1,625,225.85	3,202,029.38
59	1,625,194.41	3,201,789.73
60	1,625,194.41	3,201,789.73
61	1,625,069.61	3,201,725.36
62	1,625,045.58	3,201,812.48
63	1,625,045.58	3,201,812.48
64	1,625,045.58	3,201,812.48
65	1,625,032.16	3,201,838.63
66	1,624,953.16	3,202,237.75
67	1,624,969.16	3,202,259.68
68	1,625,082.21	3,202,172.31
69	1,625,093.38	3,202,173.70
70	1,625,093.38	3,202,173.70
71	1,625,135.14	3,202,138.18
72	1,625,199.47	3,202,078.63
73	1,625,199.47	3,202,078.63
74	1,625,192.82	3,201,978.67
75	1,625,246.29	3,202,080.88
76	1,625,246.29	3,202,080.88
77	1,625,392.33	3,201,998.08
78	1,625,407.16	3,201,995.81
79	1,625,418.97	3,201,995.11
80	1,625,556.29	3,201,961.72
81	1,625,574.29	3,201,959.52
82	1,625,566.52	3,201,970.43
83	1,625,681.63	3,202,013.29
84	1,625,697.67	3,202,045.24
85	1,625,596.65	3,202,189.45
86	1,625,596.65	3,202,189.45
87	1,625,596.65	3,202,189.45
88	1,625,804.82	3,202,106.62

Appendix C
Photo GPS Locations

Site: IPL Harding Street Generating Station
System: US State Plane 1983
Zone: Indiana West 1302
Datum: NAD 1983
Coordinate Units: Feet

Photo No.	Northing	Easting
89	1,625,753.65	3,202,106.65
90	1,625,691.62	3,202,563.96
91	1,625,580.43	3,202,578.83
92	1,625,464.86	3,202,604.21
93	1,625,464.86	3,202,604.21
94	1,625,367.49	3,202,633.94
95	1,625,263.87	3,202,673.77
96	1,625,179.38	3,202,738.75
97	1,625,024.65	3,202,529.72
98	1,624,961.65	3,202,391.03
99	1,624,947.85	3,202,351.67
100	1,624,995.00	3,202,321.20
101	1,625,019.68	3,202,299.56
102	1,625,039.69	3,202,247.61
103	1,625,194.33	3,202,116.55
104	1,625,269.53	3,202,062.94
105	1,624,749.23	3,202,610.35
106	1,624,752.61	3,202,541.05
107	1,624,752.61	3,202,541.05
108	1,624,749.18	3,202,513.13
109	1,624,732.71	3,202,441.43
110	1,624,732.71	3,202,441.43
111	1,624,712.31	3,202,396.31
112	1,624,676.99	3,202,417.88
113	1,624,676.99	3,202,417.88
114	1,624,510.36	3,202,373.49
115	1,624,506.68	3,202,380.55
116	1,624,263.04	3,202,403.09
117	1,624,222.28	3,202,409.75
118	1,624,029.01	3,202,421.58
119	1,623,839.34	3,202,476.13
120	1,623,761.28	3,202,449.04
121	1,623,849.67	3,202,318.37
122	1,623,688.01	3,202,521.89
123	1,623,688.01	3,202,521.89
124	1,623,691.50	3,202,823.70
125	1,623,693.15	3,203,066.10
126	1,623,702.91	3,203,143.15
127	1,623,843.18	3,203,292.21
128	1,623,863.50	3,203,327.99
129	1,623,863.50	3,203,327.99
130	1,623,864.01	3,203,305.18
131	1,624,019.72	3,203,283.70
132	1,624,019.72	3,203,283.70

Appendix C
Photo GPS Locations

Site: IPL Harding Street Generating Station
System: US State Plane 1983
Zone: Indiana West 1302
Datum: NAD 1983
Coordinate Units: Feet

Photo No.	Northing	Easting
133	1,624,019.72	3,203,283.70
134	1,624,475.28	3,203,267.60
135	1,624,646.77	3,203,229.81
136	1,624,683.88	3,203,106.90
137	1,624,705.44	3,203,047.20
138	1,624,746.32	3,202,753.80
139	1,624,918.98	3,202,432.78
140	1,624,918.98	3,202,432.78
141	1,624,946.28	3,202,538.19
142	1,624,946.28	3,202,538.19
143	1,625,009.75	3,202,598.63
144	1,625,020.03	3,202,634.87
145	1,625,020.03	3,202,755.72
146	1,624,975.78	3,202,657.27
147	1,624,885.77	3,202,627.34
148	1,624,885.77	3,202,627.34
149	1,624,821.35	3,202,631.01
150	1,624,782.12	3,202,614.20
151	1,624,759.12	3,202,571.79
152	1,624,759.84	3,202,445.42
153	1,624,759.84	3,202,445.42
154	1,625,032.35	3,202,802.62
155	1,625,057.53	3,202,865.73
156	1,625,057.53	3,202,865.73
157	1,625,139.85	3,203,003.61
158	1,625,139.85	3,203,003.61
159	1,625,194.93	3,203,102.31
160	1,625,165.11	3,203,160.38
161	1,625,172.67	3,203,217.30
162	1,625,092.73	3,203,261.27
163	1,625,050.65	3,203,306.50
164	1,624,892.59	3,203,271.49
165	1,624,705.29	3,203,099.53
166	1,624,733.55	3,202,958.77
167	1,624,746.88	3,202,816.77
168	1,624,753.51	3,202,778.04
169	1,624,796.23	3,202,671.04
170	1,624,821.49	3,202,646.23