**REPORT**

# Hazard Potential Classification Assessment 5 Year Update

*Martin Lake Steam Electric Station*
*Ash Pond Area and Permanent Disposal Pond No. 5*
*Rusk County, Texas*

Submitted to:

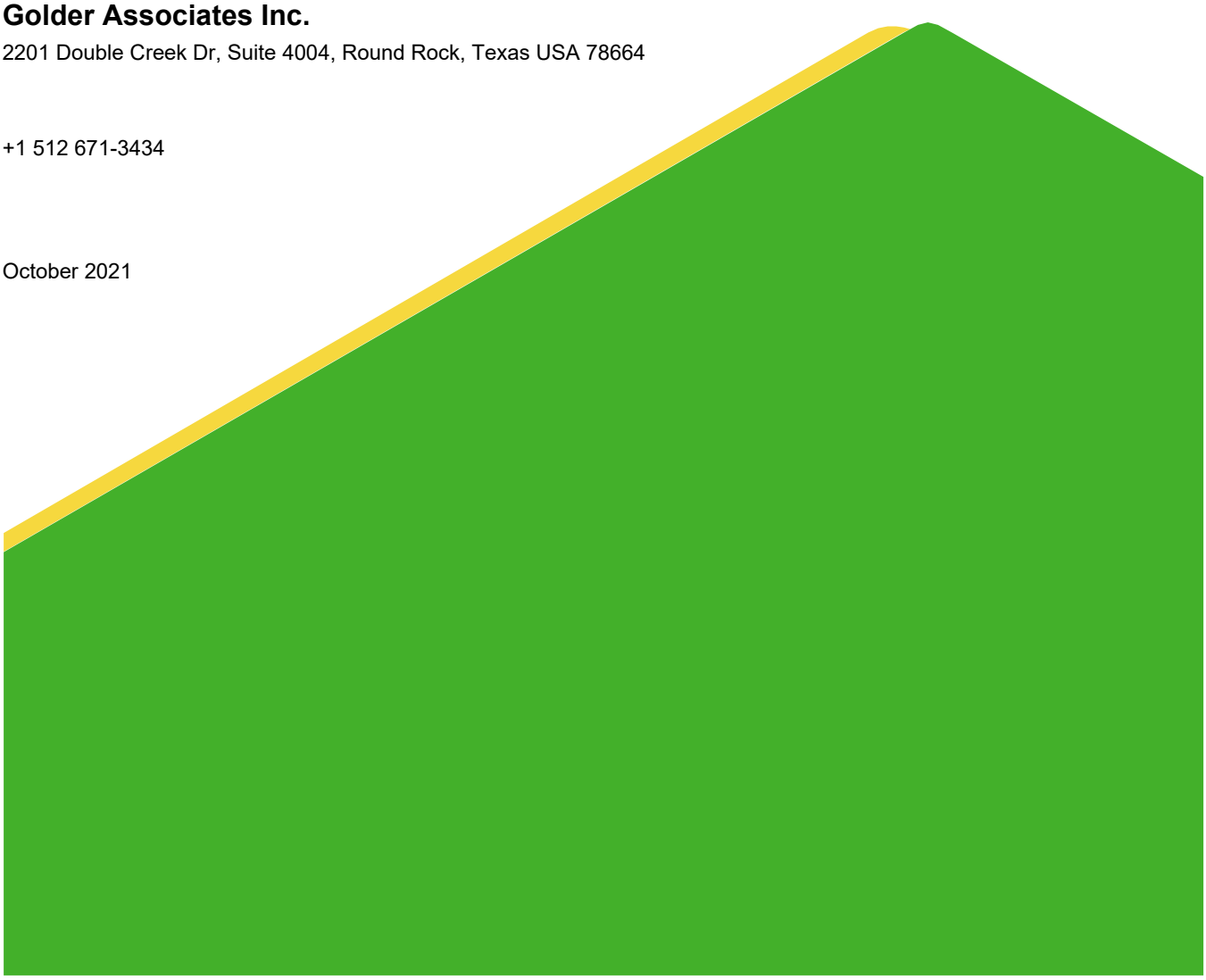
**Luminant Generation Company, LLC**
6555 Sierra Drive
Irving, TX 75039

Submitted by:

**Golder Associates Inc.**
2201 Double Creek Dr, Suite 4004, Round Rock, Texas USA 78664

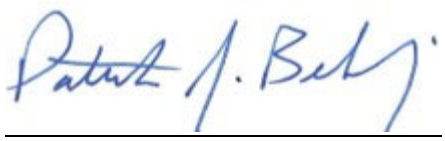
+1 512 671-3434

October 2021



# PROFESSIONAL CERTIFICATION

This document and all attachments were prepared by Golder Associates Inc. under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I hereby certify that the Hazard Potential Classification Assessment was conducted in accordance with the requirements of 40 C.F.R. § 257.73(a)(2) and 30 T.A.C. § 352.731.




Patrick J. Behling, P.E.
Principal Engineer
Golder Associates Inc.
Firm Registration No. F-2578

# Table of Contents



**FIGURES**

# 1.0 INTRODUCTION

Luminant Generation Company, LLC (Luminant) owns and operates the Martin Lake Steam Electric Station (MLSES) located approximately five miles southwest of Tatum in Rusk County, Texas. The power plant and related support areas occupy approximately 700 acres on a peninsula on the southwest side of Martin Lake (Figure 1). The MLSES consists of three coal/lignite-fired units with a combined operating capacity of approximately 2,250 megawatts. Coal Combustion Residuals (CCR) including fly ash, bottom ash, and gypsum are generated as part of MLSES unit operation and managed in the Bottom Ash Ponds and New Scrubber Pond (referred to collectively as the Ash Pond Area) and in Permanent Disposal Pond No. 5.

The U.S. Environmental Protection Agency promulgated 40 C.F.R. Part 257, Subpart D (the CCR Rule) and the Texas Commission on Environmental Quality (TCEQ) promulgated 30 T.A.C. Chapter 352 (which largely adopts the federal CCR Rule by reference) to establish technical requirements for new and existing CCR landfills and surface impoundments. On June 28, 2021, USEPA approved the majority of TCEQ's CCR program, which will now operate in lieu of the federal regulations. The Bottom Ash Ponds (BAPs), New Scrubber Pond (NSP) and Permanent Disposal Pond No. 5 (PDP-5) have been identified as Existing CCR Surface Impoundments regulated under the CCR Rule. It should be noted that the New Scrubber Pond has been referred to in past CCR reports as both the SP and the NSP. This pond will be referred to as the NSP in this report and all subsequent reports.

Section 257.73(a)(2) specifies that periodic Hazard Potential Classification Assessments (HPCAs) be performed by a qualified professional engineer for each existing CCR surface impoundment and 30 T.A.C. 352.731 adopts this requirement by reference. In accordance with § 257.73(f)(1), the initial HPCA for the BAPs, NSP and PDP-5 was completed and placed in the facility operating record in October 2016 (PBW, 2016). As specified in §257.73 (f)(3), the HPCAs must be updated every five years from the completion date of the initial plan. Golder Associates Inc., member of WSP (Golder), was retained by Luminant to prepare this updated HPCA for the BAPs, NSP and PDP-5.

## 1.1 CCR Surface Impoundment Hazard Potential Classification Assessment Requirements

Section 257.73(a)(2) specifies that periodic hazard potential classification assessments be performed for each existing CCR surface impoundment. The hazard potential classification assessments must document the hazard potential classification of each CCR impoundment as either:

- A high hazard potential CCR surface impoundment,
- A significant hazard potential CCR surface impoundment, or
- A low hazard potential CCR surface impoundment.

The assessments must document the basis for each hazard potential classification and must be certified by a qualified professional engineer confirming that the hazard potential classifications were conducted in accordance with the requirements of § 257.73(a)(2).

## 1.2 MLSES Surface Impoundments Subject to Hazard Potential Classification Assessments

Section 257.53 defines CCRs as "fly ash, bottom ash, boiler slag and flue gas desulfurization materials from burning coal for the purpose of generating electricity by electric utilities and independent power producers". The

hazard potential classification assessment requirements of the CCR Rule apply to surface impoundments that dispose or otherwise engage in solid waste management of CCRs.

The following surface impoundments at the MLSES have been identified as CCR Units subject to the hazard potential classification assessment requirements (Figure 2):

- West Ash Pond (WAP),
- East Ash Pond (EAP),
- New Scrubber Pond (NSP), and
- PDP-5.

The WAP, EAP and NSP are collocated in an area identified as the Ash Pond Area.

## 1.3 Description of Bottom Ash Ponds

The WAP and EAP (collectively "Bottom Ash Ponds" or "BAPs") are located approximately 2,000 feet east of the MLSES power plant (Figure 3). The WAP and EAP receive recovered sluice water from bottom ash dewatering bins and other MLSES process wastewater sources that typically include bottom ash fines. The ponds also act as surge basins for various water streams in the ash-water system. Process wastewater can be transferred from the MLSES impoundments to the NSP and PDP-5 or used as makeup water to the bottom ash system. When sufficient ash has accumulated in either the WAP or EAP, the recovered sluice water is diverted to the other pond. Ash in the inactive pond is then removed and transported via rail car to the A1 Area Landfill. The BAPs were originally constructed in the 1977 and upgraded in 1988 (WAP) and 2010 (EAP).

The WAP and EAP are constructed partially above and partially below grade and are surrounded by engineered earthen embankments that extend above grade. The WAP and EAP share an interior embankment and cover areas of approximately 14.6 acres and 9.6 acres, respectively. The crest elevation of the BAP embankments is 330 feet above mean sea level (MSL) and the EAP borders Martin Lake (normal pool elevation 306 feet MSL).

The BAPs were originally constructed in 1977 with an in-situ compacted clay liner. The WAP was removed from service in March 1988 and re-lined with a double 60-mil high density polyethylene (HDPE) liner system overlain with a concrete revetment mat. The EAP was dredged and removed from service in 1989, and a new south embankment was constructed to allow for an increase in the size of the NSP. The EAP remained inactive until the installation of a new double 60-mil HDPE liner system with concrete revetment mat was completed in February 2010.

In 2020, the EAP was retrofitted with a new composite liner system meeting the requirements of 40 C.F.R. § 257.70(b). The retrofitted liner system was installed on top of the existing liner system and consisted of the following (from bottom to top):

- A polymer-enhanced geosynthetic clay liner (GCL) and
- A 60-mil HDPE liner

The liner system in the WAP will be similarly retrofitted in 2021.

Based on available construction data, the BAPs were constructed to provide the following estimated storage capacities:

- WAP: 232.6 acre-feet; and
- EAP: 125.8 acre-feet.

## 1.4 Description of New Scrubber Pond

The New Scrubber Pond (NSP) is located immediately south of the EAP and east of the WAP (Figure 3). The NSP is an approximately 12.5 acre surface impoundment that is used to manage FGD wastes as well as discharge from the sludge thickener sumps, the plant yard sumps, and storm water management areas. Solids present in the FGD wastewater settle within the pond and are periodically removed and managed similar to the ash solids from the WAP and EAP. Process wastewater can be transferred from the NSP to the BAPs and PDP-5, or used as makeup water to the scrubber systems. The NSP was originally constructed in 1977 and was expanded to its current size in 1989.

The NSP is constructed partially above and partially below grade and is surrounded by engineered earthen embankments that extend above grade. The west embankment of the NSP is an internal/shared embankment with the WAP and a portion of the northern embankment is an internal/shared embankment with the EAP. The crest elevation of the SP embankments is 330 feet MSL. Martin Lake (normal pool elevation 306 feet MSL) adjoins portions of the north and south embankments of the NSP.

The NSP was originally constructed in 1977 with an in-situ compacted clay liner and was expanded to its current size in 1989. The SP was relined in 1989 with a double 60-mil HDPE liner system, overlain with a concrete revetment mat.

In 2022, Luminant anticipates retrofitting the NSP with a new composite liner system meeting the requirements of 40 C.F.R. § 257.70(b). The retrofitted liner system will be installed on top of the existing liner system and will consist of the following (from bottom to top):

- A polymer-enhanced geosynthetic clay liner (GCL) and
- A 60-mil HDPE liner

Based on available construction data, the NSP was constructed to provide an estimated storage capacity of 198.9 acre-feet.

## 1.5 Description of PDP-5

Permanent Disposal Pond No. 5 (PDP-5) is located approximately 3,000 feet west-northwest of the MLSES power plant (Figure 2). PDP-5 is an approximately 40-acre surface impoundment that was constructed in 2010 over three closed PDPs (PDPs 1-3; Figure 4). PDP-5 is primarily used to manage excess liquids, including storm water from large precipitation events and excess process wastewater from both the FGD and bottom ash loops. Recovered CCR wastewaters are received in PDP-5 during cleaning cycles for the BAPs and NSP. Process wastewater can be transferred between the BAPs, NSP, or used as makeup water for specific CCR related systems. Process wastewater can be transferred from PDP-5 to the BAPs and the NSP.

PDP-5 is constructed above grade and is surrounded by engineered earthen embankments. The crest elevation of the PDP-5 embankments is 405.5 feet MSL, and the embankments are approximately 10 to 15 feet above surrounding grade. The liner system for the PDP-5 consists of the following:

- a six-inch thick soil layer over the closed PDPs (in-place permeability of $1x10^{-5}$ cm/sec);

- two-foot thick compacted clay liner (in-place permeability of $1x10^{-7}$ cm/sec); and
- three-foot thick compacted clay interior/exterior embankment liner (minimum in-place permeability of $1x10^{-7}$ cm/sec).

Based on available construction data, PDP-5 was constructed to provide an estimated storage capacity of 190.3 acre-feet.

## 1.6 USACE Size Classification for BAPs, NSP and PDP-5

The US Army Corps of Engineers (USACE) classifies the relative size of dams based on the height of the dam and the storage capacity of the impounded area behind the dam as follows (USACE, 1979):

| USACE Dam Size Classification | | |
|---|---|---|
| **Size Category** | **Impoundment Capacity (acre-ft)** | **Impoundment Height (ft)** |
| Small | 50 and < 1,000 | 25 and < 40 |
| Intermediate | 1,000 and < 50,000 | 40 and < 100 |
| Large | > 50,000 | > 100 |

Based on the dike heights and operating capacities of the BAPs, NSP and PDP-5, these ponds are categorized as small impoundments based on the USACE dam size classification criteria.

## 1.7 Previous Hazard Potential Classification Assessments for BAPs, NSP and PDP-5

As required under § 257.73(a)(2), the initial HPCA for the BAPs, NSP and PDP-5 was completed and placed in the MLSES operating record in October 2016 (PBW, 2016).

The initial HPCA for the impoundments was performed using the methodology presented in Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams developed by the Federal Emergency Management Agency. Based on the FEMA hazard potential criteria, the BAPs, NSP and PDP-5 were classified as **LOW** hazard potential CCR surface impoundments, since a failure or mis-operation of the impoundments results in no probable loss of human life, low economic and/or environmental losses, and no significant disruption of lifeline systems.

## 2.0 CCR HAZARD CLASSIFICATION ASSESSMENT METHODOLOGY

As defined in § 257.53, hazard potential classification means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of a diked CCR surface impoundment or mis-operation of the diked CCR surface impoundment or its appurtenances. Hazardous potential classifications for CCR surface impoundments include high hazard potential CCR surface impoundment, significant hazard potential CCR surface impoundment, and low hazard potential CCR surface impoundment, which are defined in the CCR Rule as follows:

- High Hazard Potential CCR Surface Impoundment. A diked surface impoundment where failure or mis-operation will probably cause loss of human life.
- Significant Hazard Potential CCR Surface Impoundment. A diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. FEMA considers lifeline facilities to include transportation facilities (highways, airports, ports, trains), electric power, water and sewer, communications (telephone, TV, radio, electronic) and gas and liquid fuel pipelines (FEMA, 1995).
- Low Hazard Potential CCR Surface Impoundment. A diked surface impoundment where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the surface impoundment owner's property.

The hazard classification assessment for the BAPs, NSP and PDP-5 was performed using the methodology presented in Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams developed by the Federal Emergency Management Agency (FEMA, 2004). The FEMA guidelines classify dams into similar hazard potential categories to those defined in the CCR Rule (low hazard potential, significant hazard potential and high hazard potential) and the FEMA guidelines are listed in the Preamble to the CCR Rule as one of the technical resources considered by EPA during development of the CCR Rule.

The FEMA hazard potential evaluation is based on assessing the probable loss of human life and the potential for economic losses, environmental damage, and/or disruption to lifelines caused by failure or mis-operation of a dam or its appurtenances. The location/size of the dam and impoundment area is evaluated against development, occupancy and land use conditions in areas downstream of the dam/impoundment that would be affected by a failure of the dam and release of the impounded water. The FEMA evaluation recognizes that the failure of any dam or water-retaining structure, no matter how small, represents a potential danger to downstream life and property and there is always the possibility of someone being in the path of the resulting discharge. However, the FEMA evaluation recognizes that considering every conceivable circumstance that might remotely place a person in the area potentially inundated as a result of the dam failure should not be the basis for determining the hazard classification level of the dam/impoundment. The FEMA evaluation considers "probable loss of life" to exist where persons are permanently located in the area potentially inundated as a result of the dam failure.

The hazard classification of the BAPs, NSP and PDP-5 was assessed by identifying the development, occupancy and land use characteristics of potentially affected areas downstream of the impoundments. The assessment included a review of available aerial photographs, USGS topographic maps, interviews with Luminant personnel familiar with the area, and similar resources. Classification of the BAPs, NSP and PDP-5 in accordance with the FEMA hazard potential criteria is based on the assessment of probable loss of human life and the potential for economic losses, environmental damage, and/or disruption to lifelines caused by failure of the embankments surrounding the ponds.

# 3.0 UPDATED HAZARD POTENTIAL CLASSIFICATION ASSESSMENT FOR BAPs, NSP & PDP-5

The hazard potential classification of the BAPs, NSP and PDP-5 was assessed by identifying the development, occupancy and land use characteristics of areas downstream of the impoundments, assessing the probable loss of human life and/or the potential for economic losses, environmental damage, and/or disruption to lifelines caused by failure of the embankments surrounding the impoundments, and using the results of the assessment to classify the impoundments based on the FEMA hazard potential criteria described in Section 2.0 of this report.

## 3.1 Areas Downstream of BAPs, NSP and PDP-5

The MLSES is located approximately five miles southwest of Tatum, Texas. Martin Creek Reservoir (Martin Lake) borders the plant on the north, east and south sides. The BAPs, and NSP impoundments are located on the northeast side of the plant and border Martin Lake. The PDP-5 impoundment is located approximately 3,000 feet west-northwest of the plant. The impoundments are located in the drainage areas of Martin Lake and a failure of the embankments surrounding the impoundments would release CCR solids/fluids that would flow into Martin Lake. Figure 2 shows the locations of the impoundments relative to Martin Lake and adjacent areas.

Martin Lake is a man-made reservoir located on Martin Creek and was constructed in 1974 to provide cooling water for MLSES. Luminant owns the water rights to the lake and operates and maintains Martin Lake Dam. The crest of the dam is approximately 321 ft. above mean sea level (MSL) with a normal lake (conservation pool) elevation of 306 ft. MSL. At the conservation pool elevation, the lake covers an area of approximately 4,954 acres, and contains a total volume of approximately 75,726 acre-ft of water (TWDB, 2015). The emergency spillway elevation is 312 ft. MSL.

The shoreline of Martin Lake is mostly undeveloped and there are no permanent residences along the lake shoreline. Luminant owns all property immediately adjacent to the lake, except for Martin Creek Lake State Park, which is located on the north side of Martin Lake (Figure 1). The park covers an area of approximately 290 acres. Activities available at the park include camping, backpacking, hiking, bird watching, boating, fishing and related water sports on the lake. Lake access is also provided by one boat ramp.

Several gas gathering lines and petroleum pipelines traverse Martin Lake at various locations (RRC, 2016). In addition, three Farm Market Roads (FM 2145, FM 2658, FM 3231), and the Luminant railroad cross Martin Lake.

## 3.2 Hazard Potential Classification Assessment

A failure of the embankments surrounding the impoundments would release CCR solids/fluids that would flow north, east and south toward Martin Lake. As described in Sections 1.3, 1.4 and 1.5 of this report, the total combined operating volume of the MLSES impoundments is approximately 747.6 acre-ft. In the unlikely event that the entire volume of all impoundments is released through catastrophic failure of the embankments, the total volume of fluids that could enter the lake from the impoundments (747.6 acre-ft) represents less than one percent of the conservation pool volume of Martin Lake (75,726 acre-ft).

Assuming a lake surface area of 4,954 acres at the conservation pool elevation of 306 feet, the total volume of the impoundments would raise the lake level by approximately 0.15 feet or slightly less than two inches. The resulting water surface elevation (306.15 feet) is well below the emergency spillway elevation at Martin Lake Dam (312 feet), indicating that the total volume of the impoundments would be retained and equalized within Martin Lake.

Using the FEMA hazard potential criteria described in Section 2.0 of this report, the projected effects of catastrophic failure or mis-operation of the impoundments results in a hazard potential classification of **LOW** for the BAPs, NSP and PDP-5 impoundments. This classification is supported by the following:

- No Probable Loss of Human Life. FEMA considers "probable loss of life" to exist where persons are permanently located in the area potentially inundated as a result of dam failure. The shoreline of Martin Lake is mostly undeveloped and there are no permanent residences along the lake shoreline. In addition, the total volume of the impoundments would be retained and equalized in Martin Lake in the event of a catastrophic failure of the impoundment embankments, since the lake level would be raised by approximately 0.15 feet, which is well below the emergency spillway elevation of Martin Lake Dam. As a result, a release from the impoundments would result in no probable loss of human life.

- Low Economic and/or Environmental Losses. FEMA considers low economic and or environmental losses to occur when losses resulting from a dam failure are principally limited to the dam owner's property. Since Luminant owns the water rights to Martin Lake and the land surrounding the lake (with exception of 290 acres owned by TPWD), any losses would primarily be limited to the Luminant property.

  As described above, catastrophic failure of the impoundments into Martin Lake would result in only a nominal increase in lake water levels. As a result, land-based activities in Martin Lake State Park would not be adversely affected by impoundment failure. Impoundment failure could adversely affect access from Martin Lake State Park to the lake for swimming, fishing and related water sports due to potential changes in lake water quality; however, the economic and environmental losses associated with these activities are low.

- No Significant Disruption of Lifelines. There are several gas gathering lines, petroleum pipelines, highways and railroad bridge that traverse Martin Lake. A release from the surface impoundments would only result in a small rise in the elevation of Martin Lake, therefore these lifelines would be unaffected by a release from the impoundments.

# 4.0 FINDINGS OF UPDATED HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

Golder was retained by Luminant to perform the 5-Year update to the Hazard Potential Classification Assessment for the BAPs, NSP and PDP-5 in accordance with the requirements of § 257.73(a)(2). The HPCA was performed using the methodology presented in Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams developed by the Federal Emergency Management Agency.

Based on the FEMA hazard potential criteria, the BAPs, NSP and PDP-5 are classified as **LOW** hazard potential CCR surface impoundments, since a failure or mis-operation of the ponds results in no probable loss of human life, low economic and/or environmental losses, and no significant disruption of lifeline systems.

In accordance with § 257.73(f), this updated hazard potential classification assessment must be placed in the operating record for the MLSES no later than October 12, 2021. Subsequent periodic hazard potential classification assessments must be completed every five years.

# 5.0 REFERENCES

Pastor, Behling & Wheeler, LLC (PBW), 2016. Initial Hazard Potential Classification Assessment, Martin Lake Steam Electric Station - Ash Pond Area and Permanent Disposal Pond No. 5, Rusk County, Texas, October.

Federal Emergency Management Agency (FEMA), 2004. Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams.

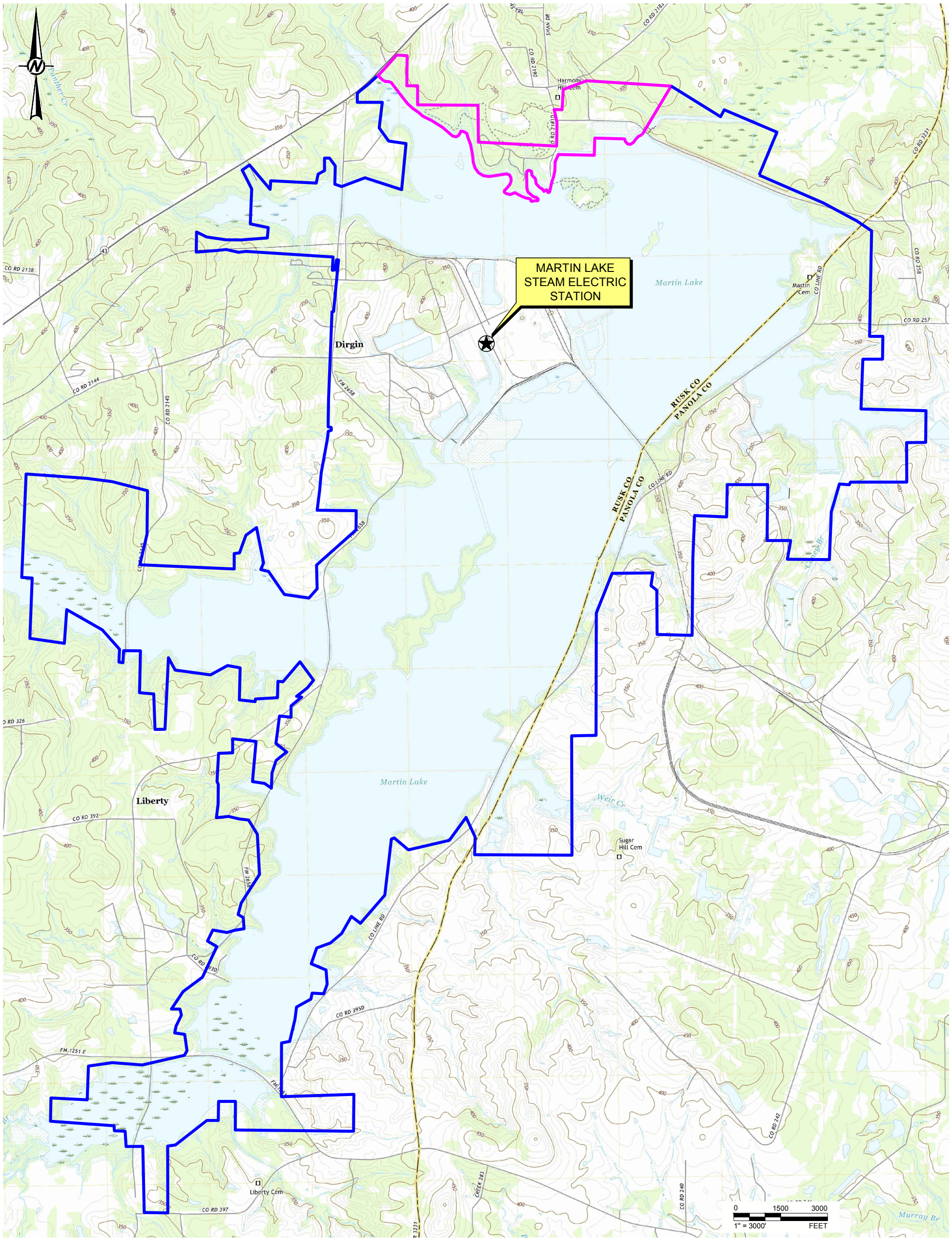
FEMA, 1995. Plan for Developing and Adopting Seismic Design Guidelines and Standards for Lifelines, September.

Texas Railroad Commission (RRC), 2021. Public GIS Viewer – Oil and Gas Well and Pipeline Data. On-line database.

Texas Water Development Board (TWDB), 2015, Volumetric Survey of Martin Lake, Prepared for Luminant Generation Company, LLC, April.

United States Army Corps of Engineers (USACE), 1979. Recommended Guidelines for Safety Inspections of Dams, ER 1110-2-106, September 26.

# FIGURES




**LEGEND**

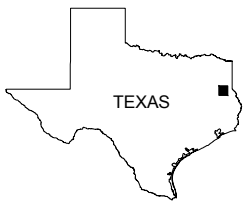
- APPROXIMATE LUMINANT PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF MARTIN LAKE STATE PARK

**NOTE(S)**

1. LUMINANT ON-SITE BOUNDARIES DO NOT REPRESENT DIVESTITURE OF MARTIN LAKE STATE PARK AREA.

**REFERENCE(S)**

BASE MAP TAKEN FROM USGS.GOV TATUM AND FAIR PLAY, TEXAS 7.5 MIN. USGS QUADRANGLES, DATED 2019.




QUADRANGLE LOCATIONS

CLIENT
LUMINANT GENERATION COMPANY

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA AND PDP-5
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT UPDATE

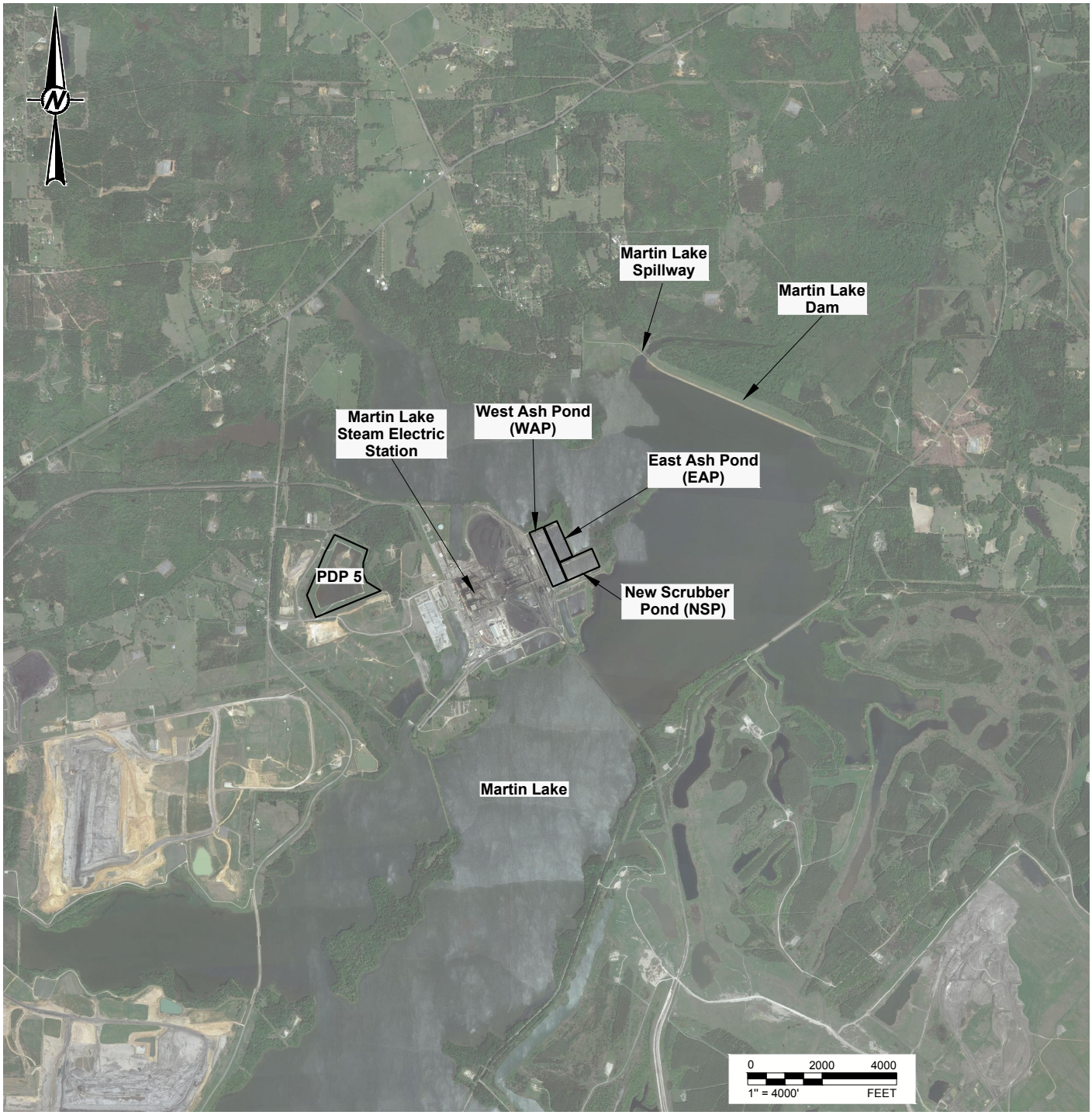
TITLE
**SITE LOCATION MAP**

CONSULTANT
GOLDER
MEMBER OF WSP

| | |
|---|---|
| YYYY-MM-DD | 2021-09-28 |
| DESIGNED | AJD |
| PREPARED | AJD |
| REVIEWED | PJB |
| APPROVED | PJB |

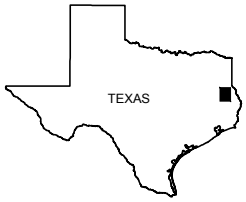
| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 21465177 | | 0 | 1 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
1 in
0




**REFERENCE(S)**

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/9/19.




PHOTOGRAPH LOCATION

CLIENT

LUMINANT GENERATION COMPANY

PROJECT

MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA AND PDP-5
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT UPDATE

TITLE

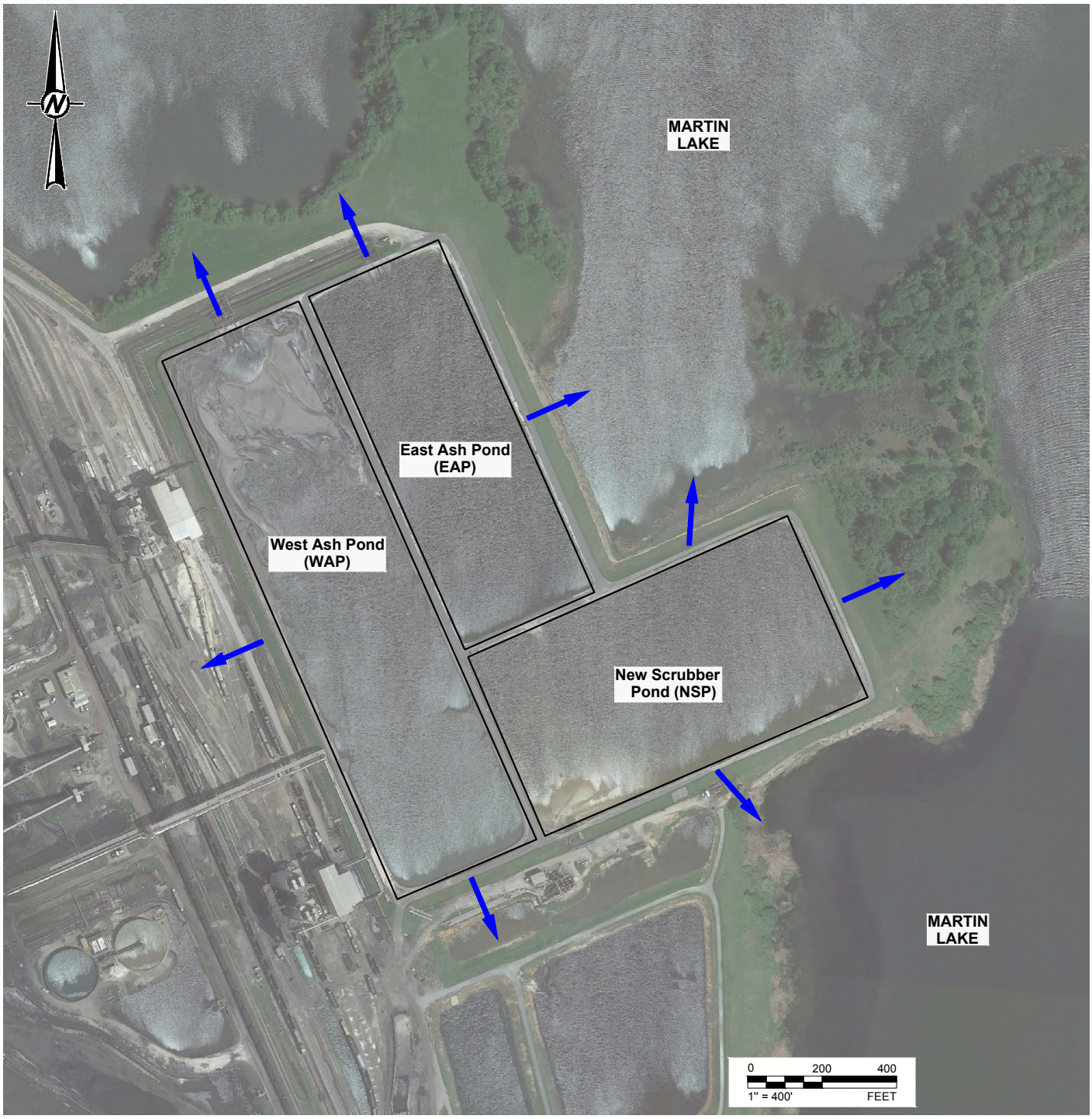
**SITE PLAN**

CONSULTANT

GOLDER
MEMBER OF WSP

| | |
|---|---|
| YYYY-MM-DD | 2021-09-28 |
| DESIGNED | AJD |
| PREPARED | AJD |
| REVIEWED | PJB |
| APPROVED | PJB |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 21465177 | | 0 | 2 |




**LEGEND**

SURFACE FLOW DIRECTION

**REFERENCE(S)**

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/9/19.

CLIENT
LUMINANT GENERATION COMPANY

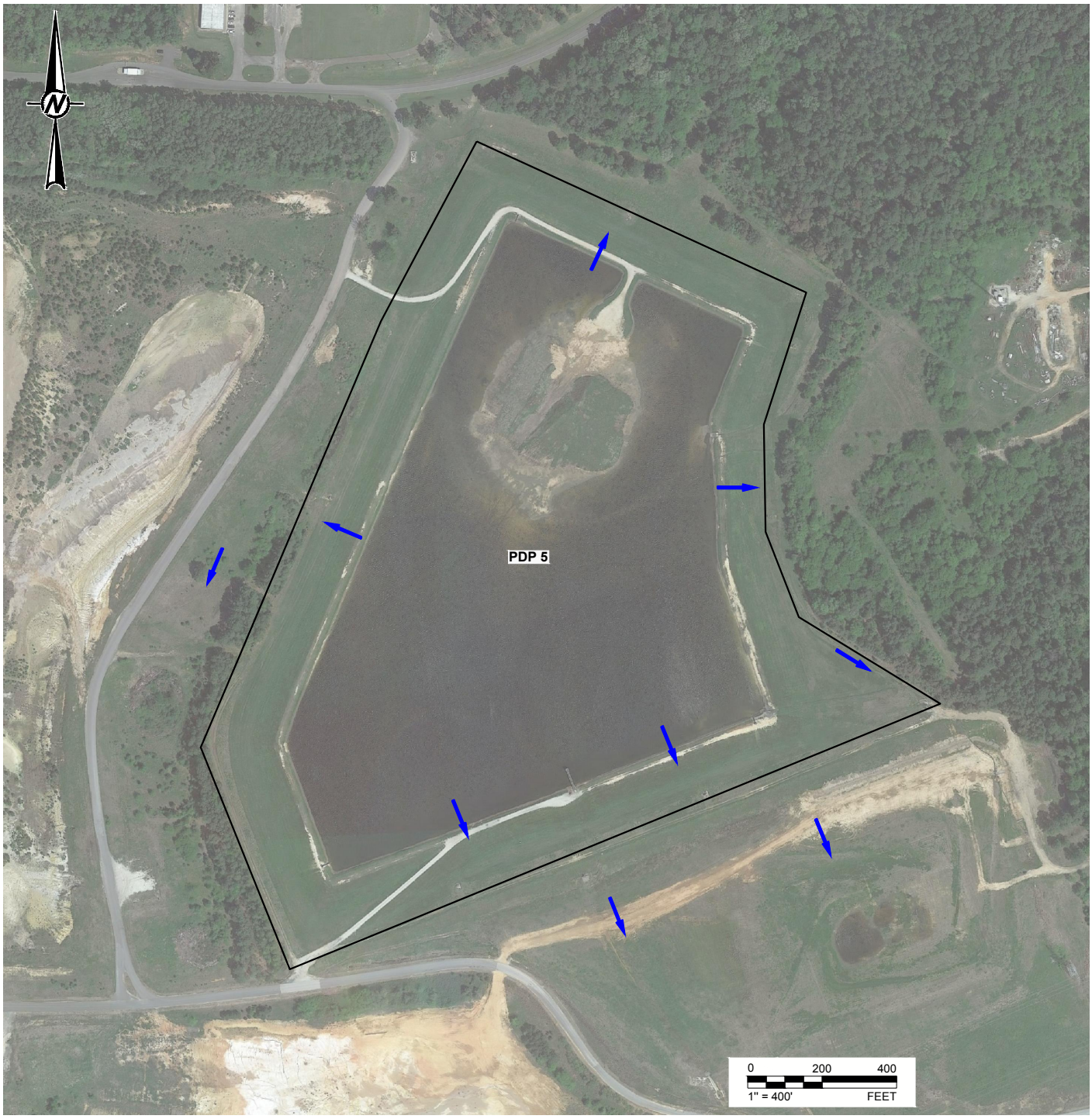
PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA AND PDP-5
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT UPDATE

TITLE
**ASH POND AREA MAP**

CONSULTANT
GOLDER
MEMBER OF WSP

| | |
|---|---|
| YYYY-MM-DD | 2021-09-28 |
| DESIGNED | AJD |
| PREPARED | AJD |
| REVIEWED | PJB |
| APPROVED | PJB |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 21465177 | | 0 | 3 |




**LEGEND**

SURFACE FLOW DIRECTION

**REFERENCE(S)**

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/9/19.

CLIENT
LUMINANT GENERATION COMPANY

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA AND PDP-5
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT UPDATE

TITLE
**PDP-5 AREA MAP**

CONSULTANT
GOLDER
MEMBER OF WSP

| | |
|---|---|
| YYYY-MM-DD | 2021-09-28 |
| DESIGNED | AJD |
| PREPARED | AJD |
| REVIEWED | PJB |
| APPROVED | PJB |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 21465177 | | 0 | 4 |


golder.com