# Wetland Delineation Report

## Lynn Bark Energy Center

PREPARED FOR
Lynn Bark Energy Center, LLC

DATE
25 October 2024

REFERENCE
0718084

# CONTENTS



## LIST OF TABLES

# 1. INTRODUCTION

On behalf of Lynn Bark Energy Center, LLC (Lynn Bark), Environmental Resources Management (ERM) performed an onsite wetland and waterbody delineation within the proposed Lynn Bark Energy Center Project, a proposed up to 200-megawatt solar photovoltaic facility in Martin County, Kentucky (Project). The Project area consists of approximately 1,514 acres located on the east side of Kentucky Highway 3, approximately 6.5 miles south of Inez, Martin County, Kentucky (Site; Project Boundary). The following report describes existing Site conditions, methodologies, and findings associated with this site assessment.

ERM conducted an onsite wetland and waterbody delineation to identify possible wetlands and waterbodies, including potential streams and open waterbodies, within the Site. Twenty potential wetlands totaling 2.935 acres and 19 stream features totaling 26,492 linear feet were identified within the Site.

# 2. SITE LOCATION

The Site is located in Martin County, Kentucky, approximately 6.5 miles south of the city of Inez (Appendix A, Figure 1). The Site is approximately 1,514 acres of undeveloped forest and pasture land on a reclaimed surface mine (Appendix A; Figure 1 and 2).

# 3. METHODOLOGY

Waters of the United States (WOTUS), including wetlands, are federally protected under Section 404 of the Clean Water Act (CWA). On August 29, 2023, the agencies issued a final rule to amend the January 2023 Rule, to conform the definition of “waters of the United States” to the Supreme Court’s decision in Sackett. This conforming rule amends the provisions of the agencies’ definition of “waters of the United States” that are invalid under the Supreme Court’s interpretation of the CWA in the Sackett decision and became effective on September 8, 2023, upon publication in the Federal Register. The definition of a wetland is "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas*" (Code of Federal Regulations §230.3(t)).

Additionally, on April 12, 2023, a district court judge in North Dakota issued an order with 23 additional states, including Kentucky, enjoining the issuance of the January 2023 Rule and in these states the pre-2015 regulatory regime consistent with the decision of *Sackett vs U.S. Environmental Protection Agency.*

ERM delineated wetlands and WOTUS at the Site on August 9-11, 2024. All surveys were conducted in accordance with the three-parameter methodology outlined in the 1987 USACE *Wetlands Delineation Manual* (Manual), the 2012 *Regional Supplement to the Corps of Engineers*

*Wetland Delineation Manual: Eastern Mountain and Piedmont, Version 2.0*, and per recent guidance issued jointly by the U.S. Environmental Protection Agency (EPA) and the USACE[1].

The three parameters required for identifying a jurisdictional wetland are as follows:

- The presence of hydrophytic vegetation - Hydrophytic vegetation is determined by the dominant species present at any given data point, where each species is assigned a plant indicator status as to its preference/tolerance for wetland conditions. Data points having dominant species that are greater than 50 percent facultative or wetter are considered to meet the hydrophytic vegetation criterion.
- The presence of hydrology - Each data point is evaluated for evidence of wetland hydrology or persistent saturation or inundation of soils. The Manual identifies both primary and secondary hydrologic indicators, and one primary indicator or two secondary indicators must be observed in order for the sample point to meet the hydrology criterion. Indicators include saturated soils in the upper 12 inches, inundation, water marks, drift lines, sediment deposits, drainage patterns, oxidized root channels in the upper 12 inches, water-stained leaves, local soil survey data, and others.
- The presence of hydric soils - Soil in each sample plot is sampled with a soil spade to a depth of at least 16 inches, or to the B horizon, whichever appears first. The delineator obtains a profile description and identifies hydric soil indicators based on soil texture(s) and soil color(s). Soil textures are determined by manual tactile sampling. Soil colors (in a moist condition) are compared to Munsell Soil-Color charts (2009 Edition, 2015 production year, Munsell Color, Grand Rapids, MI, USA) to determine hue, value, and chroma to determine if hydric characteristics are present.

An area is classified as a wetland only in instances where all three parameters exist under normal circumstances. If one or more criteria are absent, then the area is deemed upland.

To identify wetlands and WOTUS within the Site, the area was traversed on foot. Data points were taken within the Site to verify or refute the presence of wetland soils, vegetation, and hydrology. USACE wetland data forms were completed at each sample point. One corresponding upland community sample point was also taken for each wetland or wetland complex. If more than one type of wetland was observed within a larger wetland complex, the boundaries of the different types were identified, and separate USACE wetland data forms were completed for each type within the complex. Completed USACE Eastern Mountains and Piedmont Region wetland determination data forms are presented in Appendix C.

ERM utilized a Trimble R1 Submeter Global Positioning System receiver to obtain coordinates for the wetland data points, wetland boundaries, and waterbody boundaries during the field survey effort. This unit is capable of sub-meter accuracy (following post-processing and differential correction via a known base station) and allows the digital data to be incorporated into drawings for mapping/design purposes.

[1] EPA Current Definition of "Waters of the United States". 18 December 2023. https://www.epa.gov/wotus/current-implementation-waters-united-states

# 4. RESULTS

The following sections present the results of the desktop analysis and the wetland and WOTUS field surveys conducted on August 9-11, 2024.

# 5. EXISTING SITE CONDITIONS

Based on a review of aerial orthoimagery and field observations from the Site visit, pasture is the predominant land use within the surfaced stripe mined section of the Site and forested riverine habitats around the mined area. Online database research identified the mine, which occupies the limits of the Site, with Mine Safety and Health Administration (MSHA) Mine ID Number 1512132 and is listed as abandoned with the latest status update September 24, 1991. The Surface Mining Information Service (SMIS) website search under permit number 8800032 that the mine as of June 2015 has been granted complete release.

The Site is in the Dissected Appalachian Plateau Level IV EPA Ecoregion. Topography consists of narrow ridges, deep coves, and narrow valleys and is mostly forested (Woods et. al 2002). Elevation ranges near the Site are from 1,000 to over 1,500 feet above mean sea level (AMSL). The Site being on a reclaimed surface stripe mine the topography within the Site has been altered to an undulating plateau surrounded by deep coves and narrow valleys.

The Site is located in two watersheds, Upper Rockcastle Creek sub watershed (Hydrologic Unit Code [HUC] 050702010605) and the Coldwater Fork sub watershed (HUC 050702010603). The northern half of the Project area is drained by the Venters Branch, Jones Branch, and Mullet Branch, and their unnamed tributaries which ultimately drain to Rockcastle Creek. The southern portion of the Project area is drained by Lynn Bark Fork which ultimately drains into the Coldwater Fork (USGS 2024). Surface water runoff generally drains to constructed drainage features that flow to native drainage features throughout the Site as shown in Figure 3. No waterways are present withing the Site boundary that would require a special use or cold-water habitat designation. (e.g., Outstanding State Resource Waters, Coldwater Aquatic Habitats, or other Special Use Waters) from the Kentucky Division of Water (KDOW) (KDOW, 2024).

Soil series within the Site were identified using the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Martin County soil survey. Soils within the Site consist primarily of Fiveblock, Fairpoint, and Kaymine soils, 30 to 80 percent slopes, stony and Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony. (USDA 2019; Appendix A; Figure 3; Tables 1 and 2):

## TABLE 1 SUMMARY OF SOILS WITHIN THE SITE

| Map Unit Symbol | Map Unit Name | Acres within Site | Percentage of Site | Hydric? |
|---|---|---|---|---|
| FiB | Fiveblock, Fairpoint, and Kaymine soils, 0 to 6 percent slopes, stony | 85.5 | 5.70 | No |
| FiD | Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony | 379 | 25 | No |
| FiF | Fiveblock, Fairpoint, and Kaymine soils, 30 to 80 percent slopes, stony | 656 | 43.3 | No |
| RaF | Rayne-Marrowbone-Dekalb complex, 20 to 80 percent slopes, very rocky | 36.4 | 2.40 | No |
| uCskF | Cloverlick-Shelocta-Kimper complex, 20 to 80 percent slopes, very stony | 116 | 7.70 | No |
| uHfsF | Handshoe-Fedscreek-Shelocta complex, 30 to 80 percent slopes, very stony | 241 | 15.9 | No |
| **Total Acreage** | | **1,514** | | |

Based on a review of the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, 1.5 acres along Lynn Bark Fork is within 100-year floodplain (Zone A) and the remainder of the Site is located within an area designated as Zone X, Areal of Minimal Flood Hazard. A copy of the FEMA FIRMs in connection with the Site is depicted as Figure 4 in Attachment A.

A review of U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data indicates approximately 11 acres of NWI Riverine (R5UBH) features are located within the Site, but no wetland or open water features (freshwater ponds) are present within the Site boundaries (Appendix A; Figure 5). USGS National Hydrology Dataset (NHD) mapping indicates approximately 18,162 linear feet of potential stream features with 17,690 linear feet of potential "Perennial Stream" NHD features and 472 linear feet of ditch features within the Site (Appendix A; Figure 5).

In anticipation for the collection of data during the site visit, climatic conditions for the Site were obtained utilizing the USACE and EPA Antecedent Precipitation Tool (APT) which compares antecedent rainfall conditions for a given location to the range of normal rainfall conditions that occurred during the preceding 30 years to determine normal climatic conditions. The APT indicated that drier than normal conditions were present during the 2024 delineation effort. These conditions were taken into consideration during the delineation effort. A copy of the APT results is included in Appendix B.

Based on a review of historical aerial imagery obtained from Googe Earth, the Site historically consisted of undeveloped forested areas. Google Earth aerial imagery dated 1995 depicts this area as in the process of being stripped mined. In the 1985 Google Earth historical aerial imagery, mining activities are starting in the southcentral portion of the proposed Site while the remainer of the Site undeveloped and forested (Google Earth 2024).

## 5.1 WETLANDS

During the onsite delineation, ERM identified 20 wetlands totaling 2.935 acres within the Site, all were classified as palustrine emergent (PEM) wetlands (Tables 3 and 4). Nineteen of the 20 wetlands identified were isolated and located in the reclaimed portion of the stripe mine. All the wetland features had similar plant species, were located in depression / concave areas, and had disturbed soils where soil pits ranged from 6 to 10 inches from the surface before rock and gravel were encountered. The one natural wetland was located along perennial Stream 19 in an area with no mining activity. Representative photographs of the wetlands are presented in Appendix C.

Based on ERM's professional opinion, 19 of the 20 wetlands within the Site are classified as non-jurisdictional features, as they were observed isolated and not adjacent to relatively permanent waters (RPWs). Wetland 20 is a wetland adjacent to an RPW and is classified as potentially jurisdictional. Preliminary jurisdictional opinion is based off the current definition of WOTUS for the State of Kentucky at the completion of this report, Pre-2015 Regulatory Regime consistent with the decision of *Sackett v. U.S. Environmental Protection Agency*. Table 2 lists each wetland by a unique Feature ID, Cowardin classification, feature acreage, and preliminary jurisdictional opinion. The delineated wetland features are shown in Appendix A, Figure 6. A photographic log of representative wetland types is presented in Appendix C. Additional details and justifications for the classification of the wetlands can be found on the USACE Wetland Determination Data Forms, provided in Appendix D.

TABLE 2 WETLANDS IDENTIFIED WITHIN THE SITE

| Feature | Cowardin Classification[1] | Area (Acres)[2] | Preliminary Jurisdictional Opinion[3] |
|---|---|---|---|
| Wetland 01 | PEM | 0.036 | Potentially Non-Jurisdictional |
| Wetland 02 | PEM | 0.047 | Potentially Non-Jurisdictional |
| Wetland 03 | PEM | 0.075 | Potentially Non-Jurisdictional |
| Wetland 04 | PEM | 0.166 | Potentially Non-Jurisdictional |
| Wetland 05 | PEM | 0.288 | Potentially Non-Jurisdictional |
| Wetland 06 | PEM | 0.472 | Potentially Non-Jurisdictional |
| Wetland 07 | PEM | 0.197 | Potentially Non-Jurisdictional |
| Wetland 08 | PEM | 0.063 | Potentially Non-Jurisdictional |
| Wetland 09 | PEM | 0.177 | Potentially Non-Jurisdictional |
| Wetland 10 | PEM | 0.128 | Potentially Non-Jurisdictional |
| Wetland 11 | PEM | 0.035 | Potentially Non-Jurisdictional |
| Wetland 12 | PEM | 0.085 | Potentially Non-Jurisdictional |
| Wetland 13 | PEM | 0.063 | Potentially Non-Jurisdictional |
| Wetland 14 | PEM | 0.055 | Potentially Non-Jurisdictional |
| Wetland 15 | PEM | 0.223 | Potentially Non-Jurisdictional |
| Wetland 16 | PEM | 0.043 | Potentially Non-Jurisdictional |
| Wetland 17 | PEM | 0.255 | Potentially Non-Jurisdictional |
| Wetland 18 | PEM | 0.032 | Potentially Non-Jurisdictional |
| Wetland 19 | PEM | 0.137 | Potentially Non-Jurisdictional |
| Wetland 20 | PEM | 0.358 | Potentially Jurisdictional |
| | **Total PEM** | **2.935** | |
| **Total** | | **2.935** | |

[1] Classifications are based on ERM's professional judgment of actual field conditions.
[2] Feature size within Site
[3] Jurisdictional determinations and boundaries when presented are preliminary and subject to final verification by the U.S. Army Corps of Engineers (USACE) and Kentucky Division of Water (KDOW). Jurisdictional features are regulated by USACE and KDOW. Non-Jurisdictional features are not regulated by USACE or KDOW.

## 5.2 WATERS

### 5.2.1 STREAMS

ERM identified 19 stream features totaling 26,492 linear feet which include 3 perennial stream segments totaling 5,086 linear feet, 9 intermittent stream segments totaling approximately 12,441 linear feet, 13 ephemeral stream segments totaling approximately 6,081 linear feet, and 2 ditch

features totaling approximately 2,884 linear feet (Figure 7). Portions of the same stream feature were identified with varying flow classes. Photographs of the stream features are presented in Appendix C.

The identified perennial and intermittent streams are considered potentially jurisdictional features, classified as RPWs. The remaining features, classified as ephemeral stream and ditch features, are not considered RPWs and would most likely not be considered jurisdictional. Table 3 lists each stream by a unique feature name, hydrologic flow regime, length in linear feet, and preliminary jurisdictional opinion.

TABLE 3 STREAMS IDENTIFIED WITHIN THE SITE

| Feature ID | Flow Regime | Length (Linear feet)[7] | Preliminary Jurisdictional Opinion[8] |
|---|---|---|---|
| Ditch 1 | Ephemeral | 404 | Potentially Non Jurisdictional |
| Ditch 2 | Ephemeral | 2,480 | Potentially Non Jurisdictional |
| Stream 1 | Perennial | 883 | Potentially Jurisdictional |
| Stream 1 | Ephemeral | 221 | Potentially Non Jurisdictional |
| Stream 2 | Ephemeral | 207 | Potentially Non Jurisdictional |
| Stream 2 | Perennial | 66 | Potentially Jurisdictional |
| Stream 2 | Intermittent | 230 | Potentially Jurisdictional |
| Stream 3 | Ephemeral | 24 | Potentially Non Jurisdictional |
| Stream 4 | Ephemeral | 684 | Potentially Non Jurisdictional |
| Stream 5 | Intermittent | 1,394 | Potentially Jurisdictional |
| Stream 6 | Ephemeral | 863 | Potentially Non Jurisdictional |
| Stream 7 | Intermittent | 651 | Potentially Jurisdictional |
| Stream 7 | Ephemeral | 394 | Potentially Non Jurisdictional |
| Stream 8 | Ephemeral | 379 | Potentially Non Jurisdictional |
| Stream 9 | Intermittent | 2,536 | Potentially Jurisdictional |
| Stream 10 | Intermittent | 1,277 | Potentially Jurisdictional |
| Stream 11 | Ephemeral | 861 | Potentially Non Jurisdictional |
| Stream 12 | Intermittent | 2,349 | Potentially Jurisdictional |
| Stream 13 | Ephemeral | 712 | Potentially Non Jurisdictional |
| Stream 14 | Ephemeral | 619 | Potentially Non Jurisdictional |

| Feature ID | Flow Regime | Length (Linear feet)[7] | Preliminary Jurisdictional Opinion[8] |
|---|---|---|---|
| Stream 15 | Intermittent | 788 | Potentially Jurisdictional |
| Stream 15 | Ephemeral | 646 | Potentially Non Jurisdictional |
| Stream 16 | Intermittent | 1,714 | Potentially Jurisdictional |
| Stream 16 | Ephemeral | 393 | Potentially Non Jurisdictional |
| Stream 17 | Ephemeral | 77 | Potentially Non Jurisdictional |
| Stream 18 | Intermittent | 1,500 | Potentially Jurisdictional |
| Stream 19 | Perennial | 4,137 | Potentially Jurisdictional |
| | **Total Ephemeral** | **8,965** | |
| | **Total Intermittent** | **12,441** | |
| | **Total Perennial** | **5,086** | |
| | **Total** | **26,492** | |

[7] Classifications are based on ERM's professional judgment of actual field conditions.
[8] Feature size within Site

### 5.2.2 OPEN WATERBODIES

No open water features were present within the Site.

## 6. CONCLUSION

ERM conducted environmental field surveys on August 9 through August 11, 2024, to identify wetlands and waterbodies within the Lynn Bark Solar Project survey boundary in Martin County, Kentucky. Twenty potential wetlands totaling 2.935 acres and 19 streams totaling 26,492 linear feet were identified within the Site.

Of the delineated features, 20 potential wetlands totaling 2.935 acres, 19 potential stream or segments of potential streams totaling 26,492 linear feet were identified within the Site. All the wetlands were classified as palustrine emergent (PEM) wetlands and 19 of the 20 wetlands identified were isolated and located in the reclaimed portion of the strip mine.

Although these findings are based upon a survey utilizing USACE-approved protocols and current regulatory guidance, the USACE must make the official determinations on the presence or absence of jurisdictional WOTUS on Site through the jurisdictional determination process.

# 7. REFERENCES

Current implementation of waters of the United States. (2024, July 2). US EPA.https://www.epa.gov/wotus/current-implementation-waters-united-states.

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# APPENDIX A FIGURES

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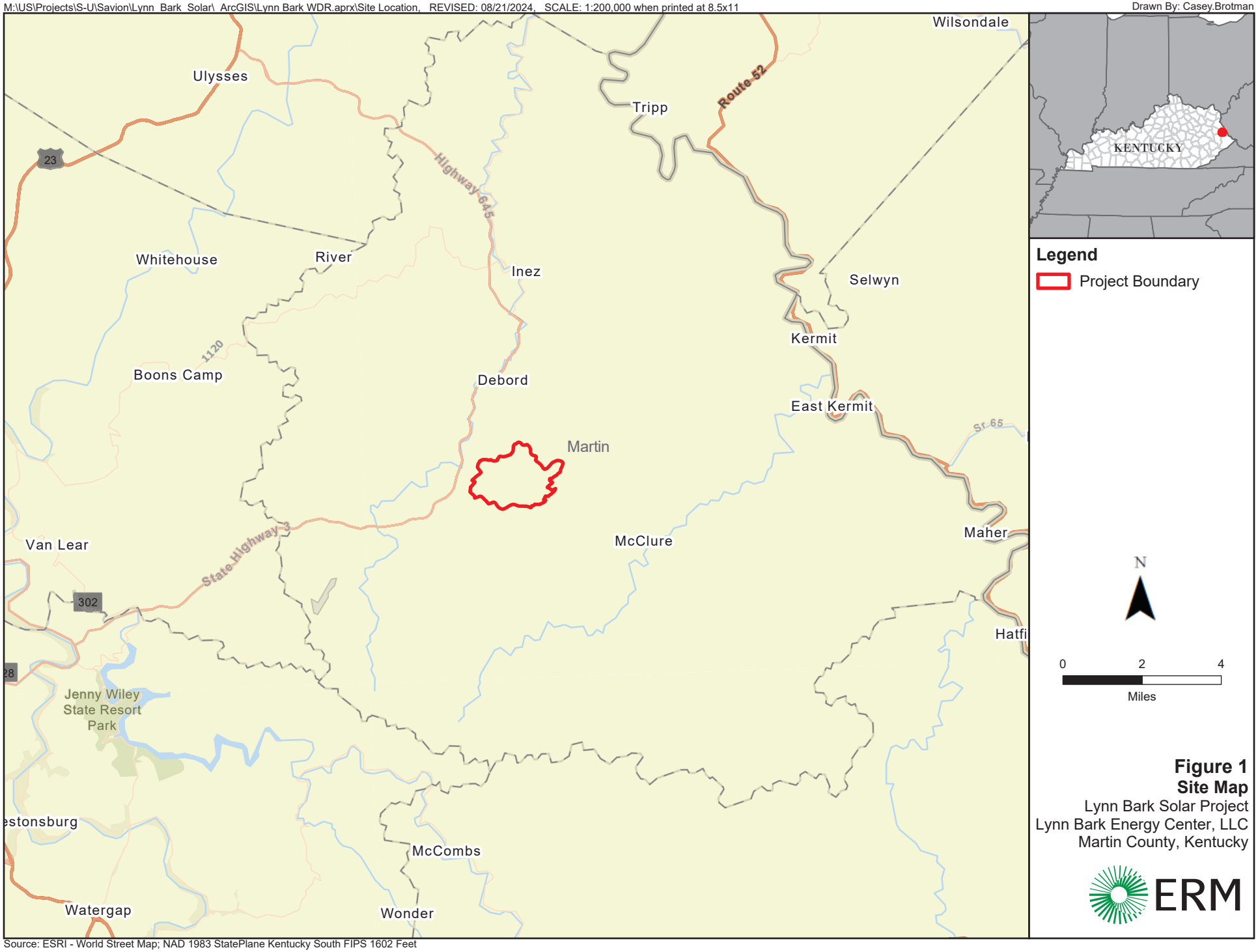


**Figure 1**
**Site Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI - World Street Map; NAD 1983 StatePlane Kentucky South FIPS 1602 Feet

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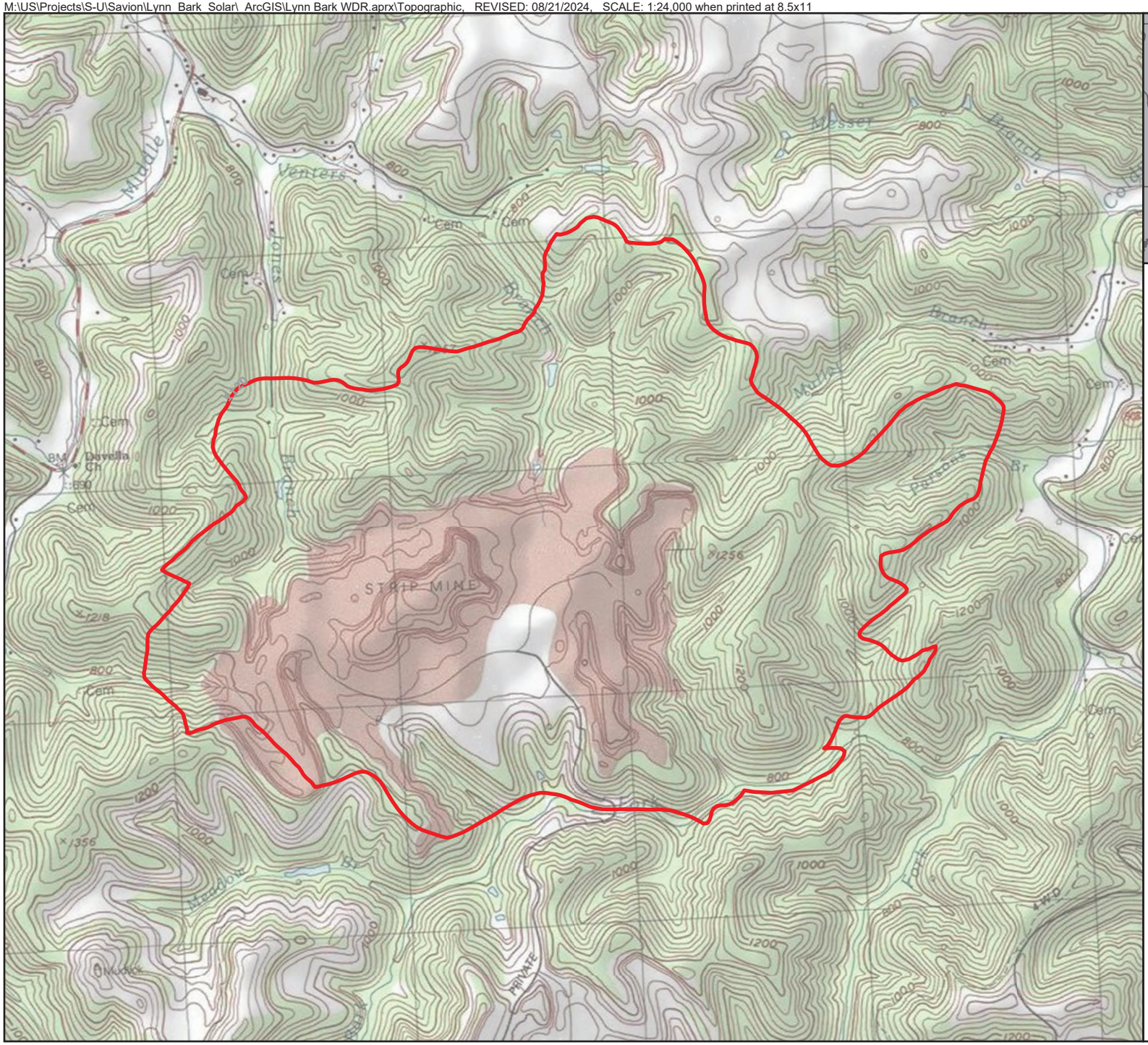



**Legend**

Project Boundary

N

0 0.25 0.5

Miles

**Figure 2**
**Topographic Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: USGS - Topo Maps (Map Service); NAD 1983 StatePlane Kentucky South FIPS 1602 Feet
Inez, KY (2022)

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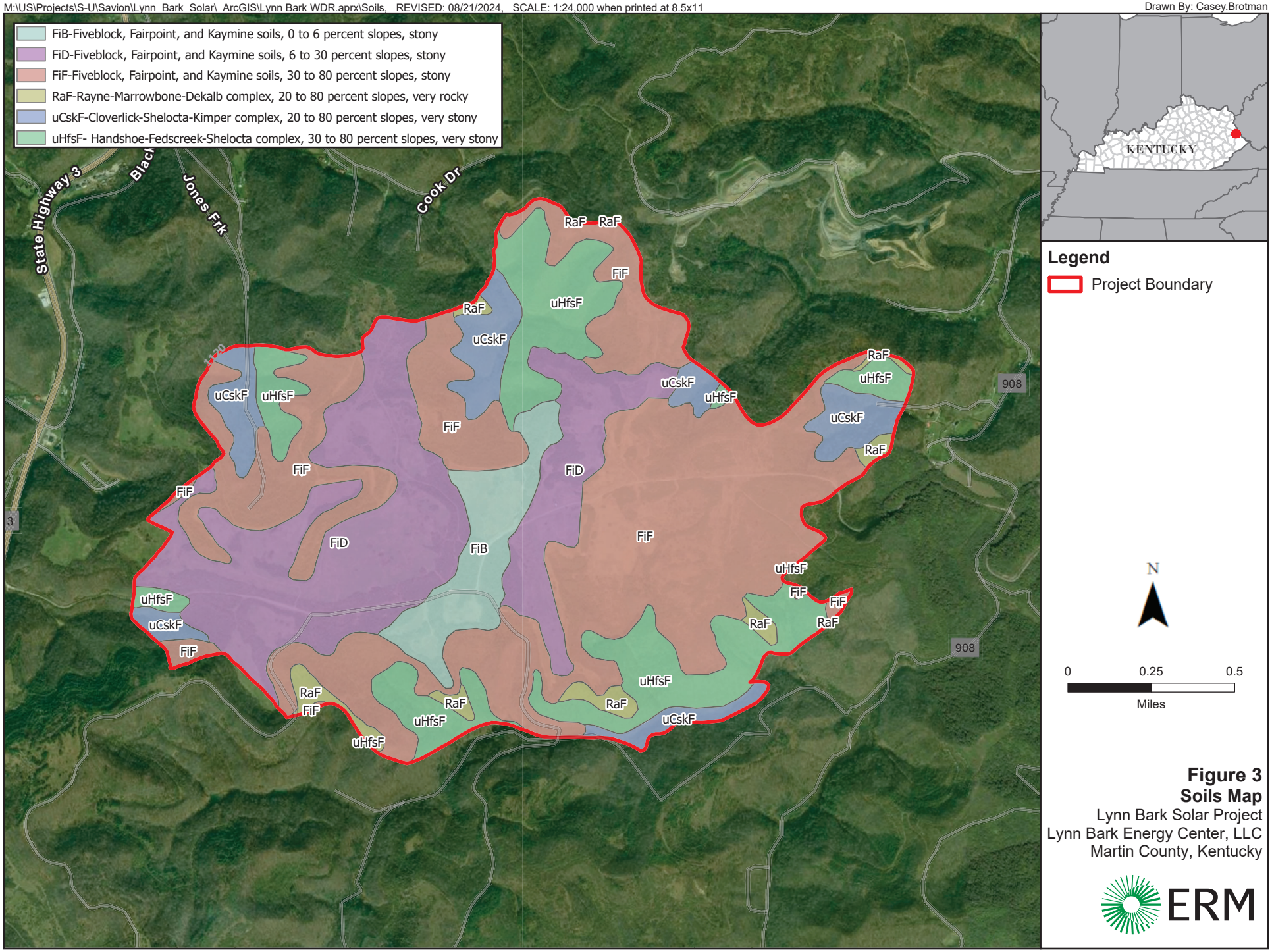


**Figure 3**
**Soils Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI - World Imagery; NAD 1983 StatePlane Kentucky South FIPS 1602 Feet
Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online. Accessed August 21, 2024.

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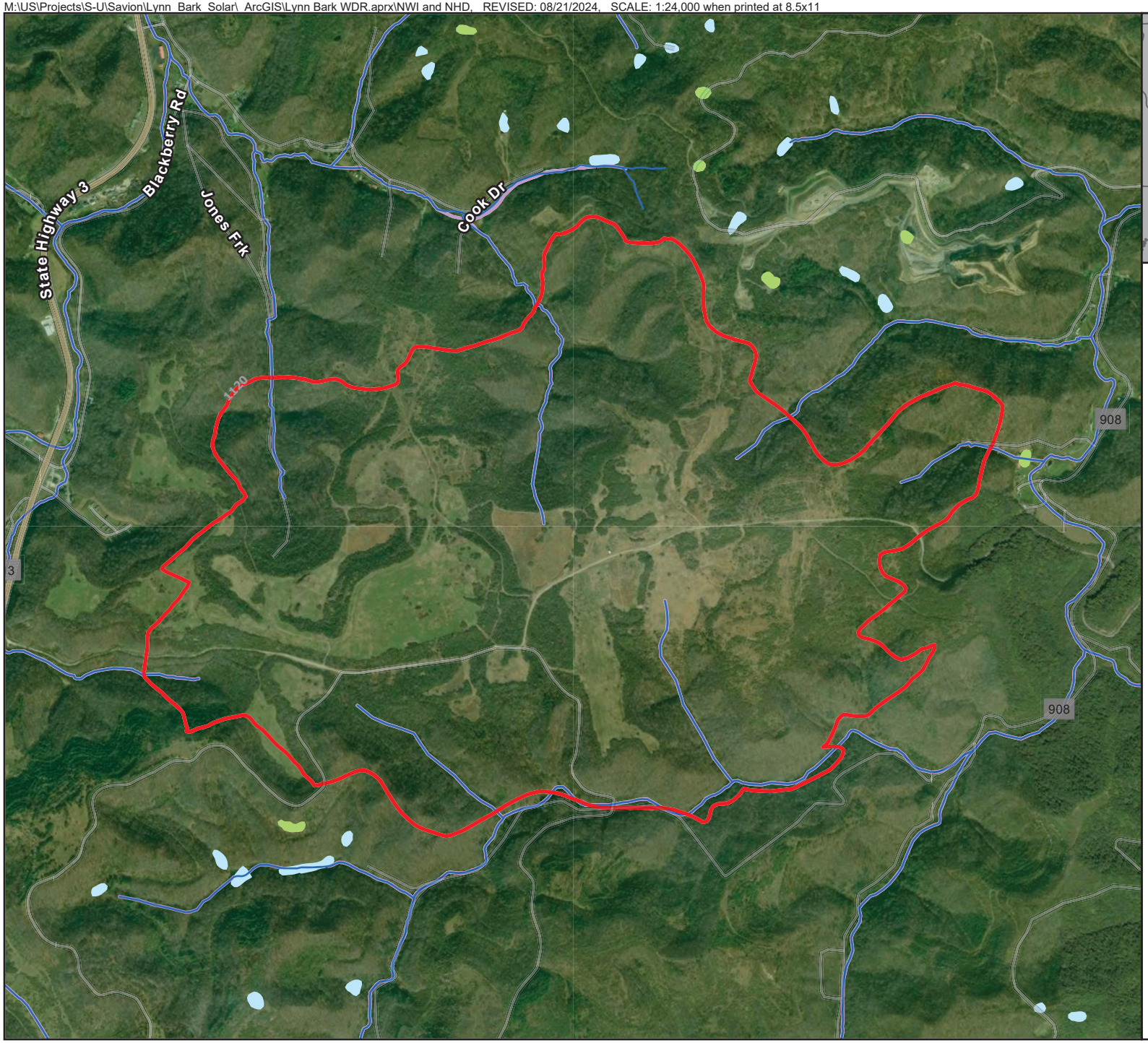



**Legend**

- Project Boundary
- National Hydrography Dataset

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

N

0 0.25 0.5

Miles

**Figure 4**
**NWI and NHD Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI - World Imagery; NAD 1983 StatePlane Kentucky South FIPS 1602 Feet
U.S. Fish and Wildlife Service. National Wetland Inventory.
U.S. Geological Survey. National Hydrography Dataset.

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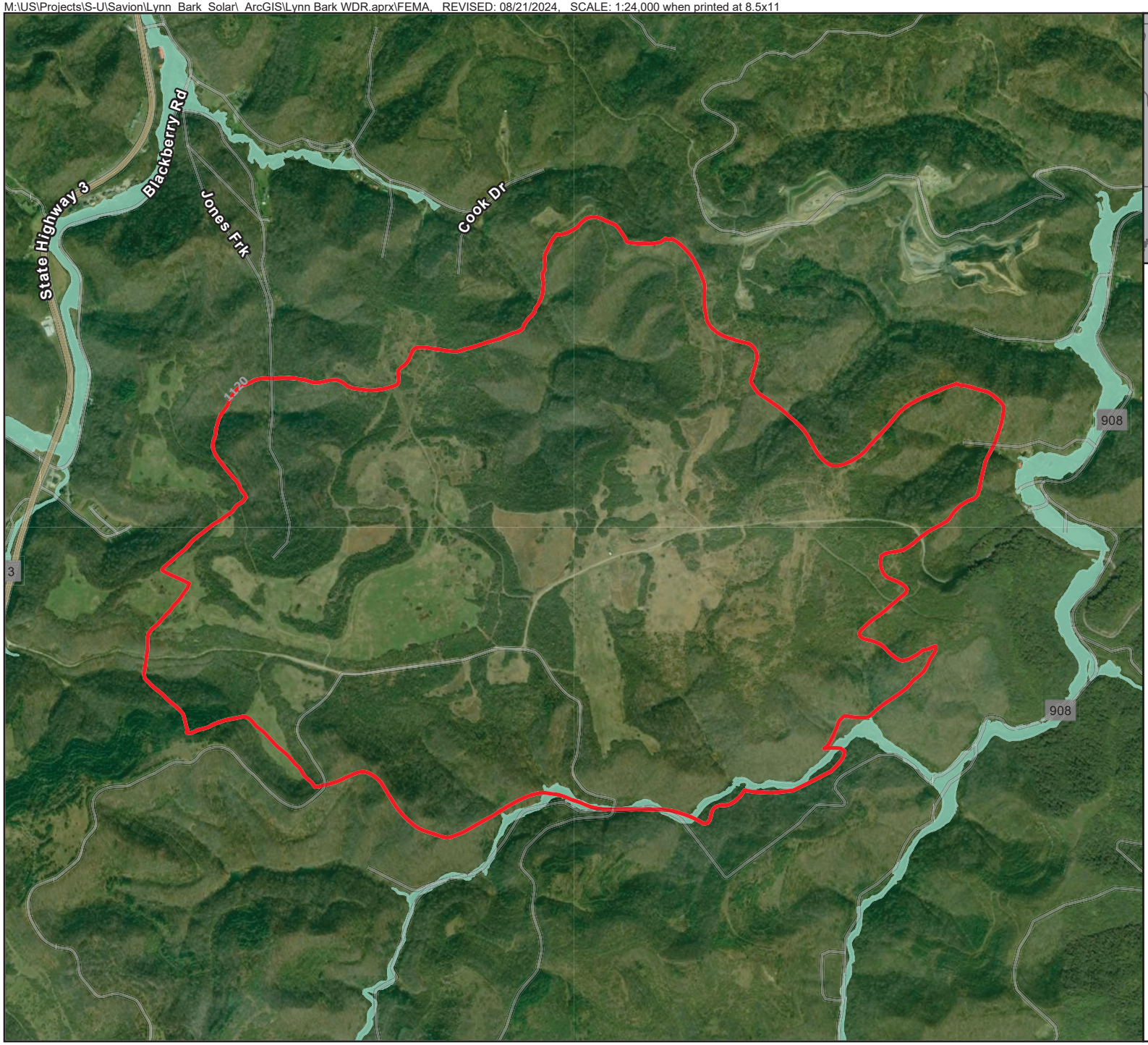



**Legend**

- Project Boundary
- Zone A (1% Annual Chance of Flood)

N

0 0.25 0.5

Miles

**Figure 5**
**FEMA Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI - World Imagery; NAD 1983 StatePlane Kentucky South FIPS 1602 Feet
FEMA Flood Map Service Center

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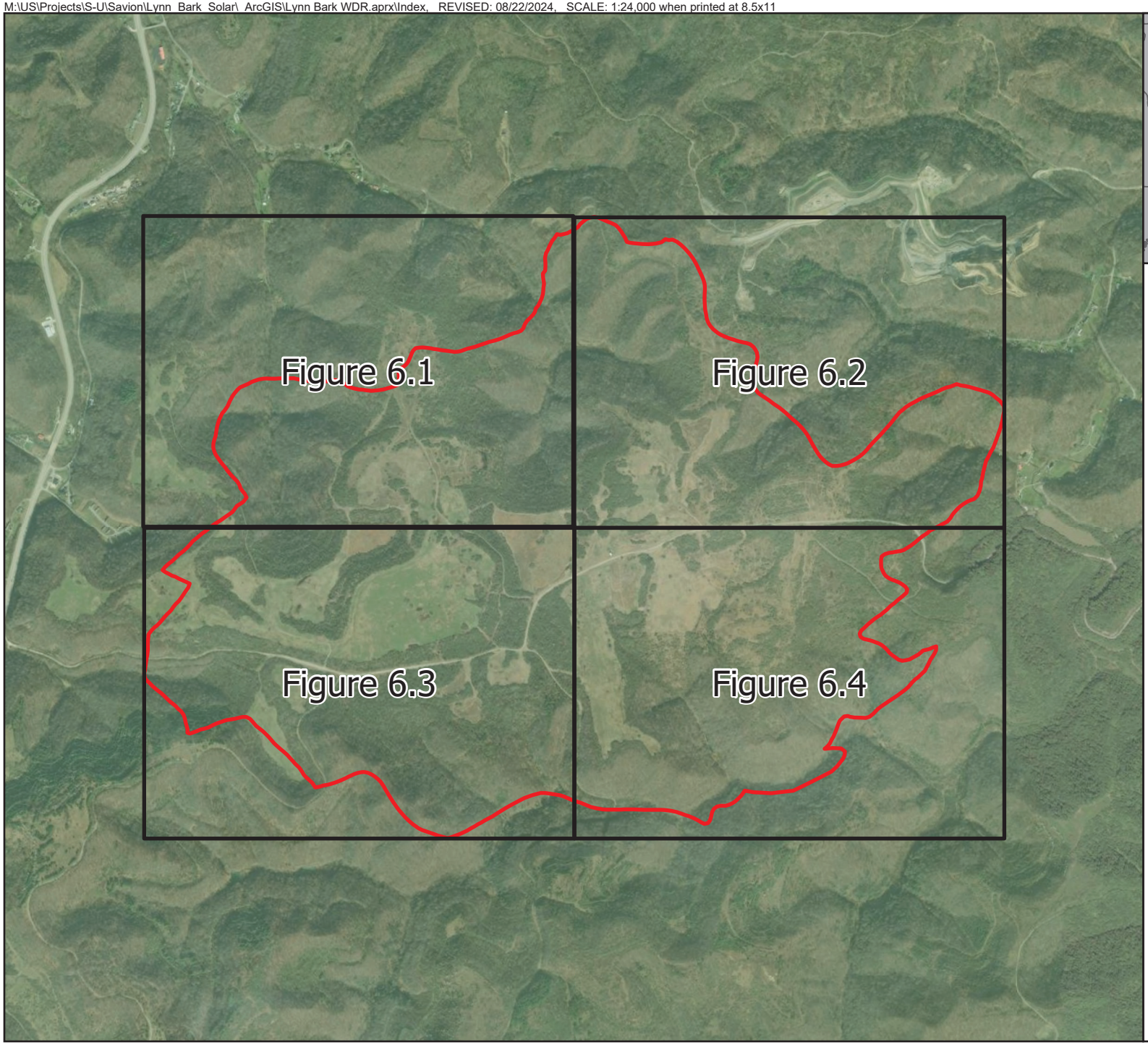



**Legend**

- Project Boundary
- Index

N

0 0.25 0.5

Miles

**Figure 6**
**Wetland Delineation Index Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI - World Imagery; NAD 1983 StatePlane Kentucky South FIPS 1602 Feet

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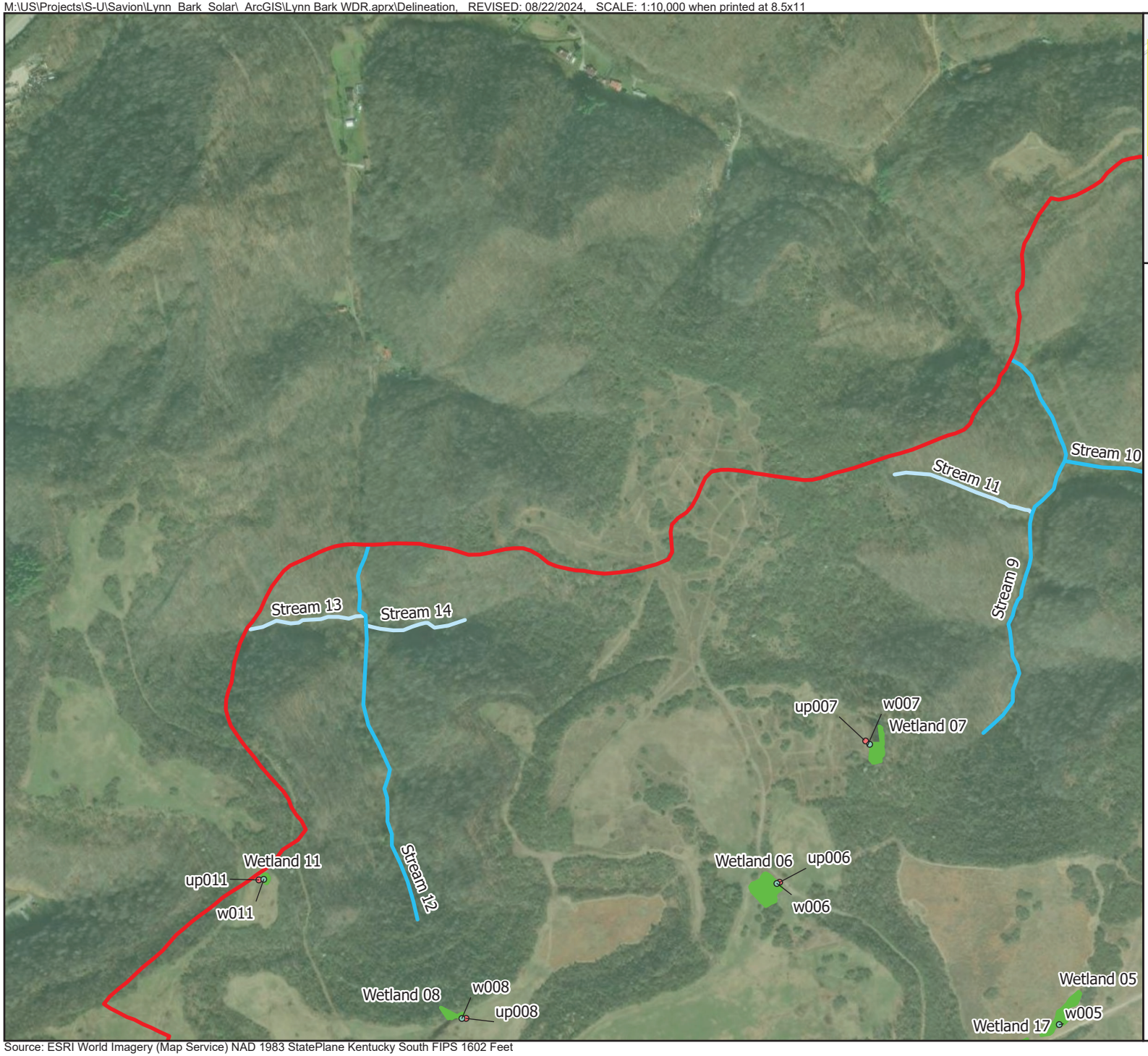


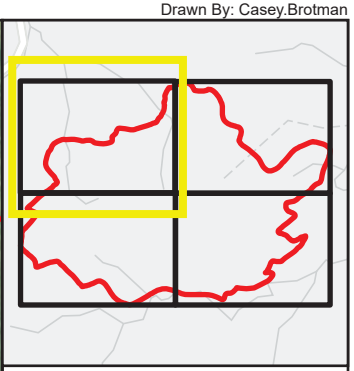

**Legend**

- Project Boundary
- PEM Wetland (2.94 acres)
- Perennial Stream (5,086 linear feet)
- Intermittent Stream (12,441 inear feet)
- Ephemeral Stream (6,081 linear feet)
- Ditch (2,884 linear feet)
- Upland Datapoint
- Wetland Datapoint

N

0 0.1 0.2

Miles

**Figure 6.1**
**Wetland Delineation Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI World Imagery (Map Service) NAD 1983 StatePlane Kentucky South FIPS 1602 Feet

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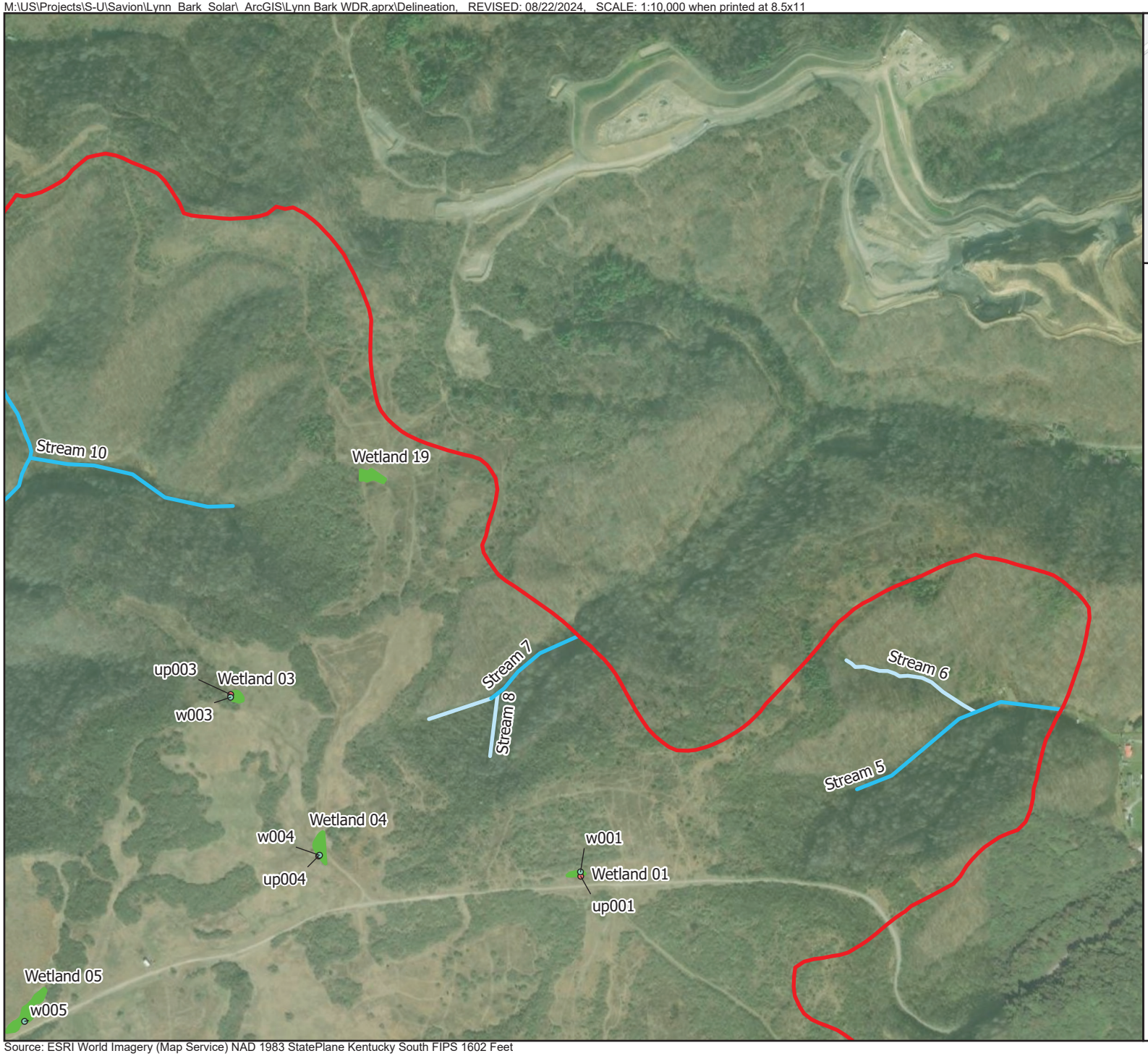
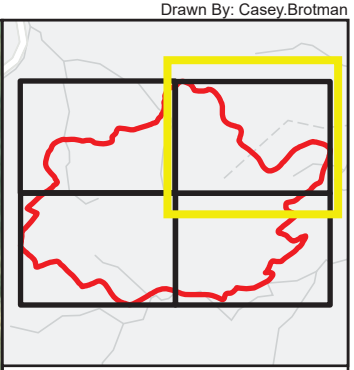


**Legend**

- Project Boundary
- PEM Wetland (2.94 acres)
- Perennial Stream (5,086 linear feet)
- Intermittent Stream (12,441 inear feet)
- Ephemeral Stream (6,081 linear feet)
- Ditch (2,884 linear feet)
- Upland Datapoint
- Wetland Datapoint

N

0 0.1 0.2

Miles

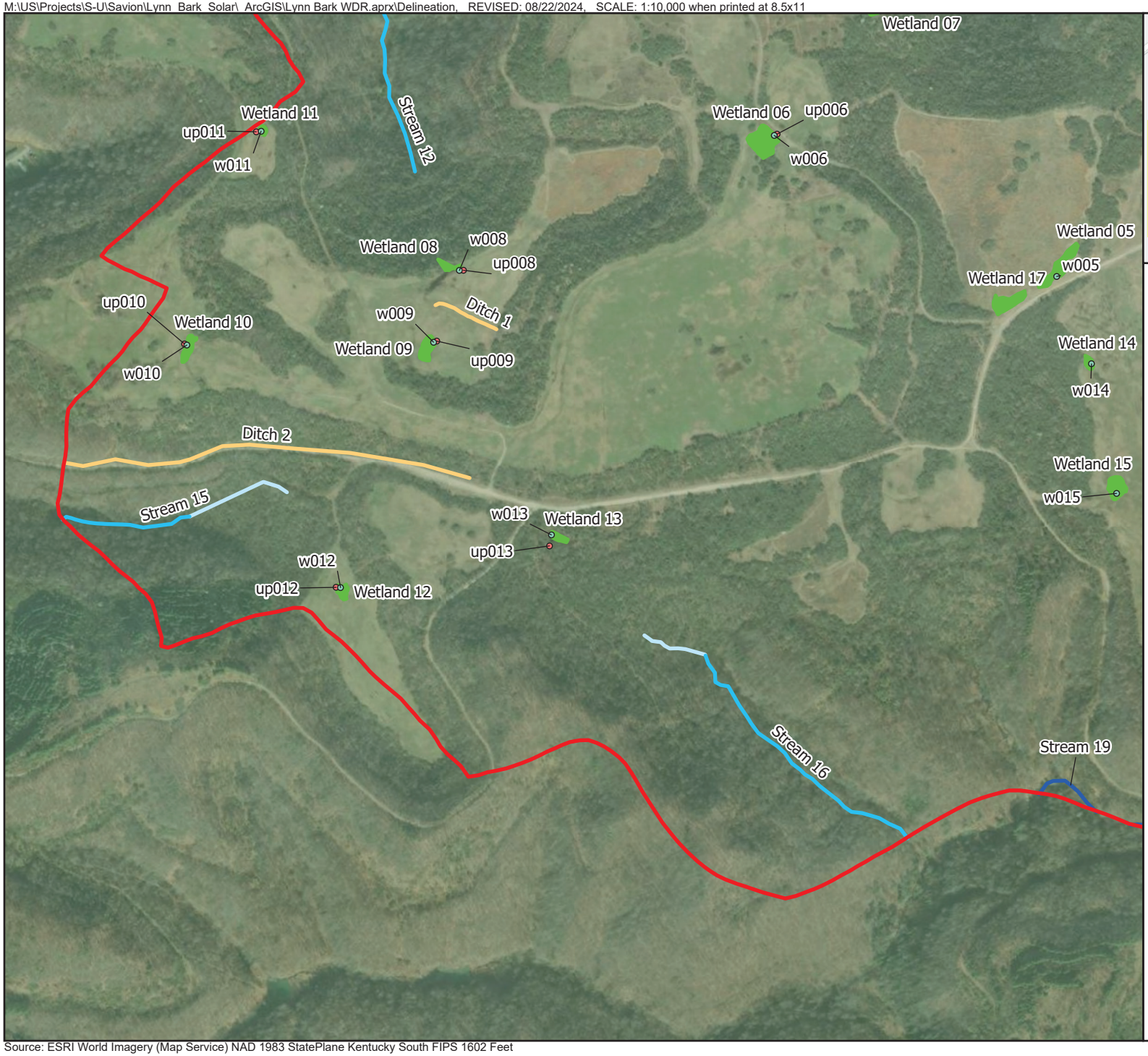
**Figure 6.2**
**Wetland Delineation Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

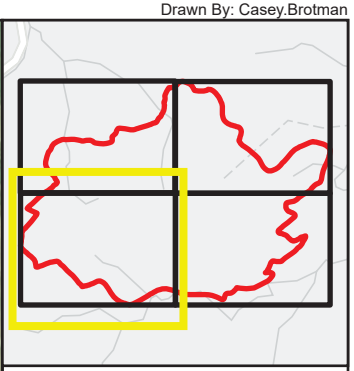
ERM

Source: ESRI World Imagery (Map Service) NAD 1983 StatePlane Kentucky South FIPS 1602 Feet

M:\US\Projects\S-U\Savion\Lynn_Bark_Solar_ArcGIS\Lynn Bark WDR.aprx\Delineation, REVISED: 08/22/2024, SCALE: 1:10,000 when printed at 8.5x11

Drawn By: Casey.Brotman



**Legend**

- Project Boundary
- PEM Wetland (2.94 acres)
- Perennial Stream (5,086 linear feet)
- Intermittent Stream (12,441 inear feet)
- Ephemeral Stream (6,081 linear feet)
- Ditch (2,884 linear feet)
- Upland Datapoint
- Wetland Datapoint

N

0 0.1 0.2

Miles

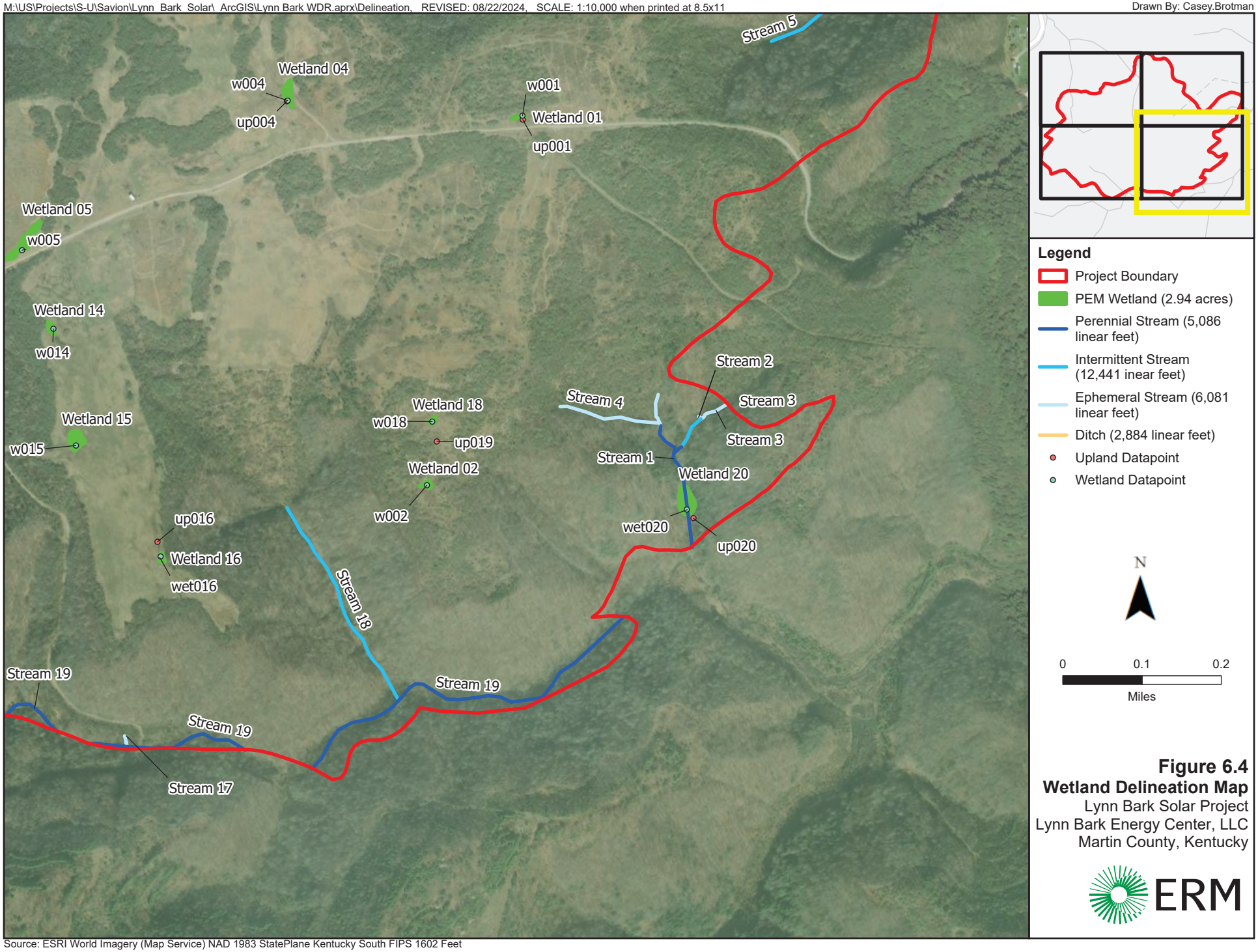
**Figure 6.3**
**Wetland Delineation Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI World Imagery (Map Service) NAD 1983 StatePlane Kentucky South FIPS 1602 Feet

M:\US\Projects\S-U\Savion\Lynn_Bark_Solar_ArcGIS\Lynn Bark WDR.aprx\Delineation, REVISED: 08/22/2024, SCALE: 1:10,000 when printed at 8.5x11

Drawn By: Casey.Brotman




**Legend**

- Project Boundary
- PEM Wetland (2.94 acres)
- Perennial Stream (5,086 linear feet)
- Intermittent Stream (12,441 inear feet)
- Ephemeral Stream (6,081 linear feet)
- Ditch (2,884 linear feet)
- Upland Datapoint
- Wetland Datapoint

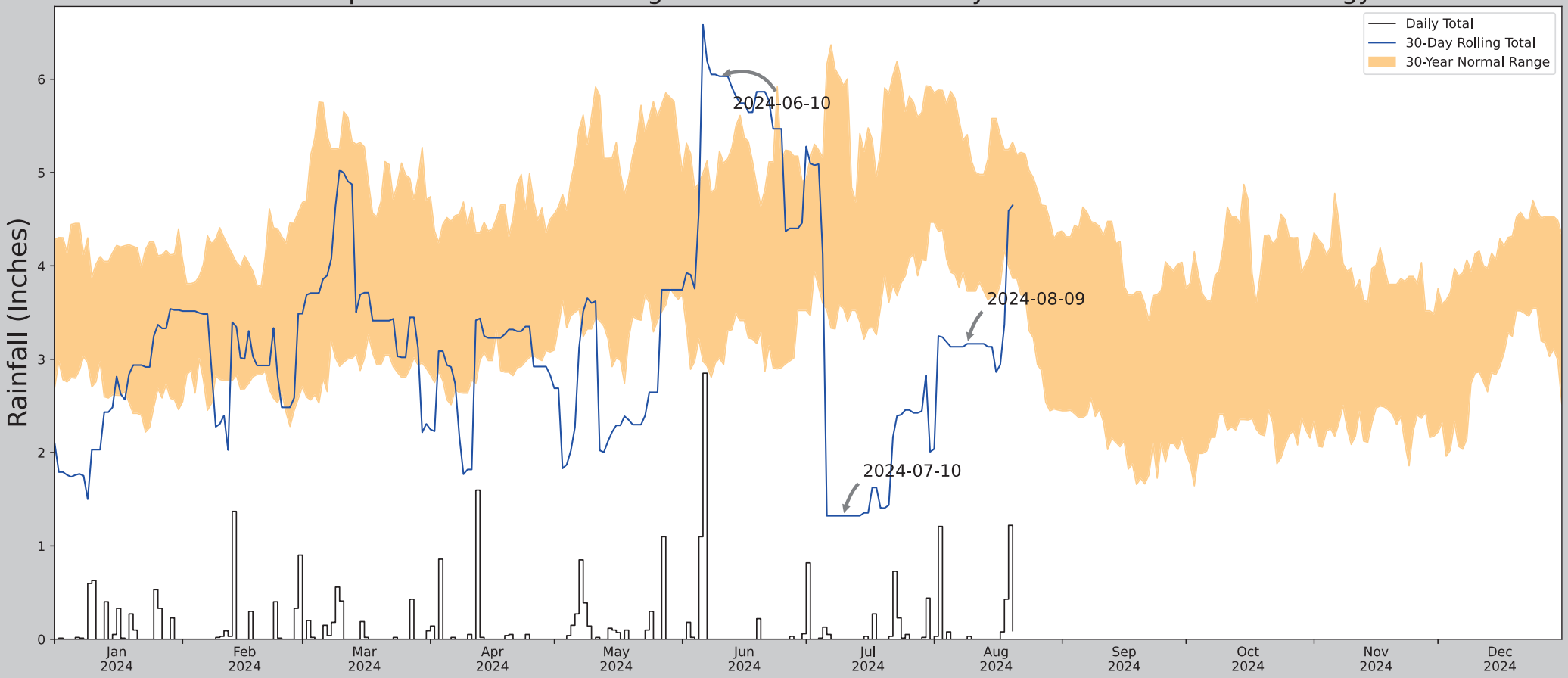
**Figure 6.4**
**Wetland Delineation Map**
Lynn Bark Solar Project
Lynn Bark Energy Center, LLC
Martin County, Kentucky

ERM

Source: ESRI World Imagery (Map Service) NAD 1983 StatePlane Kentucky South FIPS 1602 Feet

# APPENDIX B APT RESULTS

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 37.785309, -82.544626 |
| Observation Date | 2024-08-09 |
| Elevation (ft) | 1089.286 |
| Drought Index (PDSI) | Mild drought (2024-07) |
| WebWIMP $H_2O$ Balance | Dry Season |

| 30 Days Ending | 30$^{th}$ %ile (in) | 70$^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2024-08-09 | 3.729134 | 5.405906 | 3.165354 | Dry | 1 | 3 | 3 |
| 2024-07-10 | 3.547638 | 5.932677 | 1.322835 | Dry | 1 | 2 | 2 |
| 2024-06-10 | 3.01063 | 5.229134 | 6.031496 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Drier than Normal - 8 |

US Army Corps of Engineers

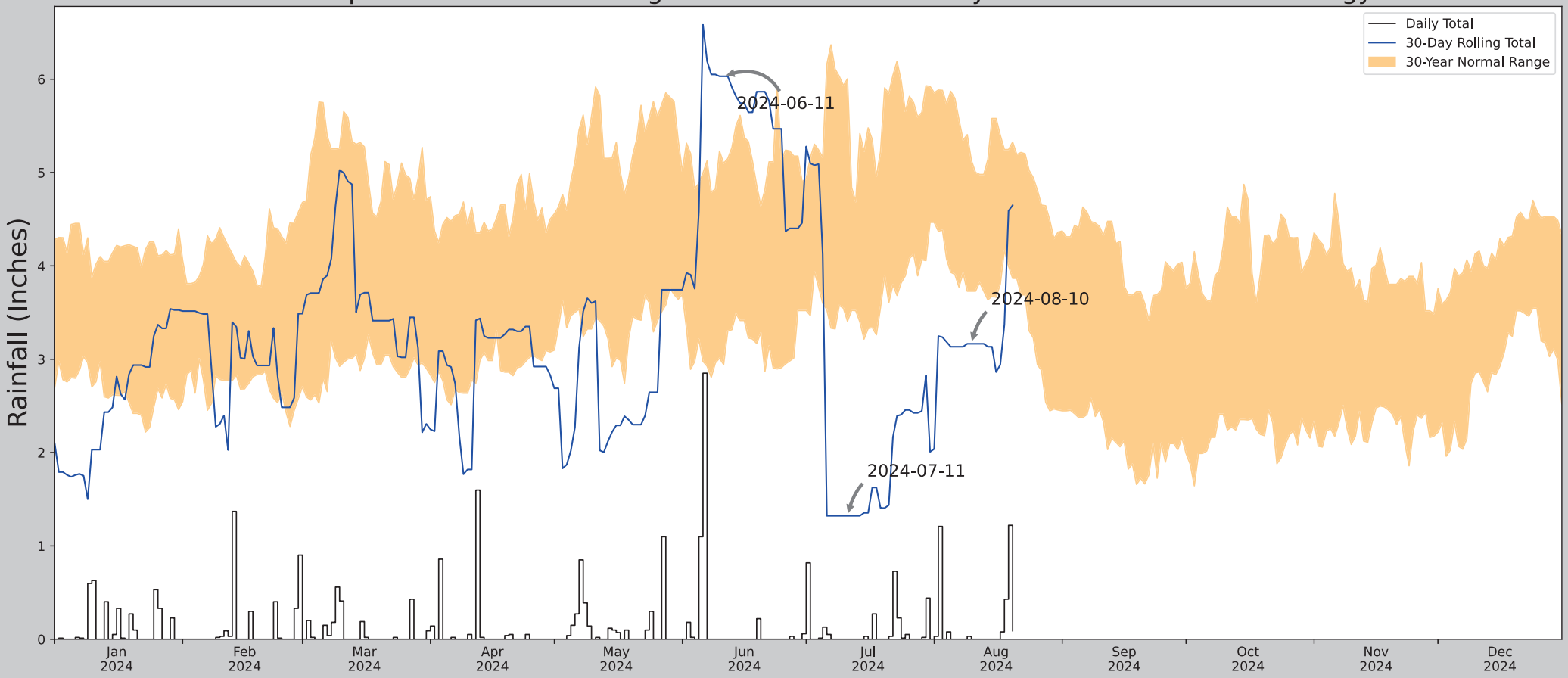
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| INEZ 2 E | 37.8725, -82.5194 | 709.974 | 6.18 | 379.312 | 5.125 | 5802 | 90 |
| PILGRIM 4.5 WSW | 37.7628, -82.4904 | 691.929 | 7.743 | 18.045 | 3.624 | 3 | 0 |
| VAN LEAR 4.4 E | 37.7753, -82.6753 | 816.929 | 10.84 | 106.955 | 6.037 | 1 | 0 |
| CHARLEY 2 SW | 37.9589, -82.7464 | 740.158 | 13.738 | 30.184 | 6.597 | 2326 | 0 |
| DUNLOW 1 SW | 37.9494, -82.4047 | 1112.861 | 8.205 | 402.887 | 6.998 | 3178 | 0 |
| PAINTSVILLE 1E | 37.8175, -82.7883 | 629.921 | 15.156 | 80.053 | 8.033 | 37 | 0 |
| E LYNN LAKE | 38.1436, -82.3825 | 747.047 | 20.159 | 37.073 | 9.819 | 4 | 0 |
| LOUISA 5W | 38.125, -82.6933 | 767.06 | 19.85 | 57.086 | 10.066 | 1 | 0 |

## Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 37.785309, -82.544626 |
| Observation Date | 2024-08-10 |
| Elevation (ft) | 1089.286 |
| Drought Index (PDSI) | Mild drought (2024-07) |
| WebWIMP $H_2O$ Balance | Dry Season |

| 30 Days Ending | 30$^{th}$ %ile (in) | 70$^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2024-08-10 | 3.729134 | 5.130709 | 3.165354 | Dry | 1 | 3 | 3 |
| 2024-07-11 | 3.40748 | 6.003543 | 1.322835 | Dry | 1 | 2 | 2 |
| 2024-06-11 | 2.943701 | 5.100394 | 6.031496 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Drier than Normal - 8 |

US Army Corps of Engineers

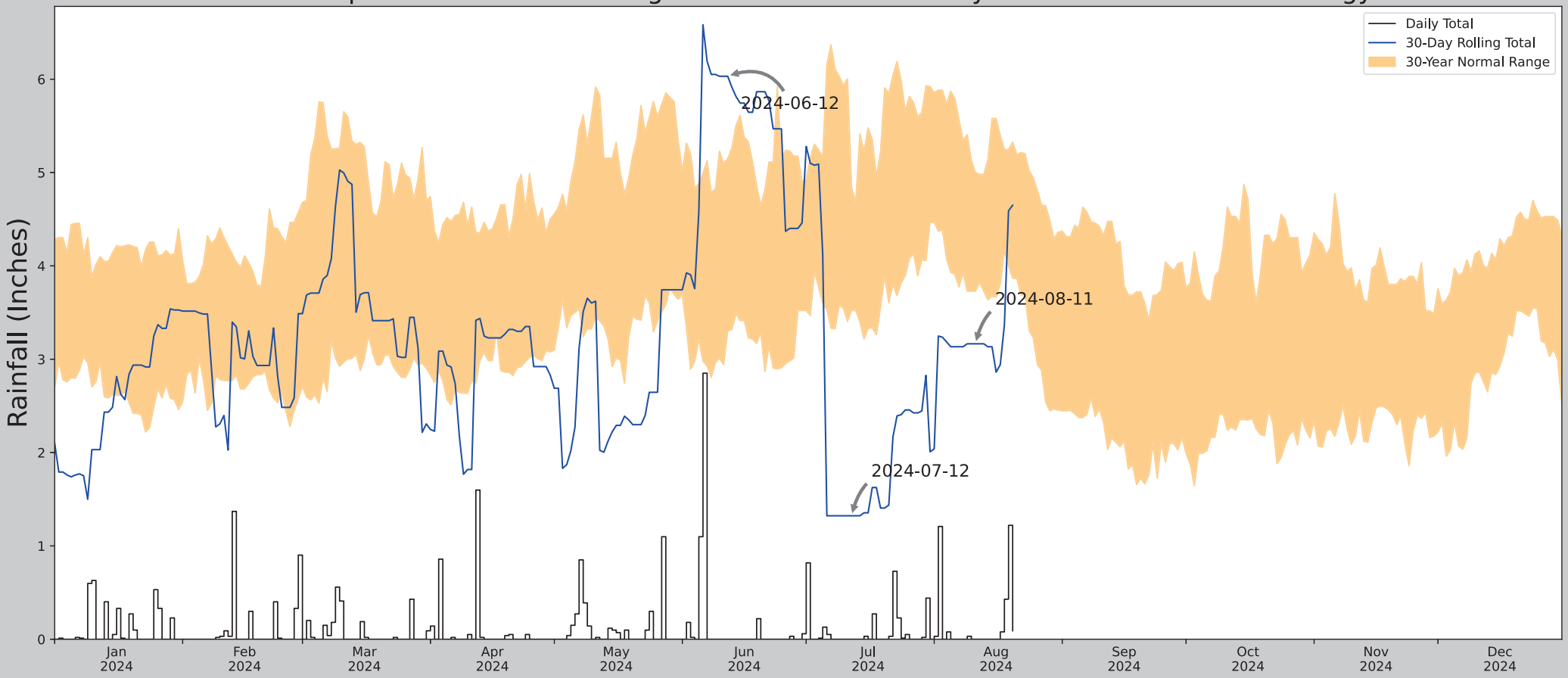
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| INEZ 2 E | 37.8725, -82.5194 | 709.974 | 6.18 | 379.312 | 5.125 | 5802 | 90 |
| PILGRIM 4.5 WSW | 37.7628, -82.4904 | 691.929 | 7.743 | 18.045 | 3.624 | 3 | 0 |
| VAN LEAR 4.4 E | 37.7753, -82.6753 | 816.929 | 10.84 | 106.955 | 6.037 | 1 | 0 |
| CHARLEY 2 SW | 37.9589, -82.7464 | 740.158 | 13.738 | 30.184 | 6.597 | 2326 | 0 |
| DUNLOW 1 SW | 37.9494, -82.4047 | 1112.861 | 8.205 | 402.887 | 6.998 | 3178 | 0 |
| PAINTSVILLE 1E | 37.8175, -82.7883 | 629.921 | 15.156 | 80.053 | 8.033 | 37 | 0 |
| E LYNN LAKE | 38.1436, -82.3825 | 747.047 | 20.159 | 37.073 | 9.819 | 4 | 0 |
| LOUISA 5W | 38.125, -82.6933 | 767.06 | 19.85 | 57.086 | 10.066 | 1 | 0 |

## Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 37.785309, -82.544626 |
| Observation Date | 2024-08-11 |
| Elevation (ft) | 1089.286 |
| Drought Index (PDSI) | Mild drought (2024-07) |
| WebWIMP $H_2O$ Balance | Dry Season |

| 30 Days Ending | 30$^{th}$ %ile (in) | 70$^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2024-08-11 | 3.729134 | 5.001969 | 3.165354 | Dry | 1 | 3 | 3 |
| 2024-07-12 | 3.52441 | 4.840158 | 1.322835 | Dry | 1 | 2 | 2 |
| 2024-06-12 | 3.302362 | 5.148819 | 6.031496 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Drier than Normal - 8 |

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| INEZ 2 E | 37.8725, -82.5194 | 709.974 | 6.18 | 379.312 | 5.125 | 5802 | 90 |
| PILGRIM 4.5 WSW | 37.7628, -82.4904 | 691.929 | 7.743 | 18.045 | 3.624 | 3 | 0 |
| VAN LEAR 4.4 E | 37.7753, -82.6753 | 816.929 | 10.84 | 106.955 | 6.037 | 1 | 0 |
| CHARLEY 2 SW | 37.9589, -82.7464 | 740.158 | 13.738 | 30.184 | 6.597 | 2326 | 0 |
| DUNLOW 1 SW | 37.9494, -82.4047 | 1112.861 | 8.205 | 402.887 | 6.998 | 3178 | 0 |
| PAINTSVILLE 1E | 37.8175, -82.7883 | 629.921 | 15.156 | 80.053 | 8.033 | 37 | 0 |
| E LYNN LAKE | 38.1436, -82.3825 | 747.047 | 20.159 | 37.073 | 9.819 | 4 | 0 |
| LOUISA 5W | 38.125, -82.6933 | 767.06 | 19.85 | 57.086 | 10.066 | 1 | 0 |

# APPENDIX C PHOTOLOG

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 1. | 09 August 2024 |

DIRECTION PHOTO TAKEN
Looking west

DESCRIPTION
Wetland 01 – Potentially Non jurisdictional

| PHOTO NO. | DATE |
|---|---|
| 2. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking west

DESCRIPTION
Wetland 02 – Potentially Non jurisdictional

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 3. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking southeast | |
| DESCRIPTION<br>Wetland 03 – Potentially Non jurisdictional | |

| PHOTO NO. 4. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking north | |
| DESCRIPTION<br>Wetland 04 – Potentially Non jurisdictional | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 5. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking west | |
| DESCRIPTION<br>Wetland 05 – Potentially Non jurisdictional | |

| PHOTO NO. 6. | DATE 10 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking west | |
| DESCRIPTION<br>Wetland 06 – Potentially Non jurisdictional | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 7. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking southeast

DESCRIPTION
Wetland 07 – Potentially Non jurisdictional

| PHOTO NO. | DATE |
|---|---|
| 8. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking northwest

DESCRIPTION
Wetland 08 – Potentially Non jurisdictional

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 9. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking south

DESCRIPTION
Wetland 09 – Potentially Non jurisdictional

| PHOTO NO. | DATE |
|---|---|
| 10. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking west

DESCRIPTION
Wetland 10 – Potentially Non jurisdictional

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 11. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking north

DESCRIPTION
Wetland 11 – Potentially Non jurisdictional

| PHOTO NO. | DATE |
|---|---|
| 12. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking west

DESCRIPTION
Wetland 12 – Potentially Non jurisdictional

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 13. | DATE 10 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking east | |
| DESCRIPTION<br>Wetland 13 – Potentially Non jurisdictional | |

| PHOTO NO. 14. | DATE 10 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking west | |
| DESCRIPTION<br>Wetland 14 – Potentially Non jurisdictional | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 15. | DATE 10 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking northwest | |
| DESCRIPTION<br>Wetland 15 – Potentially Non jurisdictional | |

| PHOTO NO. 16. | DATE 10 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN<br>Looking South | |
| DESCRIPTION<br>Wetland 16 – Potentially Non jurisdictional | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 17. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking south west

DESCRIPTION
Wetland 17 – Potentially Non jurisdictional

| PHOTO NO. | DATE |
|---|---|
| 18. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Looking east

DESCRIPTION
Wetland 18 – Potentially Non jurisdictional

There is no picture of Wetland 19, but it is like the previous wetlands.

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 19. | 09 August 2024 |

DIRECTION PHOTO TAKEN
Looking north

DESCRIPTION
Wetland 20 – Potentially jurisdictional, abuts Stream 1.

| PHOTO NO. | DATE |
|---|---|
| 20. | 09 August 2024 |

DIRECTION PHOTO TAKEN
Downstream

DESCRIPTION
Stream 1 - perennial

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 21. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN Upstream | |
| DESCRIPTION Stream 1 - perennial | |

| PHOTO NO. 22. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN Upstream | |
| DESCRIPTION Stream 2 - ephemeral | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 23. | 09 August 2024 |

DIRECTION PHOTO TAKEN
Downstream

DESCRIPTION
Stream 3 – ephemeral / intermittent conversion

| PHOTO NO. | DATE |
|---|---|
| 24. | 09 August 2024 |

DIRECTION PHOTO TAKEN
Upstream

DESCRIPTION
Stream 03 - intermittent

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 25. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN Downstream | |
| DESCRIPTION Stream 04 - ephemeral | |

| PHOTO NO. 26. | DATE 09 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN Downstream | |
| DESCRIPTION Stream 08 – start of ephemeral stream | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 27. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Upstream

DESCRIPTION
Stream 15 - ephemeral

| PHOTO NO. | DATE |
|---|---|
| 28. | 10 August 2024 |

DIRECTION PHOTO TAKEN
Downstream

DESCRIPTION
Stream 16 - ephemeral

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. 29. | DATE 11 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN Downstream | |
| DESCRIPTION Stream 17 - ephemeral | |

| PHOTO NO. 30. | DATE 11 August 2024 |
|---|---|
| DIRECTION PHOTO TAKEN Downstream | |
| DESCRIPTION Stream 19 – perennial as it flows into dual pipe culverts | |

# Photographic Log

| CLIENT: Lynn Bark Energy Facility | SITE LOCATION: Lynn Bark Solor Project, Martin County, Kentucky | PROJECT NO.: 0718084 |
|---|---|---|

| PHOTO NO. | DATE |
|---|---|
| 31. | 11 August 2024 |

DIRECTION PHOTO TAKEN
Upstream

DESCRIPTION
Stream 19 – perennial

# APPENDIX D USACE DATA FORMS

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP001
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.792807 Long: -82.535878 Datum: NAD83
Soil Map Unit Name: FiF—Fiveblock, Fairpoint, and Kaymine soils, 30 to 80 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point associated with Wetland-001. The gravel layer is present due to the past surface coal mine and reclaimation proecces.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP001

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Lespedeza cuneata* | 65 | Yes | FACU |
| 2. *Solidago altissima* | 10 | No | FACU |
| 3. *Ambrosia trifida* | 5 | No | FAC |
| 4. *Daucus carota* | 5 | No | UPL |
| 5. *Cirsium vulgare* | 10 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 95 =Total Cover | | |
| 50% of total cover: 48 | | 20% of total cover: 19 | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 95 (A) | | 380 (B) |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP001

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-5 | 2.5YR 4/2 | 100 | | | | | Loamy/Clayey | Channery sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 5

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Refusal at 5 inches from a gravel layer, due to the site's previous operations of surface coal mining.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP003
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.795996 Long: -82.543013 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 003. Soil is significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP003

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. *Lespedeza cuneata* | 60 | Yes | FACU |
| 2. *Solidago altissima* | 10 | No | FACU |
| 3. *Rubus occidentalis* | 10 | No | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 80 =Total Cover | | |
| 50% of total cover: 40 | 20% of total cover: 16 | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 70 | x 4 = | 280 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 80 (A) | | 330 (B |

Prevalence Index = B/A = 4.13

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP003

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 10YR 4/3 | 100 | | | | | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Significant soil disturbance due to the site's previous operation as a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP004
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.793286 Long: -82.541303 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 004. Soil is significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP004

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Lespedeza cuneata* | 55 | Yes | FACU |
| 2. *Lotus corniculatus* | 10 | No | FACU |
| 3. *Carex vulpinoidea* | 10 | No | OBL |
| 4. *Ambrosia trifida* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 85 =Total Cover | | |
| 50% of total cover: 43 | 20% of total cover: 17 | | |
| **Woody Vine Stratum** (Plot size: 30 ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 10 | x 1 = | 10 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 65 | x 4 = | 260 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 85 (A) | | 300 (B) |

Prevalence Index = B/A = 3.53

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP004

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 5YR 4/1 | 95 | 2.5YR 4/6 | 5 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soil is significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP006
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.793024 Long: -82.553154 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 006, Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP006

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Sorghum halepense* | 10 | No | FACU |
| 2. *Lespedeza cuneata* | 60 | Yes | FACU |
| 3. *Asclepias syriaca* | 10 | No | FACU |
| 4. *Apocynum cannabinum* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 85 =Total Cover | | |
| 50% of total cover: 43 | 20% of total cover: 17 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 85 (A) | | 340 (B) |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP006

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 5/2 | 100 | | | | | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP007
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.795473 Long: -82.551302 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Wetland point assoicated with Wetland 007, Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP007

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Lespedeza cuneata* | 80 | Yes | FACU |
| 2. *Rudbeckia hirta* | 5 | No | FACU |
| 3. *Ambrosia artemisiifolia* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 95 =Total Cover | | |
| 50% of total cover: 48 | 20% of total cover: 19 | | |
| **Woody Vine Stratum** (Plot size: 30 ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 95 | x 4 = | 380 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 95 (A) | | 380 (B |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP007

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 10YR 4/2 | 55 | 2.5YR 4/3 | 45 | C | M | Loamy/Clayey | Sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Two matrix colors, the second color is considered part of the matrix and not a pour lining or soft mass (therefore does not qualify for F3).

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP008
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.791160 Long: -82.559828 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 008, Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP008

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| 50% of total cover: | | 20% of total cover: | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | | =Total Cover | |
| 50% of total cover: | | 20% of total cover: | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Lespedeza cuneata* | 70 | Yes | FACU |
| 2. *Coleataenia anceps* | 10 | No | FAC |
| 3. *Ambrosia artemisiifolia* | 5 | No | FACU |
| 4. *Tridens flavus* | 10 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 95 | =Total Cover | |
| 50% of total cover: 48 | | 20% of total cover: | 19 |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| 50% of total cover: | | 20% of total cover: | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 95 (A) | | 370 (B |

Prevalence Index = B/A = 3.89

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP008

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 2.5YR 4/2 | 55 | 10YR 4/6 | 45 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Two matrix colors not classified as soft masses or within pore lining and would not qualify for F3.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP009
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.789991 Long: -82.560497 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 009, Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP009

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Lespedeza cuneata* | 55 | Yes | FACU |
| 2. *Trifolium repens* | 10 | No | FACU |
| 3. *Ambrosia artemisiifolia* | 5 | No | FACU |
| 4. *Setaria pumila* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 =Total Cover | | |
| 50% of total cover: 40 | 20% of total cover: 16 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 70 | x 4 = | 280 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 80 (A) | | 310 (B |

Prevalence Index = B/A = 3.88

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP009

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 2.5YR 4/3 | 100 | | | | | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP010
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.790102 Long: -82.565668 Datum: NAD 83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 010 Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP010

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

| Herb Stratum (Plot size: 5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Lespedeza cuneata* | 55 | Yes | FACU |
| 2. *Tridens flavus* | 15 | No | FACU |
| 3. *Ambrosia artemisiifolia* | 5 | No | FACU |
| 4. *Coleataenia anceps* | 10 | No | FAC |
| 5. *Dichanthelium clandestinum* | 5 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 | =Total Cover | |
| 50% of total cover: | 45 | 20% of total cover: | 18 |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 75 | x 4 = | 300 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 345 (B) |

Prevalence Index = B/A = 3.83

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP010

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 2.5YR 4/3 | 100 | | | | | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP011
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.793555 Long: -82.564030 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 011 Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP011

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

| Herb Stratum (Plot size: 5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Lespedeza cuneata* | 60 | Yes | FACU |
| 2. *Desmodium paniculatum* | 15 | No | FACU |
| 3. *Andropogon virginicus* | 5 | No | FACU |
| 4. *Arthraxon hispidus* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 =Total Cover | | |
| 50% of total cover: | 45 | 20% of total cover: | 18 |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 80 | x 4 = | 320 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 350 (B) |

Prevalence Index = B/A = 3.89

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP011

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 2.5YR 4/3 | 100 | | | | | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024

Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP012

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1

Subregion (LRR or MLRA): LRR N Lat: 37.793555 Long: -82.564030 Datum: NAD83

Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | | | |

Remarks:
Upland point assoicated with Wetland 012. Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP012

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Lespedeza cuneata* | 65 | Yes | FACU |
| 2. *Solanum carolinense* | 10 | No | FACU |
| 3. *Coleataenia anceps* | 5 | No | FAC |
| 4. *Arthraxon hispidus* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 =Total Cover | | |
| 50% of total cover: 45 | 20% of total cover: 18 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 75 | x 4 = | 300 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 345 (B) |

Prevalence Index = B/A = 3.83

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP012

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 4/3 | 100 | | | | | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-11-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: up013
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 3%
Subregion (LRR or MLRA): LRR N Lat: 37.786572 Long: -82.558248 Datum: NAD83
Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ____
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)

Geomorphic Position (D2)

- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: up013

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Juniperus virginiana* | 5 | Yes | FACU |
| 2. *Acer saccharum* | 5 | Yes | FACU |
| 3. *Prunus avium* | 4 | Yes | UPL |
| 4. *Robinia pseudoacacia* | 5 | Yes | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 19 | =Total Cover | |
| 50% of total cover: 10 | 20% of total cover: 4 | | |
| Sapling/Shrub Stratum (Plot size: 15' ) | | | |
| 1. *Prunus avium* | 4 | No | UPL |
| 2. *Elaeagnus umbellata* | 25 | Yes | UPL |
| 3. *Rubus idaeus* | 2 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 31 | =Total Cover | |
| 50% of total cover: 16 | 20% of total cover: 7 | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Elephantopus carolinianus* | 15 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 15 | =Total Cover | |
| 50% of total cover: 8 | 20% of total cover: 3 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. *Campsis radicans* | 2 | Yes | FAC |
| 2. *Lonicera japonica* | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 7 | =Total Cover | |
| 50% of total cover: 4 | 20% of total cover: 2 | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 4 | x 3 = | 12 |
| FACU species | 35 | x 4 = | 140 |
| UPL species | 33 | x 5 = | 165 |
| Column Totals: | 72 (A) | | 317 (B |

Prevalence Index = B/A = 4.40

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: up013

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-8 | 10YR 5/4 | 100 | | | | | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 8

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:
Struck rock at 8".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-10-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: up016
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range:
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2%
Subregion (LRR or MLRA): LRR N Lat: 37.785309 Long: -82.544626 Datum: NAD83
Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ___
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area within a Wetland?** **Yes** ___ **No** X |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes ___ | No X | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: up016

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Andropogon virginicus* | 80 | Yes | FACU |
| 2. *Lespedeza cuneata* | 10 | No | FACU |
| 3. *Solanum carolinense* | 10 | No | FACU |
| 4. *Prunella vulgaris* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 105 =Total Cover | | |
| 50% of total cover: 53 | 20% of total cover: 21 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 105 | x 4 = | 420 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 105 (A) | | 420 (B |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: up016

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 5/2 | 80 | 10YR 5/8 | 30 | RM | M | Loamy/Clayey | sandy loam |
| | | | 10YR 3/2 | 20 | C | PL | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: ___

Depth (inches): 10

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part". Struck rock at 10".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-09-2024

Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: Up018

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR or MLRA): LRR N Lat: 37.786963 Long: -82.538110 Datum: NAD 83

Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine, 30-80% slope, stoney NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: Up018

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Acer rubrum* | 2 | No | FAC |
| 2. *Elaeagnus umbellata* | 2 | No | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 4 =Total Cover | | |
| 50% of total cover: 2 | 20% of total cover: | 1 | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Daucus carota* | 2 | No | UPL |
| 2. *Rubus argutus* | 20 | Yes | FACU |
| 3. *Vernonia gigantea* | 20 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 42 =Total Cover | | |
| 50% of total cover: 21 | 20% of total cover: | 9 | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 22 | x 3 = | 66 |
| FACU species | 20 | x 4 = | 80 |
| UPL species | 4 | x 5 = | 20 |
| Column Totals: | 46 (A) | | 166 (B) |

Prevalence Index = B/A = 3.61

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: Up018

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-16 | 10YR 4/2 | 95 | 10YR 2/1 | 5 | C | PL | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: UP019
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.799489 Long: Datum: NAD83
Soil Map Unit Name: FiF—Fiveblock, Fairpoint, and Kaymine soils, 30 to 80 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Upland point assoicated with Wetland 002. Soil is signifaclty disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: UP019

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Lespedeza cuneata* | 80 | Yes | FACU |
| 2. *Solidago altissima* | 10 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 =Total Cover | | |
| 50% of total cover: 45 | 20% of total cover: 18 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 90 | x 4 = | 360 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 360 (B |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: UP019

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 2.5YR 3/3 | 100 | | | | | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** ___ **No** x

Remarks:

Significant soil disturbance due to the site's previous operations of surface coal mining.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-09-2024

Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: Up020

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range:

Landform (hillside, terrace, etc.): Valley Local relief (concave, convex, none): None Slope (%): 3%

Subregion (LRR or MLRA): LRR N Lat: 37.785401 Long: -82.532258 Datum: NAD 83

Soil Map Unit Name: Handshoe-Fedscreek-Shelocta 30-80% slope, very stony NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area within a Wetland?** **Yes** ___ **No** X |
| Hydric Soil Present? | Yes ___ | No X | |
| Wetland Hydrology Present? | Yes ___ | No X | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: Up020

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Platanus occidentalis* | 15 | Yes | FACW |
| 2. *Cercis canadensis* | 5 | No | FACU |
| 3. *Liriodendron tulipifera* | 15 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 35 | =Total Cover | |
| 50% of total cover: 18 | | 20% of total cover: | 7 |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Elaeagnus umbellata* | 10 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 10 | =Total Cover | |
| 50% of total cover: 5 | | 20% of total cover: | 2 |
| Herb Stratum (Plot size: ) | | | |
| 1. *Polystichum acrostichoides* | 8 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 8 | =Total Cover | |
| 50% of total cover: 4 | | 20% of total cover: | 2 |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| 50% of total cover: | | 20% of total cover: | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 28 | x 4 = | 112 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 53 (A) | | 192 (B) |

Prevalence Index = B/A = 3.62

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: Up020

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-16 | 10YR 4/3 | 100 | | | | | Loamy/Clayey | Silt loam, some gravel |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W001
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRR N Lat: 37.792872 Long: -82.535877 Datum: NAD83
Soil Map Unit Name: FiF—Fiveblock, Fairpoint, and Kaymine soils, 30 to 80 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Soil is disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W001

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Iva annua* | 30 | Yes | FAC |
| 2. *Symphyotrichum pilosum* | 10 | No | FAC |
| 3. *Persicaria punctata* | 15 | Yes | OBL |
| 4. *Carex vulpinoidea* | 20 | Yes | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 75 =Total Cover | | |
| 50% of total cover: 38 | 20% of total cover: 15 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 35 | x 1 = | 35 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 40 | x 3 = | 120 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 75 (A) | | 155 (B |

Prevalence Index = B/A = 2.07

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W001

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-2 | 10YR 4/2 | 97 | 7.5YR 4/6 | 3 | C | PL | Loamy/Clayey | sandy loam |
| 2-16 | 2.5YR 4/1 | 95 | 7.5YR 4/6 | 5 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A

Depth (inches):

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Significant soil disturbance due to the site's previous operation of surface coal mining.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-10-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: w002
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range:
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3%
Subregion (LRR or MLRA): LRR N Lat: 37.786188 Long: -82.538354 Datum: NAD83
Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area within a Wetland?** **Yes** X **No** |
| Hydric Soil Present? | Yes X | No | |
| Wetland Hydrology Present? | Yes X | No | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Ground was not saturated but it was still moist

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: w002

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: 15' ) | | | |
| 1. *Salix nigra* | 10 | Yes | OBL |
| 2. *Rubus argutus* | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 15 =Total Cover | | |
| 50% of total cover: 8 | 20% of total cover: 3 | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Juncus effusus* | 20 | Yes | FACW |
| 2. *Lespedeza cuneata* | 15 | Yes | FACU |
| 3. *Scirpus cyperinus* | 15 | Yes | FACW |
| 4. *Vernonia gigantea* | 2 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 52 =Total Cover | | |
| 50% of total cover: 26 | 20% of total cover: 11 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 10 | x 1 = | 10 |
| FACW species | 35 | x 2 = | 70 |
| FAC species | 2 | x 3 = | 6 |
| FACU species | 20 | x 4 = | 80 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 67 (A) | | 166 (B) |

Prevalence Index = B/A = 2.48

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: w002

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-16 | 10YR 5/1 | 80 | 10YR 5/6 | 20 | RM | PL/M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: ___

Depth (inches): 12

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a depleted matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: ”a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part”.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W003
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): _____ Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.795951 Long: -82.543018 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No _____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** _____ |
| Hydric Soil Present? | Yes X | No _____ | |
| Wetland Hydrology Present? | Yes X | No _____ | |

Remarks:
Wetland point assoicated with Wetland 006. Soil is signifaclty disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _____ | No X | Depth (inches): _____ |
| Water Table Present? | Yes _____ | No X | Depth (inches): _____ |
| Saturation Present? (includes capillary fringe) | Yes X | No _____ | Depth (inches): 3 |

**Wetland Hydrology Present?** **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W003

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Carex vulpinoidea* | 55 | Yes | OBL |
| 2. *Echinochloa crus-galli* | 10 | No | FAC |
| 3. *Kyllinga pumila* | 10 | No | FACW |
| 4. *Arthraxon hispidus* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 85 =Total Cover | | |
| 50% of total cover: 43 | 20% of total cover: 17 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 55 | x 1 = | 55 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 85 (A) | | 135 (B) |

Prevalence Index = B/A = 1.59

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W003

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR 3/2 | 100 | | | | | Loamy/Clayey | sandy loam |
| 2-6 | 2.5YR 4/1 | 90 | 10YR 4/6 | 10 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Significant soil disturbance due to the site's previous operation of surface coal mining.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W004
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.795951 Long: -82.543018 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:
Wetland point assoicated with Wetland 004. Soil is significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 3 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W004

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carex vulpinoidea* | 55 | Yes | OBL |
| 2. *Echinochloa crus-galli* | 10 | No | FAC |
| 3. *Kyllinga pumila* | 10 | No | FACW |
| 4. *Arthraxon hispidus* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 85 =Total Cover | | |
| 50% of total cover: 43 | 20% of total cover: 17 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 55 | x 1 = | 55 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 85 (A) | | 135 (B) |

Prevalence Index = B/A = 1.59

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W004

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-2 | 10YR 3/2 | 100 | | | | | Loamy/Clayey | sandy loam |
| 2-6 | 2.5YR 4/1 | 90 | 10YR 4/6 | 10 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Significant soil disturbance due to the site's previous operation of surface coal mining.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W005
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.790713 Long: -82.547518 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:
Wetland point assoicated with Wetland 005, Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 0 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W005

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Typha angustifolia* | 60 | Yes | OBL |
| 2. *Carex frankii* | 20 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 =Total Cover | | |
| 50% of total cover: 40 | 20% of total cover: 16 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 80 | x 1 = | 80 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 80 (A) | | 80 (B |

Prevalence Index = B/A = 1.00

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W005

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- x Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

No dig area - underline gas line signs near wetland. Hydric soil assumed due to presence of cat tails and wetland hydrology.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/10/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W006
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.793118 Long: 82.553317 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Wetland point assoicated with Wetland 006. Soil is significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes X | No ____ | Depth (inches): 3 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 2 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W006

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Scirpus cyperinus* | 65 | Yes | FACW |
| 2. *Carex vulpinoidea* | 15 | No | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 =Total Cover | | |
| 50% of total cover: | 40 | 20% of total cover: | 16 |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | | 20% of total cover: | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 65 | x 2 = | 130 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 80 (A) | | 145 (B) |

Prevalence Index = B/A = 1.81

**Hydrophytic Vegetation Indicators:**

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** _

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W006

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 2.5YR 4/1 | 95 | 10YR 5/6 | 5 | C | PL | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 5

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soil is significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W007
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.795455 Long: -82.551282 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:
Wetland point assoicated with Wetland 007, Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes X | No ___ | Depth (inches): 2 |
| Water Table Present? | Yes X | No ___ | Depth (inches): 3 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 2 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W007

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Bidens aristosa* | 10 | No | FACW |
| 2. *Carex vulpinoidea* | 30 | Yes | OBL |
| 3. *Arthraxon hispidus* | 15 | Yes | FAC |
| 4. *Scirpus cyperinus* | 15 | Yes | FACW |
| 5. *Lespedeza cuneata* | 5 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 75 =Total Cover | | |
| 50% of total cover: 38 | 20% of total cover: 15 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 75 (A) | | 145 (B) |

Prevalence Index = B/A = 1.93

**Hydrophytic Vegetation Indicators:**

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** _

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W007

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 2.5YR 4/1 | 90 | 10YR 5/6 | 10 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W008
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.791161 Long: -82.559913 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Wetland point assoicated with Wetland 008. Soils have been significantly disturbed from past land use a surface coal mine. Berm is present along tree line.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): 0 |
| Water Table Present? | Yes ____ | No X | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes x | No ____ | Depth (inches): 1 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W008

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: 15 ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Herb Stratum (Plot size: 5 ) | | | |
| 1. *Echinochloa crus-galli* | 10 | No | FAC |
| 2. *Carex vulpinoidea* | 60 | Yes | OBL |
| 3. *Bidens aristosa* | 10 | No | FACW |
| 4. *Setaria pumila* | 5 | No | FAC |
| 5. *Scirpus cyperinus* | 5 | No | FACW |
| 6. *Persicaria punctata* | 5 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 95 =Total Cover | | |
| 50% of total cover: 48 | 20% of total cover: 19 | | |
| Woody Vine Stratum (Plot size: 30 ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 65 | x 1 = | 65 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 95 (A) | | 140 (B) |

Prevalence Index = B/A = 1.47

**Hydrophytic Vegetation Indicators:**

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** _

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W008

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 2.5YR 4/1 | 90 | 10YR 4/6 | 10 | C | M | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W009
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.789991 Long: 82.560497 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:
Wetland point assoicated with Wetland 009. Soils have been significantly disturbed from past land use a surface coal mine. Berm is present along tree line.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): 0 |
| Water Table Present? | Yes ___ | No X | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes x | No ___ | Depth (inches): 1 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W009

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Echinochloa crus-galli* | 10 | No | FAC |
| 2. *Carex vulpinoidea* | 65 | Yes | OBL |
| 3. *Lespedeza cuneata* | 5 | No | FACU |
| 4. *Setaria pumila* | 5 | No | FAC |
| 5. *Scirpus cyperinus* | 5 | No | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 =Total Cover | | |
| 50% of total cover: 45 | 20% of total cover: 18 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 65 | x 1 = | 65 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 140 (B) |

Prevalence Index = B/A = 1.56

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W009

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 2.5YR 4/1 | 90 | 10YR 4/6 | 10 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W010
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.790082 Long: -82.565619 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Wetland point assoicated with Wetland 010. Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): 0 |
| Water Table Present? | Yes ____ | No X | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W010

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Echinochloa crus-galli* | 5 | No | FAC |
| 2. *Carex vulpinoidea* | 45 | Yes | OBL |
| 3. *Microstegium vimineum* | 5 | No | FAC |
| 4. *Iva annua* | 5 | No | FAC |
| 5. *Bidens aristosa* | 20 | Yes | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 =Total Cover | | |
| 50% of total cover: 40 | 20% of total cover: 16 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 45 | x 1 = | 45 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 80 (A) | | 130 (B |

Prevalence Index = B/A = 1.63

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W010

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 2.5YR 4/1 | 95 | 10YR 4/6 | 5 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W011
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.790082 Long: -82.565619 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:
Wetland point assoicated with Wetland 011. Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): 0 |
| Water Table Present? | Yes ___ | No X | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 1 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W011

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Scirpus cyperinus* | 30 | Yes | FACW |
| 2. *Carex vulpinoidea* | 20 | Yes | OBL |
| 3. *Setaria pumila* | 10 | No | OBL |
| 4. *Bidens aristosa* | 10 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 70 =Total Cover | | |
| 50% of total cover: 35 | 20% of total cover: 14 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | 40 | x 2 = | 80 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 70 (A) | | 110 (B) |

Prevalence Index = B/A = 1.57

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W011

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 2.5YR 4/1 | 90 | 10YR 4/6 | 10 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Energy Center City/County: Martin Sampling Date: 08/11/2024
Applicant/Owner: Lynn Bark Energy Center, LLC State: KY Sampling Point: W012
Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 37.790082 Long: -82.565619 Datum: NAD83
Soil Map Unit Name: FiD - Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Wetland point assoicated with Wetland 012. Soils have been significantly disturbed from past land use a surface coal mine.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): 0 |
| Water Table Present? | Yes ____ | No X | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: W012

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Lespedeza cuneata* | 5 | No | FACU |
| 2. *Carex vulpinoidea* | 60 | Yes | OBL |
| 3. *Setaria pumila* | 10 | No | OBL |
| 4. *Bidens aristosa* | 20 | Yes | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 95 =Total Cover | | |
| 50% of total cover: 48 | 20% of total cover: 19 | | |
| **Woody Vine Stratum** (Plot size: 30) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 70 | x 1 = | 70 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 95 (A) | | 130 (B) |

Prevalence Index = B/A = 1.37

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: W012

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 2.5YR 4/1 | 90 | 10YR 4/6 | 10 | C | M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 6

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-11-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: w013
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3%
Subregion (LRR or MLRA): LRR N Lat: 37.786716 Long: -82.558087 Datum: NAD83
Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ___
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 4 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: w013

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 10 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 10 | =Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |
| **Sapling/Shrub Stratum** (Plot size: 15' ) | | | |
| 1. *Salix nigra* | 5 | Yes | OBL |
| 2. *Acer negundo* | 2 | Yes | FAC |
| 3. *Acer rubrum* | 2 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 9 | =Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |
| **Herb Stratum** (Plot size: 5' ) | | | |
| 1. *Carex lurida* | 30 | Yes | OBL |
| 2. *Scirpus cyperinus* | 40 | Yes | FACW |
| 3. *Bidens frondosa* | 2 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 72 | =Total Cover | |
| 50% of total cover: 36 | 20% of total cover: | 15 | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 45 | x 1 = | 45 |
| FACW species | 42 | x 2 = | 84 |
| FAC species | 4 | x 3 = | 12 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 91 (A) | | 141 (B) |

Prevalence Index = B/A = 1.55

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: w013

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 5/1 | 90 | 10YR 5/8 | 10 | RM | PL/M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: ___

Depth (inches): 10

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a depleted matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part". Stuck rock at 10".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-10-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: w014
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3%
Subregion (LRR or MLRA): LRR N Lat: 37.789285 Long: -82.546900 Datum: NAD83
Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ____
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 3 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: w014

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Carex lurida* | 40 | Yes | OBL |
| 2. *Scirpus cyperinus* | 10 | No | FACW |
| 3. *Juncus effusus* | 20 | Yes | FACW |
| 4. *Arthraxon hispidus* | 5 | No | FAC |
| 5. *Setaria pumila* | 5 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 =Total Cover | | |
| 50% of total cover: 40 | 20% of total cover: 16 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 40 | x 1 = | 40 |
| FACW species | 30 | x 2 = | 60 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 80 (A) | | 130 (B) |

Prevalence Index = B/A = 1.63

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: w014

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 5/1 | 85 | 10YR 5/8 | 12 | RM | PL/M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 12

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a depleted matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part". Struck rock at 12".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-10-2024

Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: w015

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR or MLRA): LRR N Lat: 37.787216 Long: -82.546428 Datum: NAD83

Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 3 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: w015

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Scirpus cyperinus* | 30 | Yes | FACW |
| 2. *Arthraxon hispidus* | 10 | No | FAC |
| 3. *Setaria pumila* | 5 | No | FAC |
| 4. *Andropogon virginicus* | 5 | No | FACU |
| 5. *Carex lurida* | 15 | No | OBL |
| 6. *Juncus effusus* | 20 | Yes | FACW |
| 7. *Solidago gigantea* | 2 | No | FACW |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 87 =Total Cover | | |
| 50% of total cover: 44 | 20% of total cover: 18 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 52 | x 2 = | 104 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 87 (A) | | 184 (B) |

Prevalence Index = B/A = 2.11

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: w015

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-12 | 10YR 5/1 | 85 | 10YR 5/8 | 12 | C | PL/M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel

Depth (inches): 12

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a depleted matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part". Struck rock at 12".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-10-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: wet016
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2%
Subregion (LRR or MLRA): LRR N Lat: 37.785008 Long: -82.544556 Datum: NAD83
Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ____
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Ground was not saturated but it was still moist

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: wet016

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Juncus effusus* | 30 | Yes | FACW |
| 2. *Carex lurida* | 20 | No | OBL |
| 3. *Scirpus cyperinus* | 40 | Yes | FACW |
| 4. *Dichanthelium clandestinum* | 10 | No | FAC |
| 5. *Lespedeza cuneata* | 3 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 103 =Total Cover | | |
| 50% of total cover: 52 | 20% of total cover: 21 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 20 | x 1 = | 20 |
| FACW species | 70 | x 2 = | 140 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 3 | x 4 = | 12 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 103 (A) | | 202 (B |

Prevalence Index = B/A = 1.96

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) o more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft ( m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: wet016

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 5/1 | 60 | 10YR 5/8 | 40 | RM | PL/M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: ___

Depth (inches): 10

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a depleted matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part". Stuck rock at 10".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-10-2024

Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: w018

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3%

Subregion (LRR or MLRA): LRR N Lat: 37.787363 Long: -82.538181 Datum: NAD83

Soil Map Unit Name: Fiveblock, Fairpoint and Kaymine 6-30% slopes stoney NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- x Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: w018

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: 15' ) | | | |
| 1. *Elaeagnus umbellata* | 2 | No | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 2 =Total Cover | | |
| 50% of total cover: 1 | 20% of total cover: 1 | | |
| Herb Stratum (Plot size: 5' ) | | | |
| 1. *Daucus carota* | 10 | Yes | UPL |
| 2. *Lespedeza cuneata* | 15 | Yes | FACU |
| 3. *Scirpus cyperinus* | 15 | Yes | FACW |
| 4. *Solidago gigantea* | 10 | Yes | FACW |
| 5. *Juncus effusus* | 10 | Yes | FACW |
| 6. *Arthraxon hispidus* | 10 | Yes | FAC |
| 7. *Lotus corniculatus* | 5 | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 75 =Total Cover | | |
| 50% of total cover: 38 | 20% of total cover: 15 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 35 | x 2 = | 70 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 20 | x 4 = | 80 |
| UPL species | 12 | x 5 = | 60 |
| Column Totals: | 77 (A) | | 240 (B) |

Prevalence Index = B/A = 3.12

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: w018

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-16 | 10YR 4/2 | 70 | 10YR 5/1 | 20 | RM | M | Loamy/Clayey | Channery sandy loam |
| | | | 10YR 7/6 | 10 | RM | PL | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: ___

Depth (inches): 12

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a depleted matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

**U.S. Army Corps of Engineers**
**WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region**
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

*OMB Control #: 0710-0024, Exp:11/30/2024*
*Requirement Control Symbol EXEMPT:*
*(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Lynn Bark Solar Project City/County: Inez / Martin Sampling Date: 08-09-2024
Applicant/Owner: Lynn Bark Energy Facility, LLC State: KY Sampling Point: Wet020
Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range:
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 3%
Subregion (LRR or MLRA): LRR N Lat: 37.785575 Long: -82.532403 Datum: NAD 83
Soil Map Unit Name: Handshoe-Fedscreek-Shelocta 30-80% slope, very stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ___ |
| Hydric Soil Present? | Yes X | No ___ | |
| Wetland Hydrology Present? | Yes X | No ___ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes X | No ___ | Depth (inches): 3 |
| Water Table Present? | Yes X | No ___ | Depth (inches): 7 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 1 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: Wet020

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |
| Herb Stratum (Plot size: 5 ) | | | |
| 1. *Typha latifolia* | 5 | No | OBL |
| 2. *Impatiens capensis* | 20 | Yes | FACW |
| 3. *Juncus effusus* | 15 | Yes | FACW |
| 4. *Solidago gigantea* | 5 | No | FACW |
| 5. *Schoenoplectus tabernaemontani* | 15 | Yes | OBL |
| 6. *Carex lupulina* | 20 | Yes | OBL |
| 7. *Carex vulpinoidea* | 5 | No | OBL |
| 8. *Carex frankii* | 5 | No | OBL |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 =Total Cover | | |
| 50% of total cover: 45 | 20% of total cover: 18 | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| 50% of total cover: | 20% of total cover: | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 40 | x 2 = | 80 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 130 (B) |

Prevalence Index = B/A = 1.44

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: Wet020

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-4 | 10YR 4/2 | 50 | 10YR 4/6 | 40 | RM | PL/M | Loamy/Clayey | sandy loam |
| | | | 10YR 2/1 | 10 | C | | | |
| 4-16 | 10YR 5/1 | 90 | 10YR 5/8 | 10 | RM | PL/M | Loamy/Clayey | sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".