

**Exhibit G**  
**Ecological Assessment Report**



# NOTTINGHAM SOLAR SITE WETLAND DELINEATION REPORT



PROJECT NO.: EE1009829.0002  
DATE: JULY 2021

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# 1 INTRODUCTION

On behalf of Nottingham Solar LLC, WSP USA (WSP) conducted an environmental survey of the proposed Nottingham Solar Site (“Project”) located in Athens Township, Harrison County, Ohio. This included a wetland and stream delineation, agency coordination regarding threatened and endangered species, and characterization of vegetation and habitat types. The wetland delineation was performed by individuals trained in the three-parameter methodology (hydrophytic vegetation, wetland hydrology, and hydric soils) adopted by the U.S. Army Corps of Engineers (USACE) as outlined in the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0* (USACE, 2012) and in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987).

## 2 BACKGROUND INFORMATION

### 2.1 PROJECT AREA

The Environmental Survey Area (ESA) is located south of State Route 519 and west of State Route 149 near approximate coordinate (40.1924°, -81.0601°) within Harrison County, Ohio. The ESA is located within the Flushing, Ohio U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangle. The ESA is approximately 1,200 acres and encompasses the footprint of a proposed solar facility, work areas, and access roads.

Topographic relief within the ESA is best characterized as moderately dissected, with elevations ranging between 1,060 feet and 1,322 feet above sea level throughout the ESA (Figure 1, Appendix A). Land uses and natural communities observed within the ESA are primarily composed of reclaimed strip mine that is currently dominated by grasslands, with small areas of hardwood woodlands and scrub/shrub, in addition to the identified ponds and wetlands.

#### 2.1.1 ANNUAL PRECIPITATION

Recent rainfall data for Harrison County, Ohio was reviewed prior to completing field work to determine if climatic conditions were normal at the time of the environmental survey. The nearest weather station with both historical and recent precipitation records is located at the Dennison Water Works in Dennison, OH, approximately 20 miles northwest of the ESA. Rainfall recorded at Dennison, OH was below average for nine of the ten months between July 2020 and May 2021 (Table 2-1). The data suggests climatic conditions were generally drier than normal during the time period preceding the environmental survey.

**TABLE 2-1: RECENT PRECIPITATION DATA**

PRECIPITATION DATA	JULY 2020	AUGUST 2020	SEPTEMBER 2020	OCTOBER 2020	NOVEMBER 2020	DECEMBER 2020
Monthly Sum <sup>1, 3</sup>	2.67	2.99	2.68	3.43	2.24	3.02
Normal Precipitation <sup>2, 3</sup>	3.92	3.63	3.48	2.71	3.31	3.04
Monthly Climatic Conditions	Below Average	Below Average	Below Average	Above Average	Below Average	Below Average
PRECIPITATION DATA	JANUARY 2021	FEBRUARY 2021	March 2021	APRIL 2021	MAY 2021	TOTAL
Monthly Sum <sup>1, 3</sup>	1.93	1.41	3.60	2.86	3.58	<b>30.41</b>
Normal Precipitation <sup>2, 3</sup>	2.91	2.13	3.67	3.89	3.90	<b>36.59</b>
Monthly Climatic Conditions	Below Average	Below Average	Below Average	Below Average	Below Average	<b>Below Average</b>

<sup>1</sup> Monthly weather summary from Dennison Water Works, Ohio weather station (NOAA 2020 – 2021.)

<sup>2</sup> Climate Statistics at Individual Stations – Data Tables (NOAA 2020).

<sup>3</sup> Displayed in inches.

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### 2.1.2 DRAINAGE BASINS

The ESA is within the Tuscarawas drainage basin, 8-digit hydrologic unit code (HUC) 05040001. The ESA lies within two 12-digit HUCs, as outlined in Table 2-2 (USDA, 2019). The OEPA *401 Water Quality Certification for the Nationwide Permits Web Mapping Application* indicates that field-assessed streams within both 12-digit sub-watersheds are “eligible”; this indicates that stream impacts within the ESA are eligible for coverage under the existing Section 401 Water Quality Certification (WQC) for the USACE Section 404 Nationwide Permits (OEPA, 2020).

**TABLE 2-2: 12-DIGIT HUC’S CROSSED BY THE PROJECT**

8-DIGIT HUC CODE <sup>1</sup>	12-DIGIT HUC CODE <sup>1</sup>	12-DIGIT HUC NAME	ESA AREA IN HUC (acres)	OHIO EPA SECTION 401 ELIGIBILITY <sup>2</sup>
05040001	05040001-13-03	Boggs Fork	14.9	Eligible
	05040001-14-02	Brushy Fork	1,185.5	Eligible

Source: USDA 2019, OEPA 2020

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### 2.1.3 TRADITIONALLY NAVIGABLE WATERS

The U.S. Environmental Protection Agency (USEPA) and USACE assert jurisdiction over “all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce including all waters which are subject to the ebb and flow of the tide” (USACE and USEPA, 2008). These waters are considered traditionally navigable waters (TNW). Streams within the ESA will drain through unnamed tributaries to Boggs Fork or Brushy Fork. Both streams are tributaries to the Tuscarawas River, which is a TNW.



# 3 METHODOLOGY

The purpose of the environmental surveys was to determine whether wetlands and streams are present within the ESA that meet the definition of Waters of the United States (WoUS) or are subject to regulations implemented by USACE and the Ohio Environmental Protection Agency (OEPA); and, if present, to document their extents and current conditions. The USACE and the USEPA define wetlands as areas inundated or saturated by surface water 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 (33 CFR, Part 328.3). Identification and delineation of jurisdictional wetlands is based on the presence of the following three parameters:

1. Wetland hydrology – the area is inundated permanently or periodically, or the soil is saturated to the surface for sufficient duration during the growing season to support hydrophytic vegetation.
2. Hydrophytic vegetation – the dominant vegetation consists of species capable of growing in water or on substrate that is at least periodically deficient in oxygen as a result of the presence of water.
3. Hydric soils – soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth of hydrophytic vegetation.

The ESA was evaluated according to the procedures outlined in the USACE 1987 *Corps of Engineers Wetlands Delineation Manual ('87 Manual)* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, (Version 2.0) (Regional Supplement)* (USACE, 2010). The *Regional Supplement* was released by the USACE to improve the accuracy and efficiency of wetland delineation procedures by addressing regional wetland characteristics and was finalized in 2010.

WSP performed the routine delineation method described in the *'87 Manual* and *Regional Supplement*. WSP conducted a desktop data review followed by pedestrian environmental surveys; including, identification of vegetative communities; soils profile descriptions; recording geomorphological descriptions; and, observations of hydrology. Evidence of mechanical alterations or disturbances with the potential to alter the wetland determination were also noted, if present.

The ESA lies within the boundary of the CONSOL Energy D-2100 and D-2100-2 Permit mitigation areas, associated with USACE Section 404 Permit Nos. 200000075 and 200401321-1. Several compensatory mitigation wetlands and streams lie within the ESA. These mitigation wetlands are assessed annually and most recently documented in the *Mitigation Monitoring Report – Year 5 for CONSOL Energy's D-2100 and D-2100-2 Permit Areas (Wetland Mitigation Monitoring Report)* prepared for CONSOL Energy by GPD Group (GPD). GPD, on behalf of CONSOL Energy, has provided this report as well as GIS boundaries for wetlands and streams. WSP has utilized information provided by GPD in lieu of delineating and assessing these wetlands and streams.

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## 3.1 DESKTOP REVIEW

Prior to conducting field surveys, WSP staff completed a desktop review by analyzing several federal and state publicly available data sources to assist with determining the presence of wetland and streams. This review of Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland

Inventory (NWI) maps of Ohio, USGS 7.5-minute topographic maps, and USGS National Hydrography Dataset (NHD) stream and river data was used to identify the occurrence and location of potential wetlands and streams.

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## 3.2 SITE INVESTIGATION

On January 12, January 13, March 16, and May 27, 2021 WSP ecologists traversed the ESA (1,200 acres) to conduct a wetland and waters delineation. The physical boundaries of aquatic resources were recorded using a Trimble Global Positioning System (GPS) unit rated for sub-decimeter accuracy. The GPS data was then geo-corrected using Trimble GPS Pathfinder Office software (version 5.60) and reviewed for quality control. The methodology used to examine each parameter is described in the following sections.

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### 3.2.1 HYDROLOGY

During field surveys, WSP ecologists assessed potential wetland areas for indicators of wetland hydrology described in the *'87 Manual* and *Regional Supplement*. Observation of at least one primary indicator or at least two secondary indicators was sufficient to positively say wetland hydrology was present.

According to the *'87 Manual*, areas inundated or saturated to the surface for a minimum of five percent of the growing season may provide sufficient evidence as a suitable primary/secondary wetland indicator. The *'87 Manual* further states that areas saturated between five percent and 12.5 percent of the growing season may or may not be wetlands, while areas saturated over 12.5 percent of the growing season fulfill the hydrology requirements for wetlands. The *Regional Supplement* suggests that growing season dates are determined through onsite observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) the soil temperature (12-inch depth) is 41 degrees Fahrenheit (°F) or higher as an indicator of soil microbial activity. Therefore, the beginning of the growing season in a given year is indicated by whichever condition occurs earlier, and the end of the growing season by whichever persists later.

The *Regional Supplement* also states that if onsite data gathering is not practical, the approximate growing season is calculated by the number of days between the average (five years out of ten, or 50 percent probability) date of the last and first 28°F air temperature in the spring and fall, respectively. National Weather Service Agricultural Applied Climate Information System (AgACIS) WETS (wetlands determination) growing season data for Harrison County, Ohio was not available (NRCS, 2020).

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### 3.2.2 VEGETATION

To determine the presence of hydrophytic vegetation, dominant vegetation was visually assessed for each stratum (tree, sapling and shrub, herb, and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL) was assigned to each plant species based on the *2018 National List of Plant Species* (USACE, 2018)<sup>1</sup>. The hydrophytic vegetation indicators are applied in

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<sup>1</sup> OBL: A plant that almost always occurs in wetlands, but rarely in uplands;  
FACW: A plant that usually occurs in wetlands, but occasionally occurs in uplands;  
FAC: A plant that commonly occurs in both wetland and uplands;  
FACU: A plant that usually occurs in uplands, but occasionally occurs in wetlands; and  
UPL: A plant that almost always occurs in uplands, but rarely occurs in wetlands.

the sequence presented in the *Regional Supplement*, where the vegetation is determined to be hydrophytic after the first indicator in the sequence is met and no further vegetation analysis is required. In the majority of wetland determinations, the presence of hydrophytic vegetation is determined by applying the rapid test for hydrophytic vegetation (Indicator 1) or the dominance test (Indicator 2). Indicator 1 is met when all dominant species across all strata are OBL and/or FACW. Where the rapid test is not met, the dominance test is satisfied when more than 50 percent of the composition of the dominant species are rated OBL, FACW and/or FAC.

Indicators 1 and 2 are the first indicators that need to be considered, however some wetland plant communities may fail a test based only on dominant species. If the plant community fails the dominance test, but indicators of hydric soil and wetland hydrology are both present, WSP scientists use the prevalence index (indicator 3), or observations of plant morphological adaptations for life in wetlands (indicator 4), to determine if an area has hydrophytic vegetation. Vegetation of an area was determined to be non-hydrophytic when none of the indicators for hydrophytic vegetation were satisfied.

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### 3.2.3 SOILS

The NRCS National Technical Committee for Hydric Soils defines hydric soils as those that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

Prior to beginning field work, NRCS soil survey data were reviewed for soil mapping units and soil series listed as hydric soils or containing hydric components. A table of the NRCS soil mapping units in the ESA is located in Section 3.1.1. To the extent possible, soils were observed to a depth of 20 inches below the soil surface; in instances where refusal was encountered before 20 inches, this was noted on field data sheets. Soils were examined in the field for hydric soil characteristics according to the guidelines in the *Regional Supplement Northcentral and Northeast*. A *Munsell Soil Color Chart* was used to identify the hue, value, and chroma of the soil matrix and redoximorphic features that may be present (Munsell Color Company, 2009).

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## 3.3 WETLAND CLASSIFICATION

Wetlands, streams, and other waters were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States*, commonly referred to as the Cowardin Classification System (Cowardin et al., 1979). The waters identified within the ESA were classified as palustrine systems.

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## 3.4 OHIO RAPID ASSESSMENT METHOD V. 5.0

The OEPA Ohio Rapid Assessment Method for Wetlands v. 5.0 (ORAM) was developed to determine the relative ecological quality and level of disturbance of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v. 5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between "Categories 1 and 2" from 30 to

34.9 and between “Categories 2 and 3” from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower Category (Mack, 2001).

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## 3.5 STREAM AND RIVER CROSSINGS

The Clean Water Act provides authority for states to issue water quality standards and designated uses to authorize certain activities in WoUS. upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act of 1972 and its 1977 and 1987 amendments require knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The USACE defines OHWM as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (USACE, 2005).

Stream assessments were conducted using the methods described in *Methods for Assessing Habitat in Flowing Waters: Using OEPA’s Qualitative Habitat Evaluation Index* (OEPA, 2006) and *Field Evaluation Manual for Ohio’s Primary Headwater Habitat Streams, Version 3* (OEPA, 2012).

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### 3.5.1 OEPA QUALITATIVE HABITAT EVALUATION INDEX

The Qualitative Habitat Evaluation Index (QHEI) stream assessment method is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (*e.g.*, macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive quantitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 40 cm, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the OEPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H are those with a watershed area less than or equal to 20 square miles) versus larger streams (L are those with a watershed area greater than 20 square miles). The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L).

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### 3.5.2 OEPA PRIMARY HEADWATER HABITAT EVALUATION INDEX

The Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or “branches”) and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless,

headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and landscape position (Fritz, et al. 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The Headwater Habitat Evaluation Index (HHEI) is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater Habitat (PHWH) streams. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a “defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 mi<sup>2</sup> (259 ha), and a maximum depth of water pools equal to or less than 15.75 inches (40 cm)” (OEPA, 2012).

# 4 RESULTS

The results presented in this report reflect the existing and reasonably foreseeable site conditions at the time of the environmental survey. The results cannot apply to site changes occurring after the survey which WSP has not had the opportunity to review. During the course of any survey, site conditions may change over time due to human and/or natural causes; as such, the results presented in this report may be invalidated, either wholly or in part, by changes beyond the control of WSP.

WSP ecologists surveyed the ESA (1,200 acres) on January 12, January 13, March 16, and May 27, 2021 by walking the ESA and evaluating for wetlands and other WoUS. WSP delineated 25 wetlands, 11 streams, and 6 ponds within the ESA. An additional 13 wetlands and 21 streams were previously delineated by GPD within the ESA. GPD has provided GIS shapefile and the *Wetland Mitigation Monitoring Report* which have been used to provide data for GPD-delineated wetlands and streams. All features identified within the ESA are depicted on the Delineated Features Map (Figure 3, Appendix A) and are discussed in the attached reference tables (Appendix B).

## 4.1 DESKTOP REVIEW

### 4.1.1 SOILS EVALUATION

According to the NRCS Soil Data for Harrison County, Ohio, there are eight soil map units shown within the ESA, presented in Table 4-1. Seven of the eight soil map units are listed as Not Hydric (0%) and one is listed as Predominantly Not Hydric (1-32%) according to the NRCS National Soil Information System for Ohio. Water features typically represent excavated ponds in the soil survey data and are not rated for hydric soil criteria. The soils observed by WSP ecologists during the environmental survey were consistent with the NRCS soil survey mapping.

**TABLE 4-1: SOIL UNITS MAPPED WITHIN THE ESA**

SOIL UNIT SYMBOL	SOIL UNIT NAME	PERCENT HYDRIC	HYDRIC RATING <sup>1</sup>
AbC2	Aaron silty clay loam, 6 to 15 percent slopes, eroded	0	Not Hydric
GnD	Gilpin silt loam, 15 to 25 percent slopes	0	Not Hydric
LoD2	Lowell silty clay loam, 15 to 25 percent slopes	0	Not Hydric
Mwc3B	Morristown silty clay loam, 0 to 8 percent slopes, reclaimed	0	Not Hydric
Mwc3D	Morristown silty clay loam, 8 to 25 percent slopes, reclaimed	0	Not Hydric
Mwc3F	Morristown silty clay loam, 25 to 70 percent slopes, reclaimed	0	Not Hydric
Mwf6F	Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed	1	Predominantly Not Hydric
W	Water	0	Not Hydric

<sup>1</sup>Not Hydric = 0% hydric soil component; Predominantly Not Hydric = 1-32%; Partially Hydric =33-65%; Predominantly Hydric = 66-99%; and All Hydric = 100%.

## 4.1.2 NATIONAL WETLAND INVENTORY REVIEW

National Wetland Inventory (NWI) features are potential wetland areas identified from USFWS aerial photograph interpretation which typically have not been field verified. Forested and heavy scrub/shrub wetlands are often not shown on NWI maps as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. The USFWS indicates that NWI maps are not intended or designed for jurisdictional wetland identification or location. As a result, NWI maps do not show all the wetlands found in a particular area nor do they necessarily provide accurate wetland boundaries. However, NWI maps are useful for providing indications of potential wetland areas, which are often supported by soil mapping and hydrologic predictions using USGS topographic maps.

According to the NWI maps of the Flushing, Ohio quadrangle, the ESA contains 22 mapped NWI features. Table 4-2 provides an overview of NWI features identified within the ESA, including NWI code, map page, and delineated resources associated with each NWI feature. Locations of the NWI mapped wetlands are shown on Figure 2 (Appendix A).

**TABLE 4-2: NWI POLYGONS MAPPED WITHIN THE ESA**

COWARDIN CLASSIFICATION CODE	COWARDIN CLASSIFICATION	MAP PAGE	ASSOCIATED RESOURCE
R4SBC	Riverine, intermittent, streambed, seasonally flooded	1 of 17	Stream S26-C
R4SBC	Riverine, intermittent, streambed, seasonally flooded	1 of 17	Stream S24-A
R5UBH	Riverine, unknown perennial, unconsolidated bottom, permanently flooded	1 of 17	Stream S24-B
R4SBC	Riverine, intermittent, streambed, seasonally flooded	1 of 17	Stream S24-B
R5UBH	Riverine, unknown perennial, unconsolidated bottom, permanently flooded	1 of 17	Stream S24B
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	1 of 17	Pond NS-1 Wetland NS-1a Wetland NS-1b
R5UBH	Riverine, unknown perennial, unconsolidated bottom, permanently flooded	1 of 17	Pond NS-1
R5UBH	Riverine, unknown perennial, unconsolidated bottom, permanently flooded	1 of 17	Wetland NS-1a
R4SBC	Riverine, intermittent, streambed, seasonally flooded	3 of 17	No Resource Identified
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	6 of 17	Wetland WL-133
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	9 of 17	Pond NS-4
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	9 of 17	Wetland NS-24 Pond NS-6
PFO1C	Palustrine, forested, broad-leaved deciduous, seasonally flooded	10 of 17	Wetland NS-11

**TABLE 4-2: NWI POLYGONS MAPPED WITHIN THE ESA**

COWARDIN CLASSIFICATION CODE	COWARDIN CLASSIFICATION	MAP PAGE	ASSOCIATED RESOURCE
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	10 of 17 11 of 17 14 of 17 15 of 17	Wetland WL-113 Wetland WL-105
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	11 of 17	Wetland WL-110
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	12 of 17	No Resource Identified
PEM1C	Palustrine, emergent, persistent, seasonally flooded	13 of 17	Wetland NS-20 Pond NS-5
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	14 of 17	Wetland WL-129
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	15 of 17	Wetland WL-103
PEM1C	Palustrine, emergent, persistent, seasonally flooded	15 of 17	Wetland WL-105
PUBG	Palustrine, unconsolidated bottom, intermittently exposed	17 of 17	Wetland WL-108
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	17 of 17	Wetland WL-105

## 4.2 DELINEATED WETLANDS

The environmental survey of the ESA identified 25 wetlands. Data provided by GPD included an additional 13 wetlands. The total wetland area within the ESA was 36.55 acres. These wetlands range in size from 0.01 to 12.50 acres within the limits of the ESA. The reported wetland acreage only corresponds to areas delineated within the ESA as some wetlands extended beyond the survey boundary. Delineated wetlands included 33 PEM wetlands totaling 34.22 acres, 2 PSS wetlands totaling 0.44 acres, 2 PEM/PSS wetland complexes totaling 0.80 acres, and 1 PEM/PFO wetland complex totaling 1.09 acres.

Thirty-one of the 38 delineated wetlands were identified as Category One wetlands. Seven delineated wetlands were identified as Category 2 wetlands. No Category 3 wetland areas were identified. Two wetlands included in shapefiles provided by GPD were not addressed in the *Wetland Mitigation Monitoring Report* (Wetlands WL-19 and WL-133), therefore WSP completed ORAM forms for these two wetlands. Classification of wetlands as Category 1 or Category 2 was based on ORAM scores (ranging from 17 to 37).

Delineated wetland areas are depicted on Figure 3 (Appendix A). Table 1 (Appendix B) provides specific information regarding wetland location, Cowardin classification, jurisdiction, wetland assessment, and delineated area within the ESA. Completed USACE wetland and upland determination forms are provided in Appendix C. ORAM data forms are provided in Appendix D. Representative photographs were taken of each wetland during the environmental survey and are provided in Appendix F.



### 4.2.1 WETLAND REGULATORY CONSIDERATIONS

Nine of the 25 wetlands delineated by WSP appear to be hydrologically connected to surface waters that are tributaries to a TNW. These nine wetlands (totaling 3.97 acres) will likely be considered jurisdictional to USACE according to the 2020 *Navigable Water Protection Rule*. In addition, all 13 mitigation wetlands documented by GPD are assumed to be under USACE jurisdiction due to their inclusion in an ongoing Section 404 permit wetland mitigation effort. Table 4-3 provides an overview of jurisdictional wetlands within the ESA.

**TABLE 4-3: SUMMARY OF JURISDICTIONAL WETLANDS**

COWARDIN CLASSIFICATION	ORAM CATEGORY			AREA WITHIN ESA (ac.)
	CATEGORY 1 (acres)	CATEGORY 2 (acres)	CATEGORY 3 (acres)	
PEM	8.30	20.13	0.00	28.43
PSS	0.45	0.00	0.00	0.45
PFO	0.00	0.00	0.00	0.00
ACRES WITHIN ESA	8.75	21.13	0.00	28.88

Nineteen of the 25 wetlands delineated by WSP did not appear to be hydrologically connected to surface waters that are tributaries to a TNW. These wetlands (totaling 7.16 acres) are not likely to be considered jurisdictional according to the 2020 *Navigable Water Protection Rule*. Therefore, these wetlands will likely be considered isolated and subject to the State of Ohio’s Isolated Wetland Law. It is noted that the USACE will make the final determination of jurisdictional status. Table 4-4 provides an overview of isolated wetlands within the ESA.

**TABLE 4-4: SUMMARY OF ISOLATED WETLANDS**

COWARDIN CLASSIFICATION	ORAM CATEGORY			AREA WITHIN ESA (ac.)
	CATEGORY 1 (acres)	CATEGORY 2 (acres)	CATEGORY 3 (acres)	
PEM	6.59	0.00	0.00	6.59
PSS	0.26	0.00	0.00	0.26
PFO	0.31	0.00	0.00	0.31
ACRES WITHIN ESA	7.16	0.00	0.00	7.16

## 4.3 STREAMS AND RIVERS

WSP delineated 11 streams totaling 3,936 linear feet within the ESA as shown in Figure 3 (Appendix A) and Table 2 (Appendix B). All 11 streams delineated by WSP were assessed using the HHEI methodology (drainage area less than 1 mi<sup>2</sup>). Nine of the 11 streams (totaling 3,141 ft.) were identified as ephemeral. Two of the 11 streams (totaling 795 ft.) was identified as intermittent. No perennial streams were identified within the ESA.

Data provided by GPD included an additional 21 delineated streams (totaling 12,341 linear feet) within the ESA. GPD-provided GIS data and the *Wetland Mitigation Monitoring Report* have been used to provide data for GPD-documented streams. Stream data provided by GPD did not include flow regime or OHWM width for any GPD-delineated stream. Several GPD-documented stream HHEI/QHEI metrics were also not provided in the wetland mitigation monitoring report.

Locations of streams identified within the ESA are shown in Figure 3 (Appendix A). Table 2 (Appendix B) provides the waterbody name, flow regime, and stream length within the ESA for all delineated streams. Completed HHEI

forms are provided in Appendix E. Representative photographs were taken of each stream during the field survey and are provided in Appendix F.

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### 4.3.1 HHEI STREAM RESULTS

All 11 streams delineated by WSP within the ESA were evaluated using the HHEI methodology. All streams were identified as Modified, Small Drainage, Warmwater Streams. Details regarding individual streams are provided in Table 2 (Appendix B).

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### 4.3.2 STREAM REGULATORY CONSIDERATIONS

All delineated streams lie within watersheds designated as “eligible” for the OEPA Section 401 Water Quality Certification (WQC) for the USACE 2017 Nationwide Permits (NWPs).

Streams NS-1, NS-2, NS-3, and NS-4 drain to Pond NS-2, which does not appear to drain to waters that are a tributary to a TNW. Therefore, it is not likely that these four streams (totaling 1,566 linear feet) will be considered jurisdictional by the USACE.

The 2020 *Navigable Waters Protection Rule* indicates that ephemeral streams do not fall under USACE jurisdiction. Therefore, Stream NS-5 and Stream NS-10 (totaling 794 linear feet) will likely be considered jurisdictional by the USACE. Ephemeral Streams NS-6a, NS-6b, NS-7, NS-8, and NS-9 (totaling 1,676 linear feet) will likely fall under the jurisdiction of the OEPA.

The 21 streams delineated by GPD (totaling 12,341 linear feet) are each assumed to fall under USACE jurisdiction due to their ongoing involvement in USACE Section 404 wetland mitigation monitoring efforts.

It is noted that the USACE will make the final determination of jurisdictional status. No other streams were identified within the ESA during the environmental survey.

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## 4.4 PONDS, LAKES, AND RESERVOIRS

WSP delineated six ponds totaling 19.61 acres within the ESA. Four of the six delineated ponds lack a direct surface water connection to tributaries to a TNW or other WoUS. Two ponds (NS-5 and NS-6) are hydrologically connected to other jurisdictional waters and therefore would be considered jurisdictional, by the USACE based on the 2020 *Navigable Waters Protection Rule*. However, the four other delineated ponds will not likely be considered jurisdictional by the USACE based on the 2020 *Navigable Waters Protection Rule*, as they are hydrologically isolated. Locations of delineated ponds identified within the ESA are shown in Figure 3 (Appendix A). Table 3 (Appendix B) provides the name, coordinate, and acreage of each delineated pond.

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## 4.5 VEGETATIVE COMMUNITIES

WSP ecologists conducted a general habitat survey in conjunction with the stream and wetland delineation. The majority of the ESA was identified as grassland habitat, with additional areas characterized as scrub/shrub, successional hardwood woodlands, and developed, high intensity areas in addition to the delineated wetlands and ponds. Table 4-5 provides an overview of habitat types within the ESA. Vegetated land cover can be seen in Figure 4 (Appendix A).

**Table 4-5: VEGETATIVE COMMUNITIES WITHIN THE ESA**

VEGETATIVE COMMUNITY	DESCRIPTION	APPROXIMATE ACREAGE WITHIN THE ESA	APPROXIMATE PERCENTAGE OF ESA
Grassland	Herbaceous cover dominated by grasses with intermixed forbs and occasional woody shrubs.	906.15	75.8%
Scrub/Shrub	The successional stage between old field and second growth forest characterized by short, opportunistic woody species.	153.61	12.8%
Ponds and Wetlands	Ponds, and wetlands were observed within the ESA boundaries.	53.24	4.5%
Successional Hardwood Woodland	Mixed hardwood woodlands characterized by a canopy composed of woody deciduous trees.	57.30	4.8%
Developed, High Intensity	Developed roadways, access roads, and oil/gas well pads.	26.11	2.2%
Total		1,196	100.0%

## 4.6 THREATENED AND ENDANGERED SPECIES

WSP submitted a coordination request regarding federally listed threatened and endangered species to the USFWS as well as a request for Environmental Review to the Ohio Department of Natural Resources (ODNR) on December 1, 2020. A response was received from the USFWS on December 11, 2020. The ODNR Environmental Review was received on February 8, 2021. A summary of each agency’s response is provided in subsequent subsections.

### 4.6.1 USFWS COORDINATION

The USFWS indicated that there are no federal wildlife refuges, wilderness areas, or critical habitat within the vicinity of the ESA.

The ESA lies within the range of the Indiana bat (*Myotis sodalis*), a federal endangered species, and the northern long-eared bat (*Myotis septentrionalis*), a federal threatened species. Both species utilize potential summer roost habitat characterized by trees >3 inches diameter at breast height (dbh) featuring exfoliating bark, cracks, crevices, and cavities. The USFWS has recommended that clearing of trees be performed between October 1 and March 31.

The USFWS also recommended that areas between solar panels be planted with legumes and wildflowers that would be beneficial to pollinators and other wildlife, rather than non-native grasses. A list of recommended species was included in the USFWS response. Further information can be provided by the Ohio Pollinator Habitat Initiative.

Due to the project type, size, and location, the USFWS indicated that adverse effects to other federally endangered or threatened species are not anticipated. Correspondence from the USFWS has been provided in Appendix G.

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#### 4.6.2 ODNR ENVIRONMENTAL REVIEW

The ODNR Environmental Review, dated February 8, 2021 included comments from the Ohio Natural Heritage Database Program, Division of Wildlife (DOW), and Division of Water Resources. The ODNR Environmental Review has been provided in Appendix G.

A review of Natural Heritage Database identified no records of state-listed species or rare habitats within a one-mile radius of the ESA. Jockey Hollow Wildlife Area, managed by the Division of Wildlife (DOW) is located within a one-mile radius of the ESA.

The DOW has recommended that areas between solar panels be planted with legumes and wildflowers that would be beneficial to pollinators and other wildlife, rather than non-native grasses. A list of recommended species was included in the coordination email. Further information can be provided by the Ohio Pollinator Habitat Initiative.

The ESA lies in the vicinity of records for the northern long-eared bat, a state endangered species, and the little brown bat (*Myotis lucifugus*), a state-endangered species. Summer tree clearing is not recommended, and additional summer surveys would not prove presence/absence in the ESA.

The ESA also lies within the range of the Indiana bat (state endangered) and tricolored bat (*Perimyotis subflavus*), a state endangered species. Limited summer clearing may be acceptable after consultation with DOW. DOW has recommended that tree clearing be limited to October 1 through March 31.

DOW has also recommended that a desktop habitat assessment, followed by a field assessment (if needed) be conducted to determine if potential bat hibernaculum may be present within the vicinity of the ESA. Guidance regarding habitat assessments is provided in the current *Range-Wide Indiana Bat Survey Guidelines*. If a potential hibernaculum is identified, DOW has recommended a 0.25-mile clearing buffer although limited clearing may be acceptable after consultation with ODNR.

The ESA lies within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered species. Nesting habitat is provided by dry grasslands, hayfields, and pastures. DOW has recommended that construction in these habitat types be avoided during the upland sandpiper nesting period (April 15 to July 31).

The ESA lies within the range of the northern harrier (*Circus hudsonius*), a state endangered bird. This species utilizes large grasslands as habitat, where they nest on the ground in nests constructed from sticks. DOW has recommended that construction in potential nesting habitat be avoided between May 15 and August 1.

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#### 4.6.3 POTENTIAL THREATENED AND ENDANGERED SPECIES HABITAT

The ODNR and USFWS indicated that the ESA lies within the range of several state and federally protected bat species which typically utilize forested areas and individual trees featuring exfoliating bark, cracked branches, and cavities as summer roost habitat. Habitat matching this description may be provided by successional hardwood woodland areas identified in select locations within the ESA. This habitat type generally occurs along the outer boundaries of the ESA as well as wooded areas bordering Pond NS-1 and Wetland NS-1. Successional hardwood woodlands comprised a total of 24.1 acres within the ESA and are shown in Figure 4 (Appendix A). Additional individual potential roost trees may be located within the ESA but were not searched for or documented during the environmental survey. WSP understands that tree clearing and/or trimming will occur between October 1<sup>st</sup> and March 31<sup>st</sup> as recommended by both agencies.

Potential nesting habitat for both the upland sandpiper and northern harrier may be provided by grassland habitat documented within the ESA, totaling 906.15 acres (Figure 4, Appendix A). Although avian species surveys were not conducted as part of the environmental survey, several northern harriers were identified during the field effort. These

observations coupled with the presence of large areas of potential nesting habitat have prompted initial discussions with DOW regarding potential avoidance and mitigation measures for construction in grassland habitats. Phone conversations with DOW in November 2020 have indicated that removal of potential northern harrier nesting habitat prior to the nesting period (May 15 to August 1) by mowing the vegetation would remove potential for impacts to these species. However, DOW indicated that while repeated mowing in the construction area may reduce nesting habitat suitability for northern harrier, it could potentially increase suitability for upland sandpiper nesting habitat.

## 5 SUMMARY

WSP ecologists surveyed the approximately 1,200 acre ESA on January 12, January 13, March 16, and May 27, 2021 by walking the ESA and evaluating for wetlands and other WoUS. WSP delineated 25 wetlands, 11 streams, and 6 ponds within the ESA. An additional 13 wetlands and 21 streams were previously delineated by GPD within the ESA.

The total wetland area within the ESA was 36.55 acres. These wetlands range in size from 0.01 to 12.50 acres within the limits of the ESA. Delineated wetlands included 33 PEM wetlands totaling 34.22 acres, 4 PSS wetlands totaling 0.71 acres, and one PFO wetland totaling 0.31 acres. Twenty-eight of the 38 delineated wetlands were identified as Category One wetlands. Ten delineated wetlands were identified as Category 2 wetlands. No Category 3 wetland areas were identified.

Nine of the 25 wetlands delineated by WSP appear to be hydrologically connected to surface waters that are tributaries to a TNW. These nine wetlands (totaling 3.97 acres) will likely be considered jurisdictional according to the 2020 *Navigable Water Protection Rule*. In addition, all 13 mitigation wetlands documented by GPD are assumed to be under USACE jurisdiction due to their inclusion in an ongoing Section 404 permit wetland mitigation effort.

Nineteen of the 25 wetlands delineated by WSP did not appear to be hydrologically connected to surface waters that are tributaries to a TNW. These wetlands (totaling 7.16 acres) are not likely to be considered jurisdictional according to the 2020 *Navigable Water Protection Rule*. Therefore, these wetlands will likely be considered isolated and subject to the State of Ohio's Isolated Wetland Law.

A total of 32 streams (16,277 linear feet) were identified within the ESA. These include nine ephemeral streams that will likely be regulated by the OEPA, two intermittent stream that will likely be considered jurisdictional by the USACE, and 21 streams assessed by GPD for which flow regime was not indicated but are expected to fall under USACE jurisdiction. All 11 WSP-delineated streams were evaluated using the HHEI methodology and were identified as Modified, Small Drainage, Warmwater Streams. All streams within the ESA lie within watersheds designated as "eligible" for the OEPA Section 401 Water Quality Certification (WQC) for the USACE 2017 Nationwide Permits (NWPs).

The results discussed in this report are confined to the ESA limits described in earlier sections and depicted on Figure 3. Similarly, the data described is often for an area that is larger than the actual Project limits-of-disturbance for construction, therefore, lengths and acreages listed in the report are likely not representative of actual Project impacts which are often determined later after Project design and engineering is completed. If it is determined that this Project will impact Waters of the U.S., actual impacted lengths and acreages will be supplied in a permit application. Additionally, the results presented in this report should not be construed as a jurisdictional determination. If a jurisdictional determination is desired, one can be acquired through obtaining an approved Jurisdictional Determination (JD) or Preliminary Jurisdictional Determination (PJD) through the USACE.

Wetlands, excavated ponds, stream channels, and rivers are regulated by the USACE and OEPA. Any encroachments, fill material, or crossings of these areas will require permit authorization from the associated state and federal agencies. Should it be determined that the Project may impact potentially regulated waters, WSP can work to determine whether a JD or PJD is recommended, as well as support submittal for necessary permits.

Coordination with the USFWS and ODNR as well as habitat observations made during the environmental surveys indicate that potential roosting habitat for state and federal threatened and endangered bat species is present within the ESA. In addition, grassland habitat within the ESA may also provide suitable nesting habitat for upland sandpiper and northern harrier. Several northern harriers were identified within the ESA during the environmental surveys.

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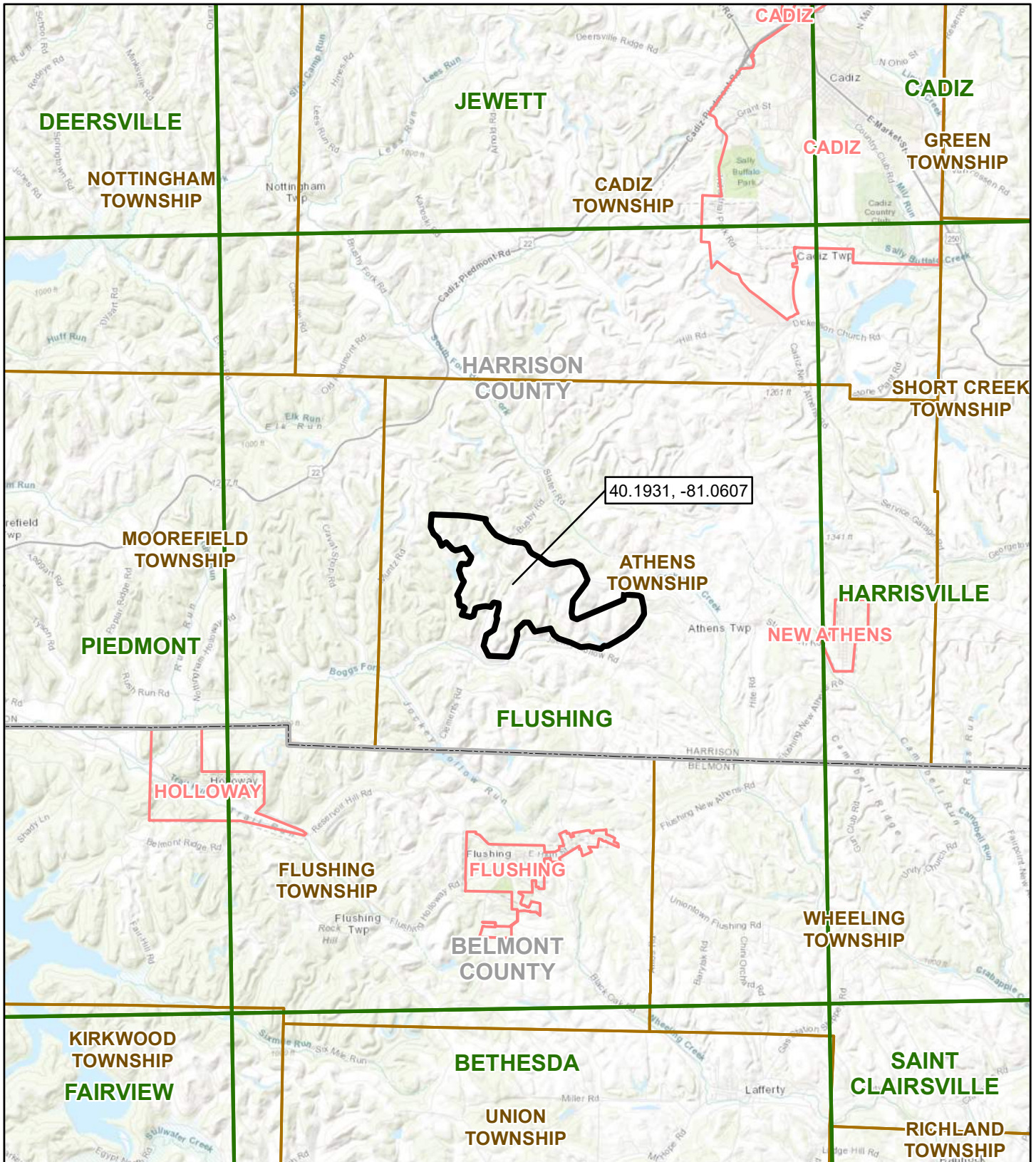
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# APPENDIX A

## FIGURES



-  Environmental Survey Area
-  Municipal Boundary
-  Township Boundary
-  County Boundary
-  USGS 24k Topo Quad Boundary

Sources:  
Topo (USGS)  
Quad Boundaries (USGS)


Coordinate System:  
State Plane Ohio North  
NAD 1983

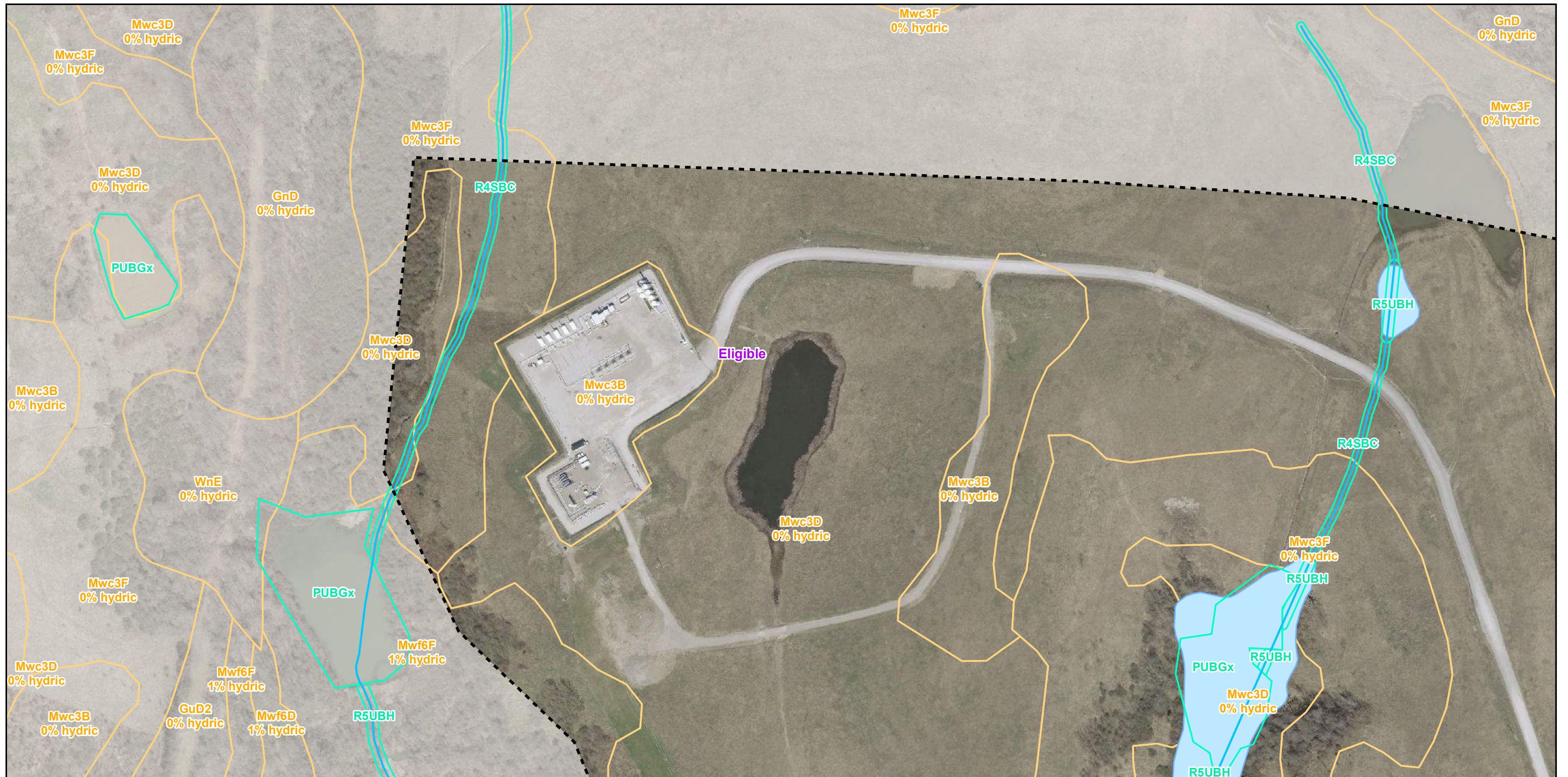
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Nottingham Solar Site  
**Figure 1. Project Location Map**



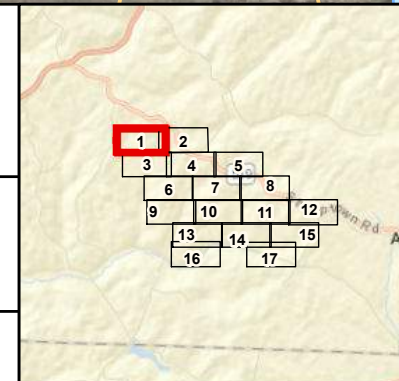
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Sources:  
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 Hydrography (USGS)  
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 Soil Map Units (USDA)

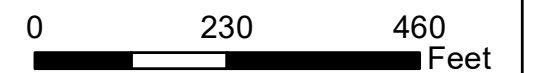
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March 19, 2021

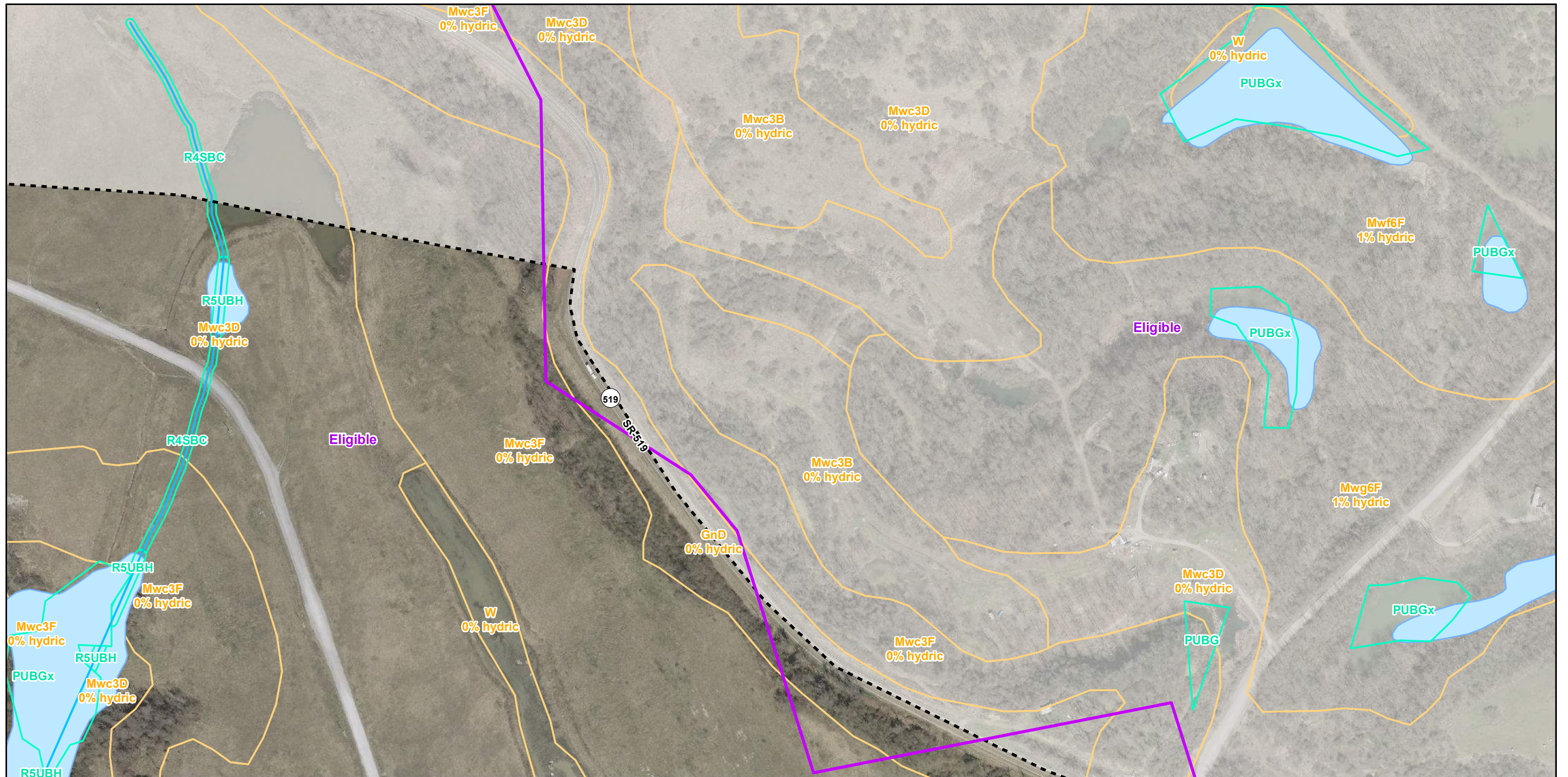


NOTTINGHAM SOLAR SITE

Figure 2. Environmental Basemap



- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area



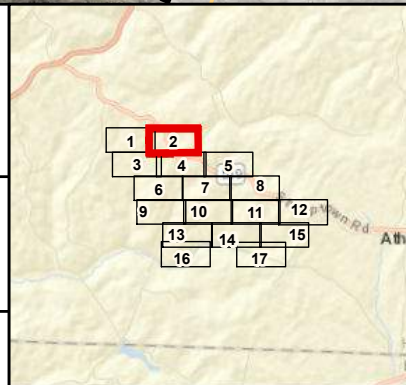
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- NHD Stream
- NHD Waterbody
- NWI Wetlands
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- FEMA 100-Yr Floodplain
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Sources:  
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March 19, 2021



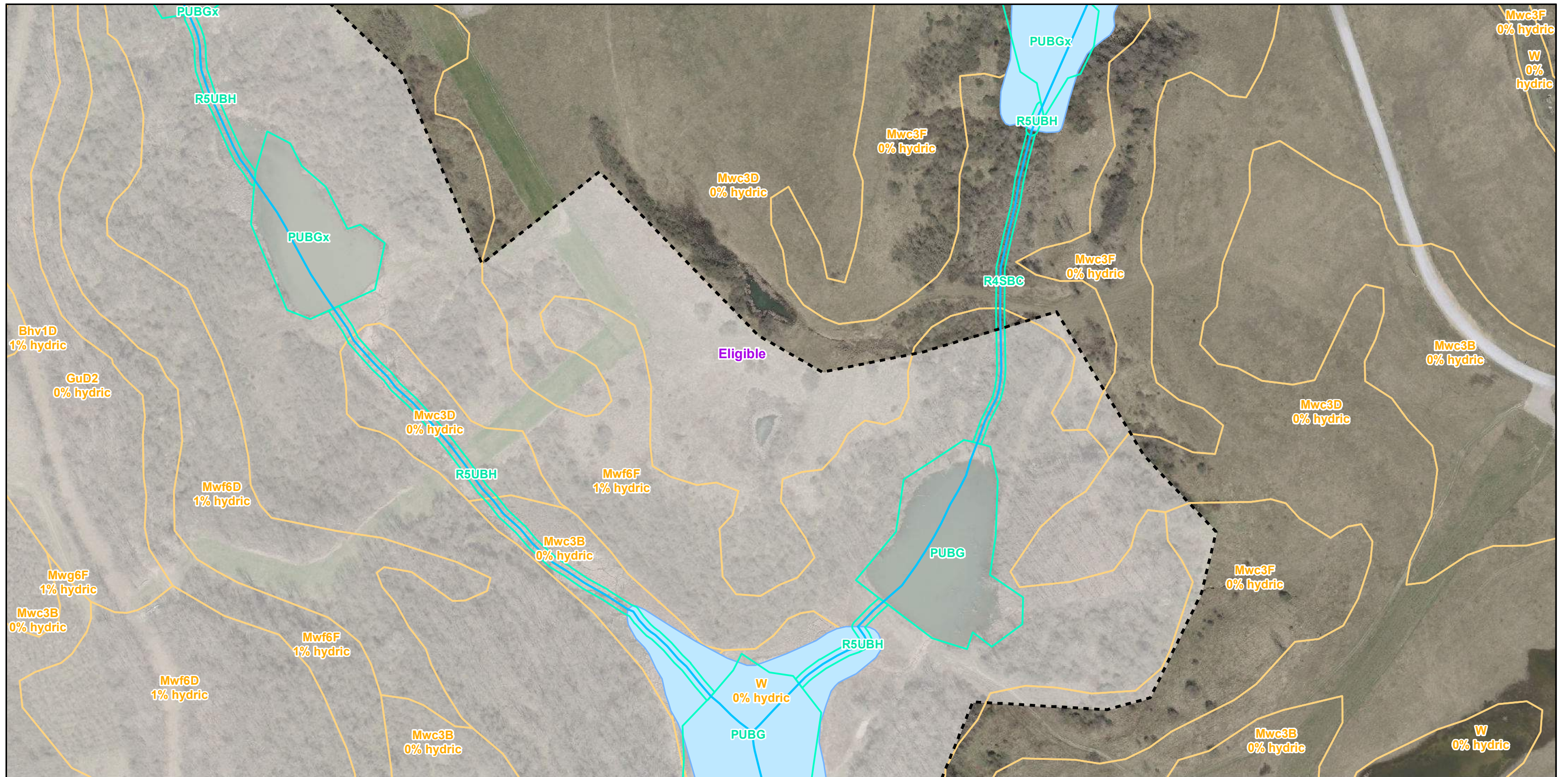
NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**

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Feet



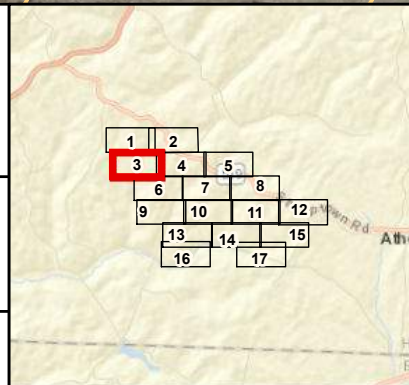
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- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
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March 19, 2021



NOTTINGHAM SOLAR SITE

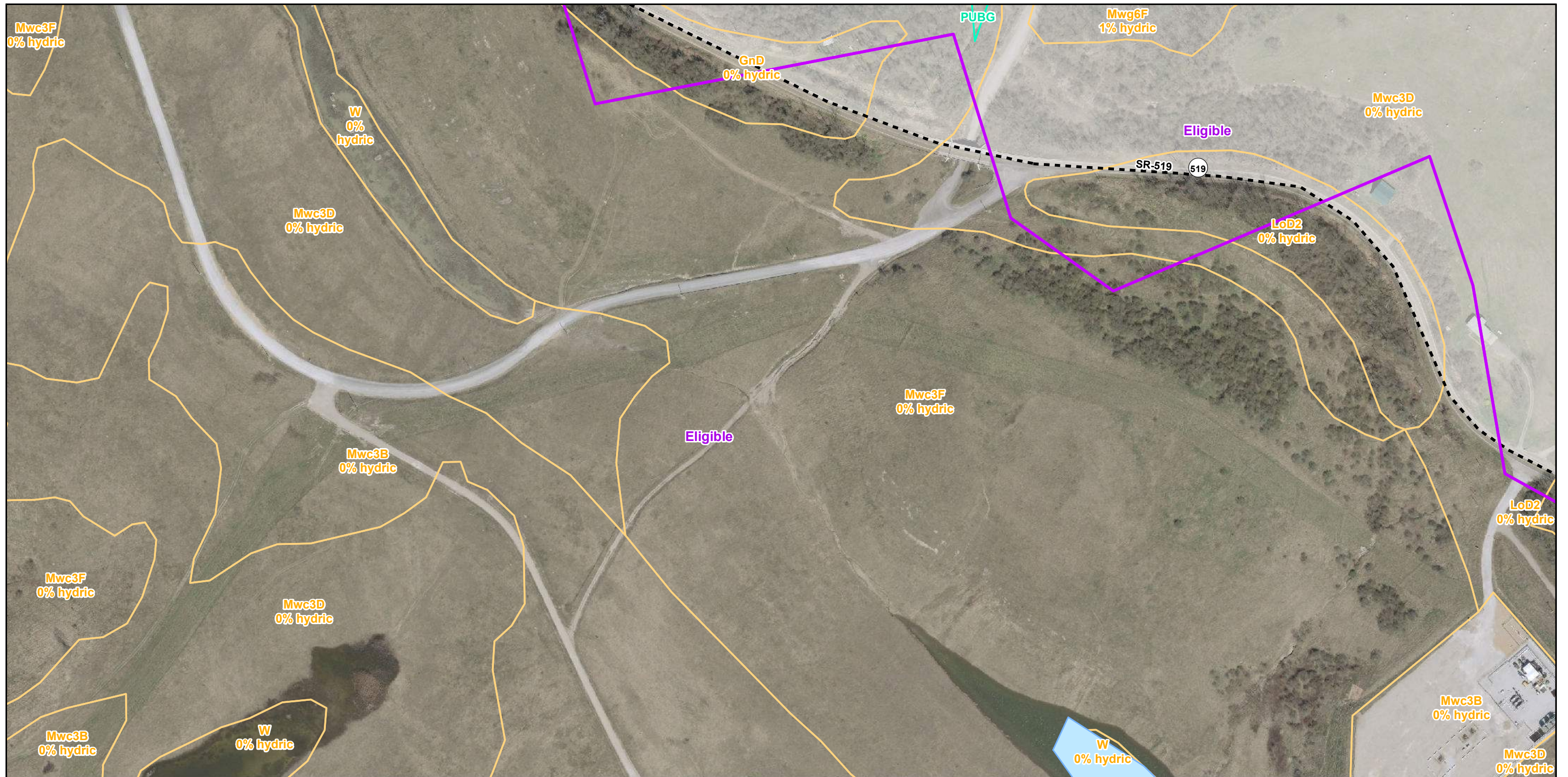
**Figure 2. Environmental Basemap**

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Feet



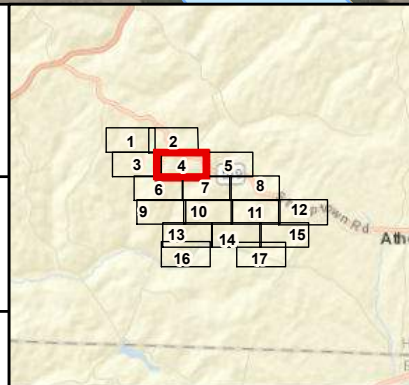
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- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
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 Road Labels (ODOT)  
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March 19, 2021



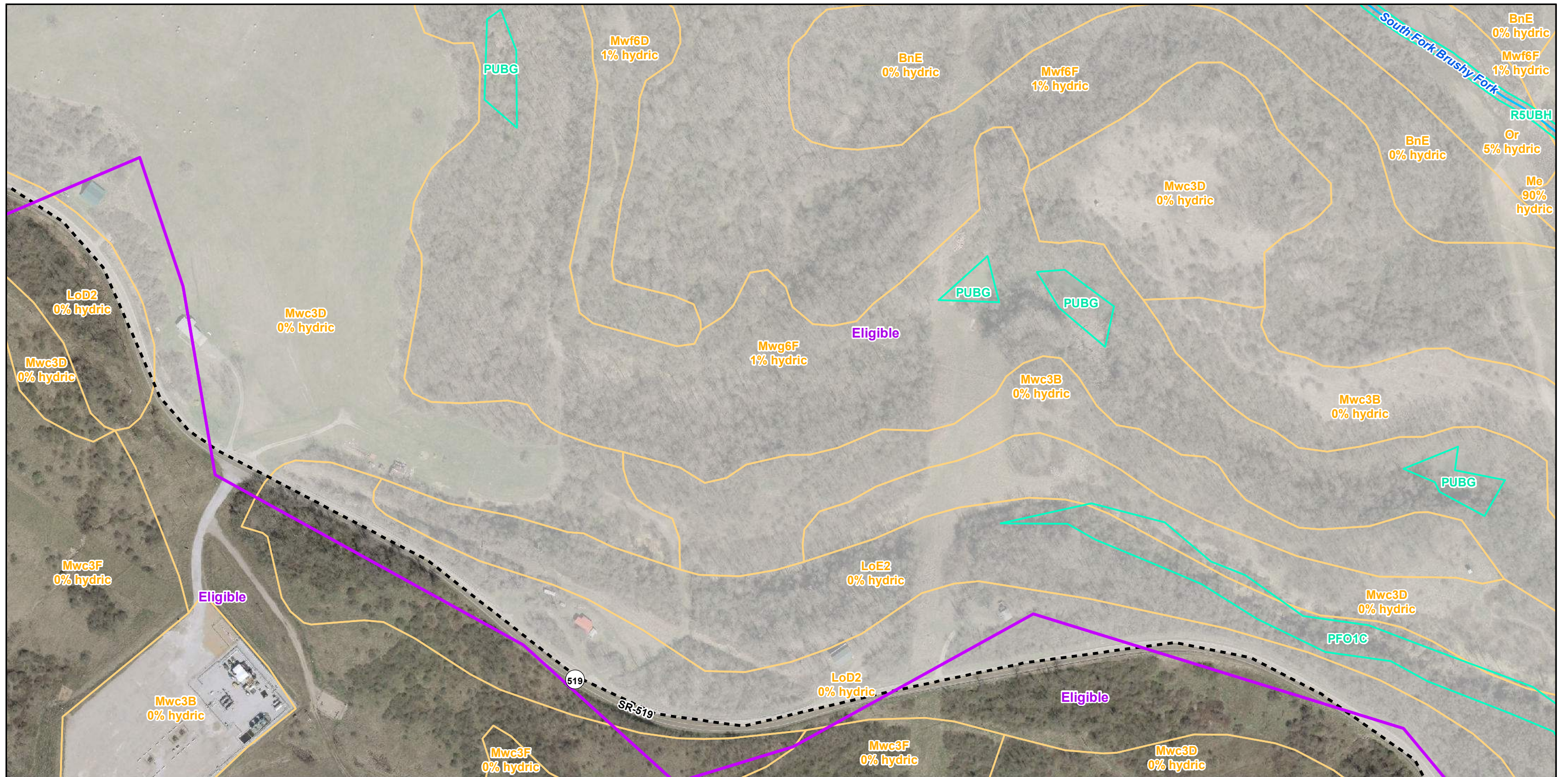
NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**

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Feet

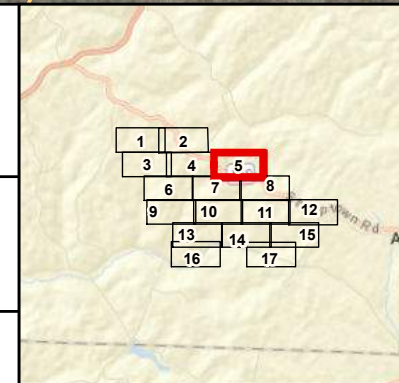


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
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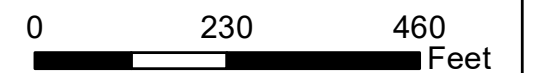
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March 19, 2021



NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**



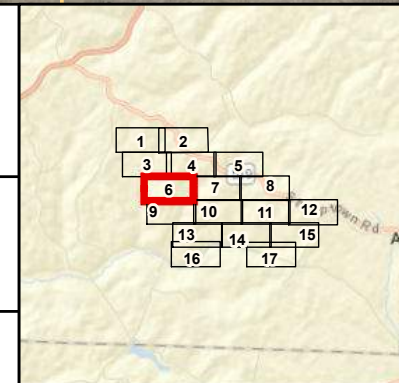


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

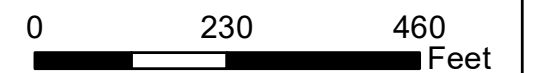
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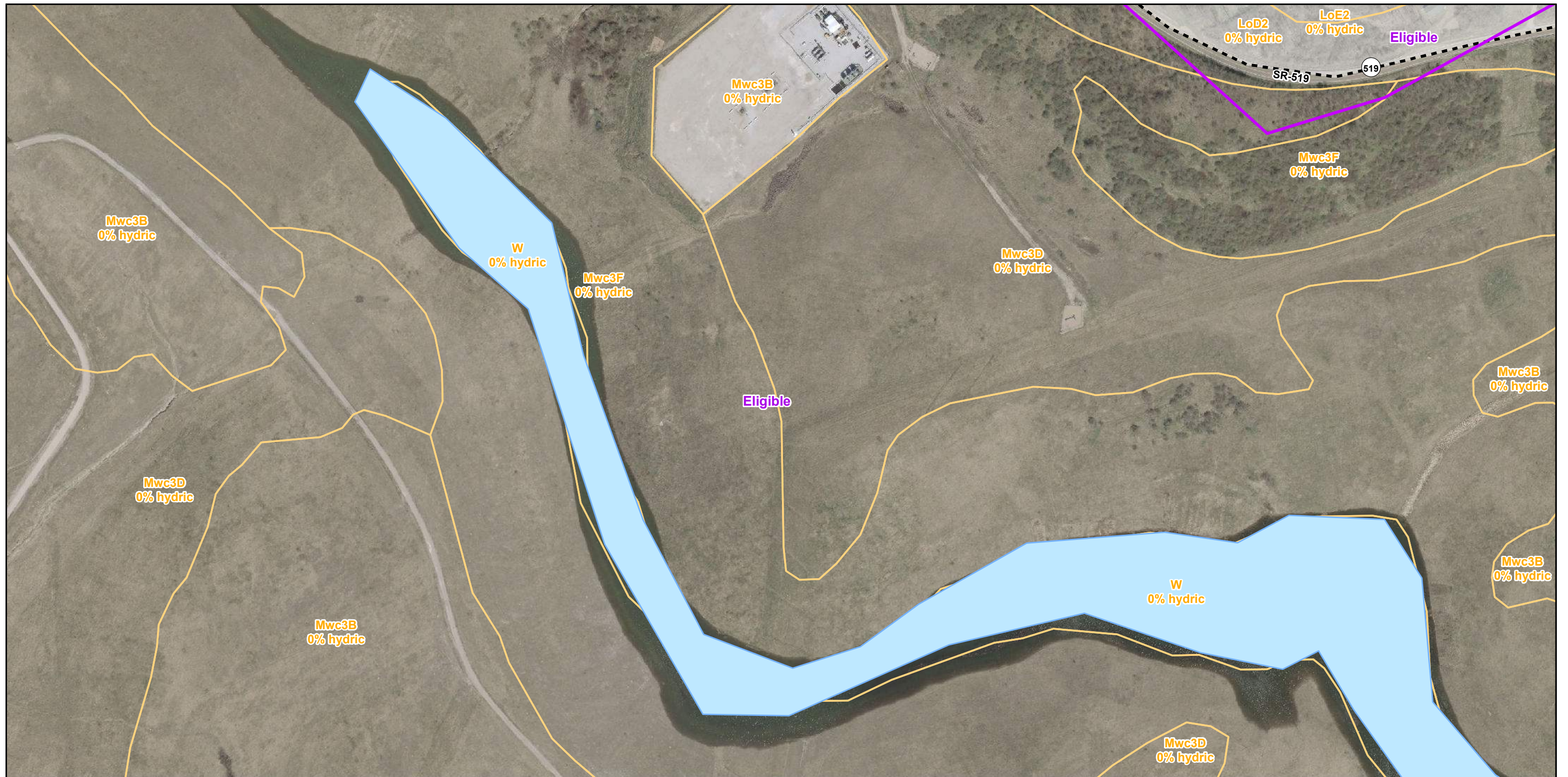
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NOTTINGHAM SOLAR SITE  
**Figure 2. Environmental Basemap**







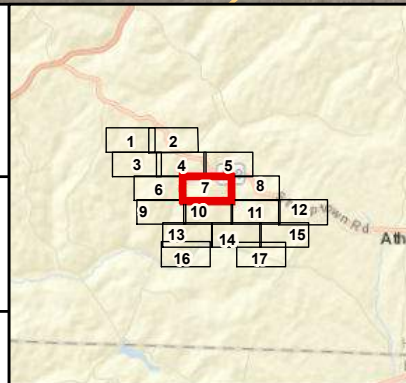
**Page 7 of 17**

- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

Coordinate System:  
 Ohio State Plane North  
 NAD 1983

March 19, 2021



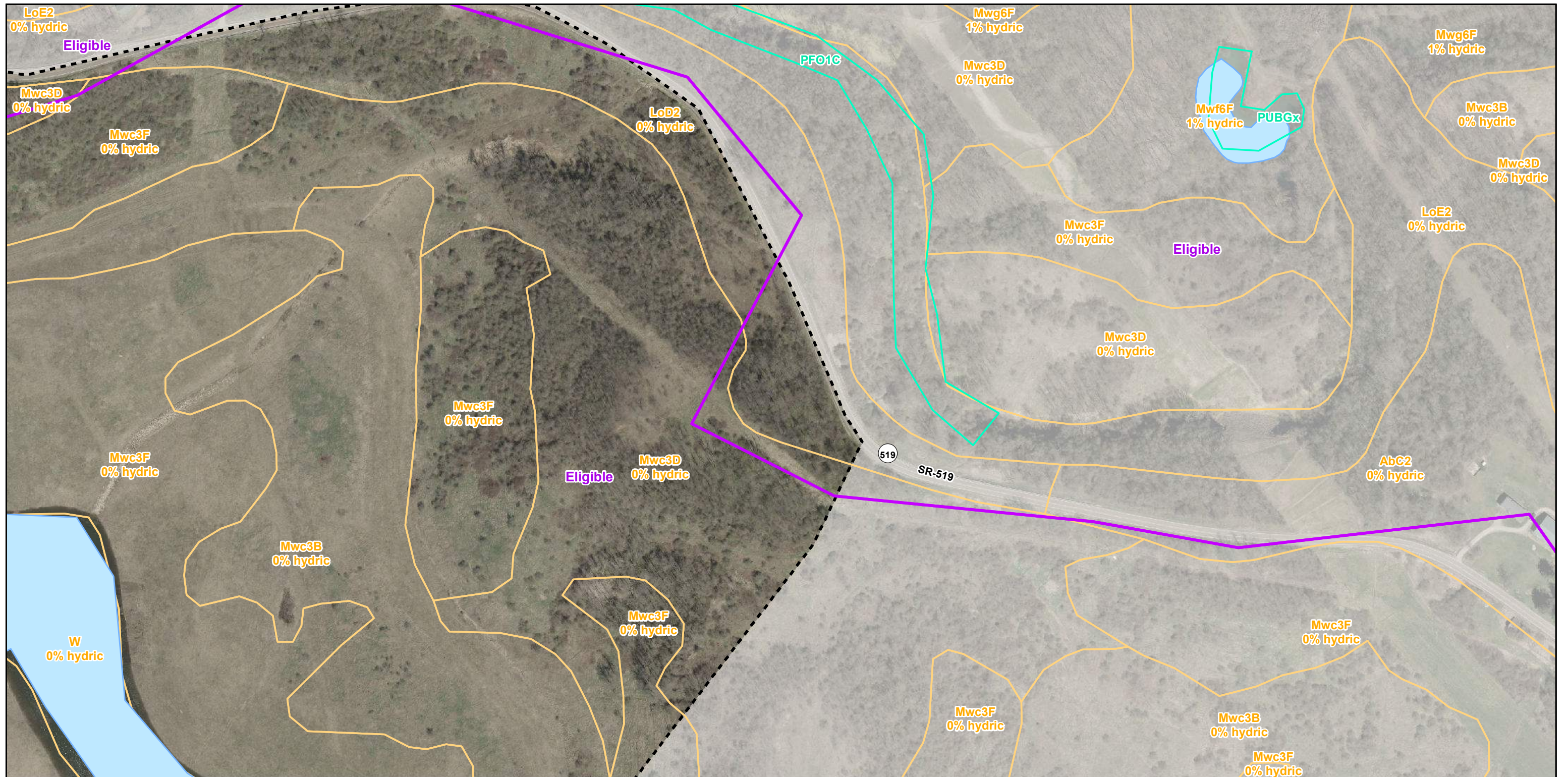
NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**

N

0      230      460

Feet



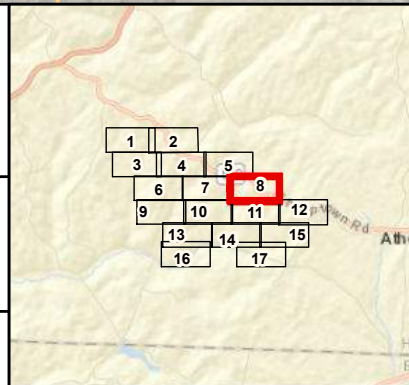
**Page 8 of 17**

- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

Coordinate System:  
 Ohio State Plane North  
 NAD 1983

March 19, 2021



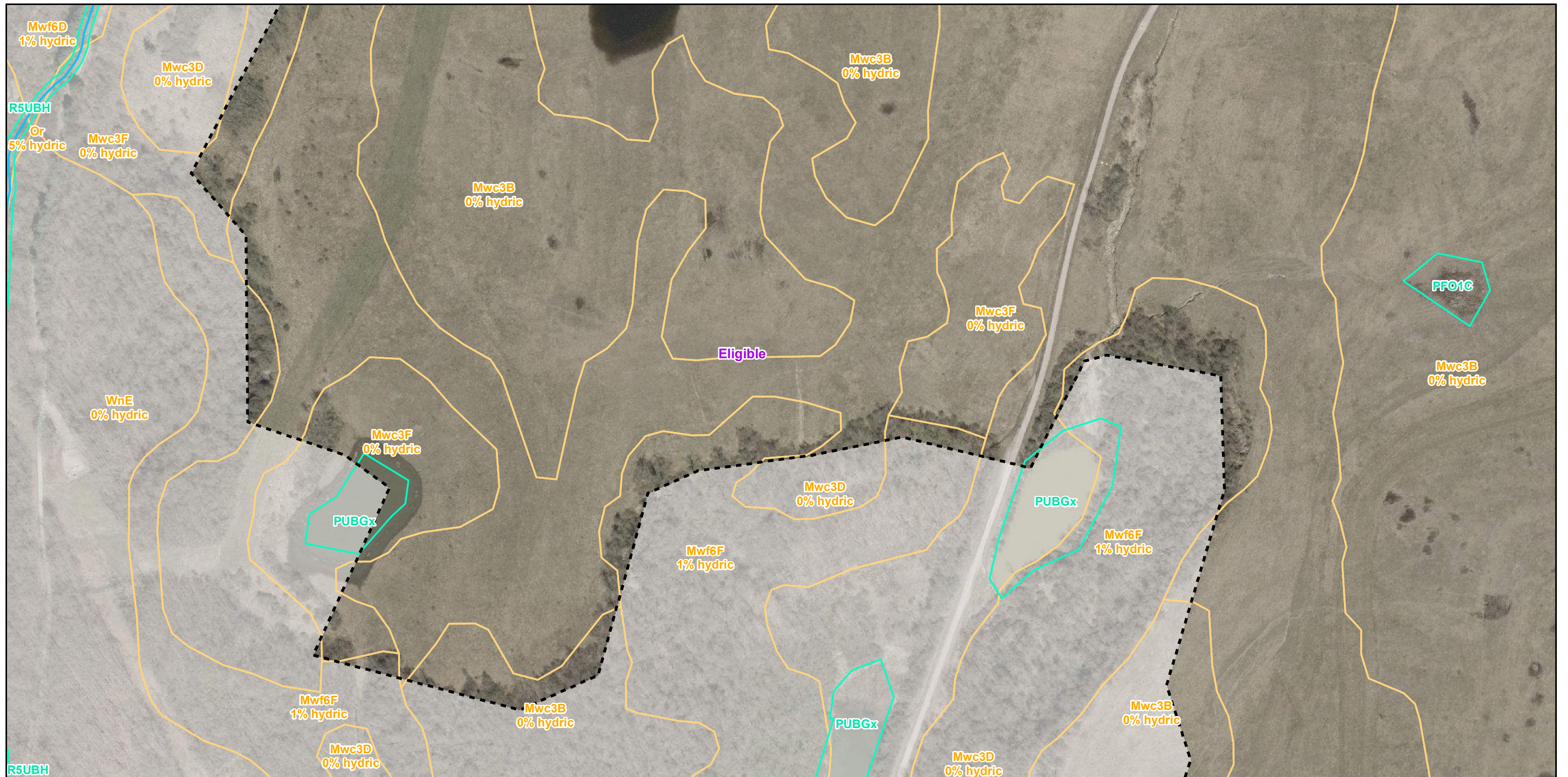
NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**

N

0                      230                      460

Feet

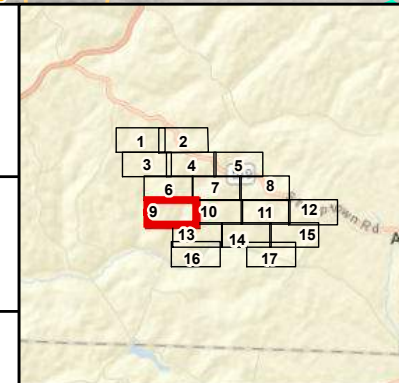


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

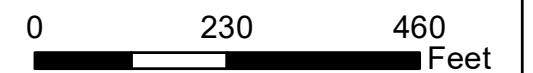
Coordinate System:  
 Ohio State Plane North  
 NAD 1983

March 19, 2021



NOTTINGHAM SOLAR SITE

Figure 2. Environmental Basemap



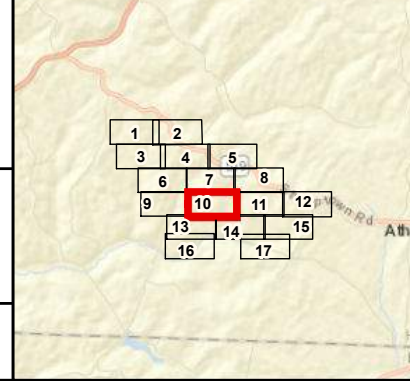


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

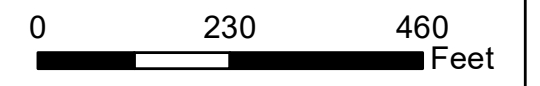
Sources:  
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 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

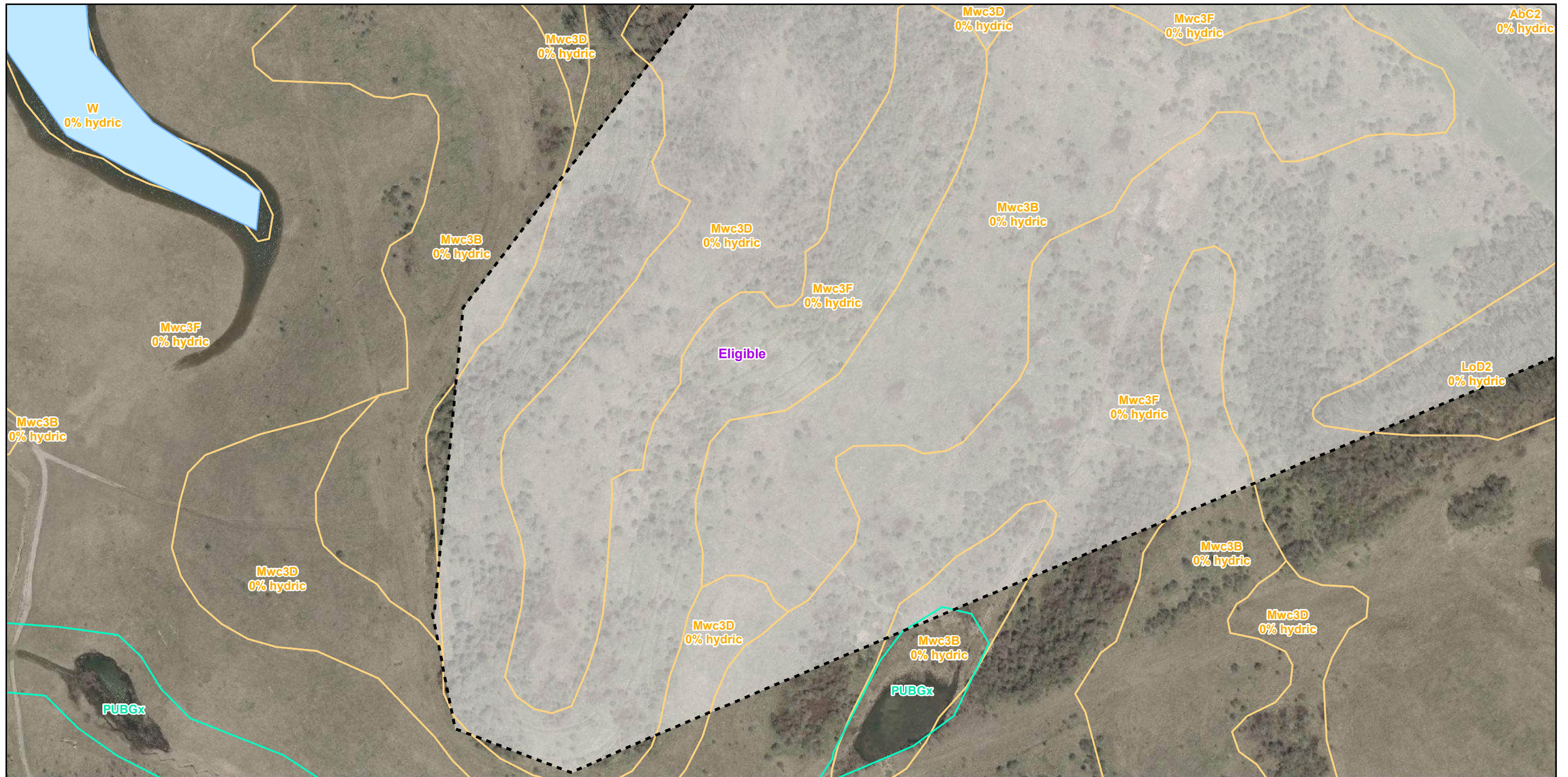
Coordinate System:  
 Ohio State Plane North  
 NAD 1983

March 19, 2021










NOTTINGHAM SOLAR SITE  
**Figure 2. Environmental Basemap**





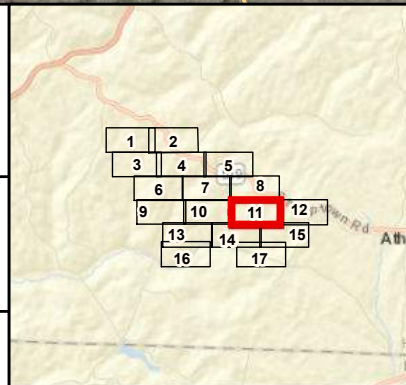
Page 11 of 17

-  NHD Stream
-  NHD Waterbody
-  NWI Wetlands
-  Soil Map Unit
-  FEMA 100-Yr Floodplain
-  Ohio EPA 401 Eligibility
-  Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)


Coordinate System:  
 Ohio State Plane North  
 NAD 1983


March 19, 2021

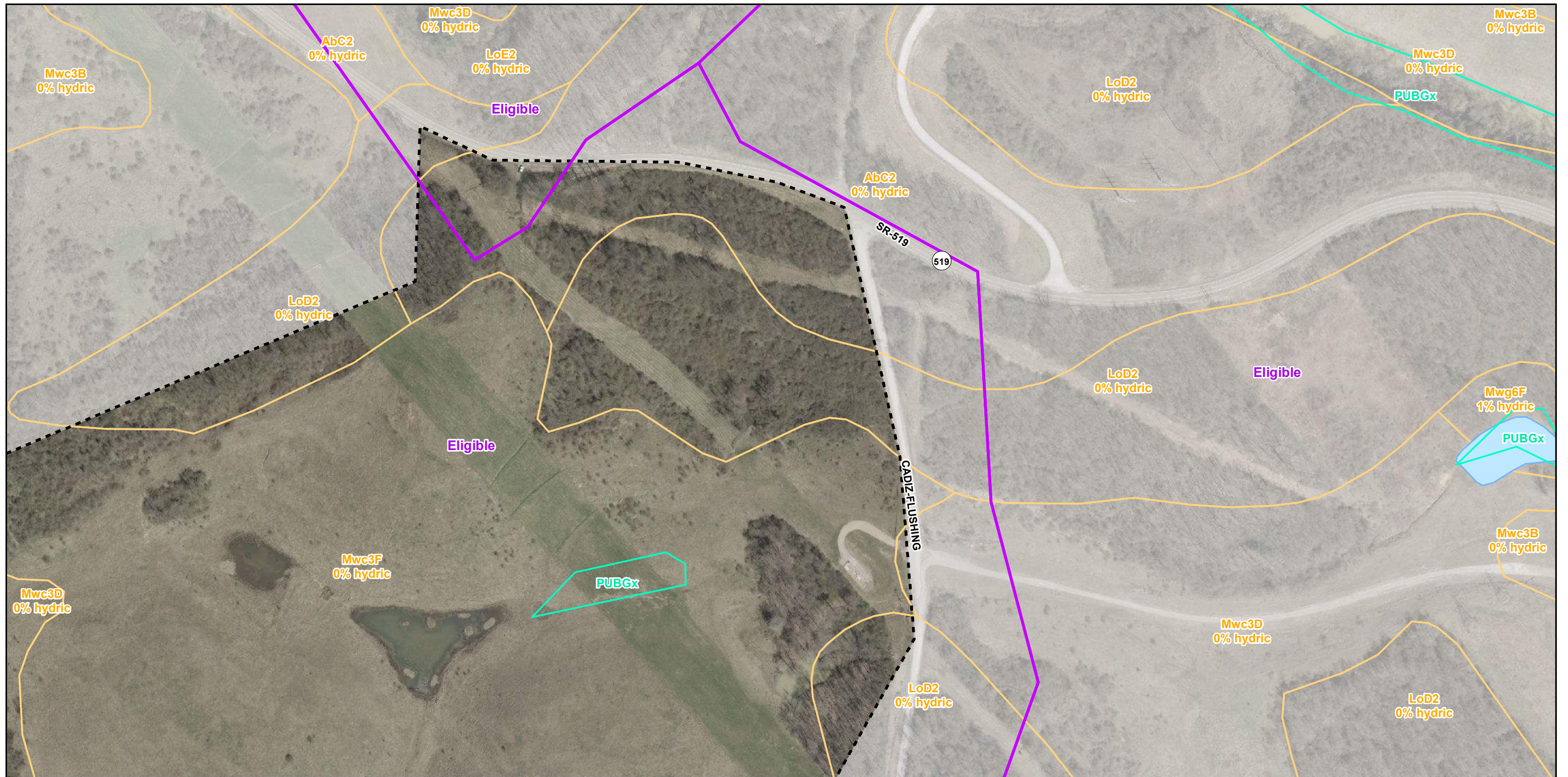


NOTTINGHAM SOLAR SITE








**Figure 2. Environmental Basemap**



 0 230 460 Feet



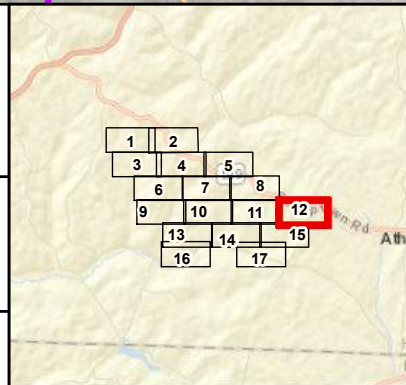
Page 12 of 17

-  NHD Stream
-  NHD Waterbody
-  NWI Wetlands
-  Soil Map Unit
-  FEMA 100-Yr Floodplain
-  Ohio EPA 401 Eligibility
-  Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)


Coordinate System:  
 Ohio State Plane North  
 NAD 1983


March 19, 2021

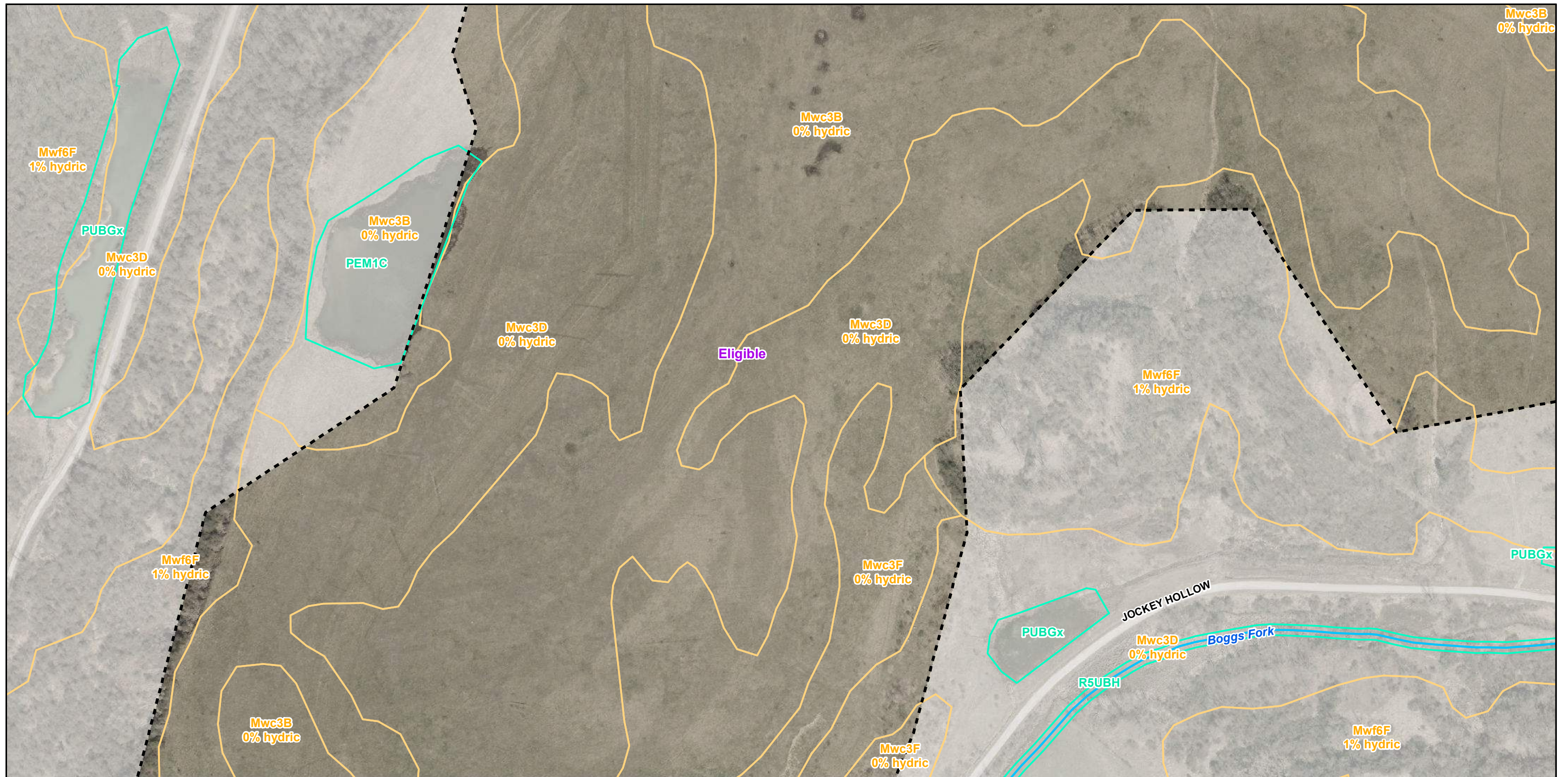


NOTTINGHAM SOLAR SITE








**Figure 2. Environmental Basemap**



 0 230 460 Feet



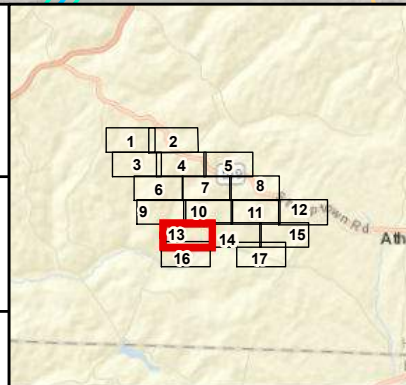
Page 13 of 17

-  NHD Stream
-  NHD Waterbody
-  NWI Wetlands
-  Soil Map Unit
-  FEMA 100-Yr Floodplain
-  Ohio EPA 401 Eligibility
-  Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)


Coordinate System:  
 Ohio State Plane North  
 NAD 1983


March 19, 2021

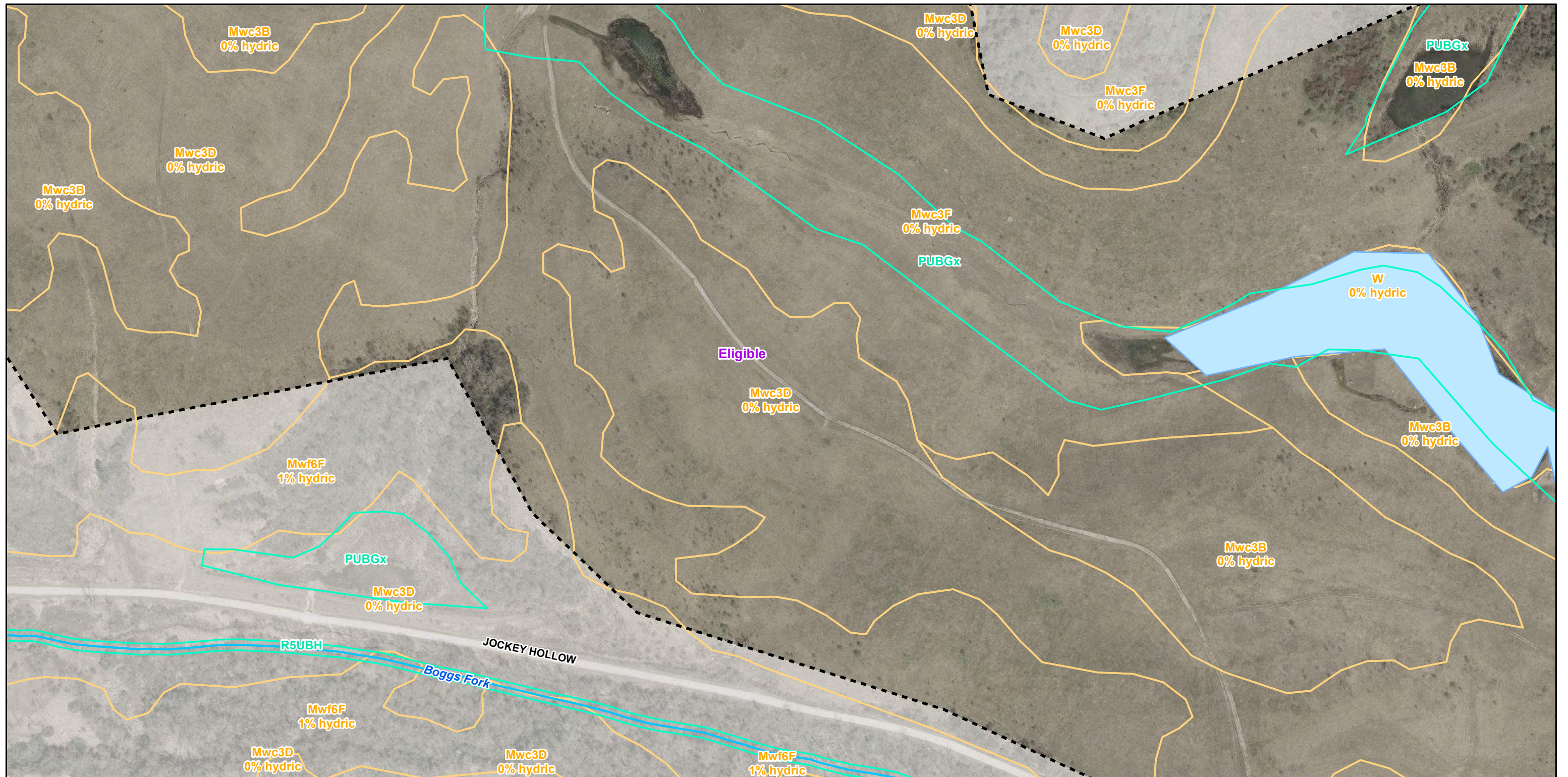


NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**



 0 230 460 Feet

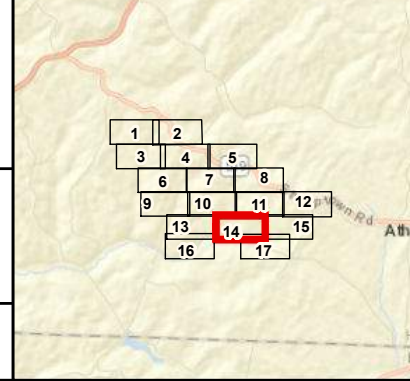


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

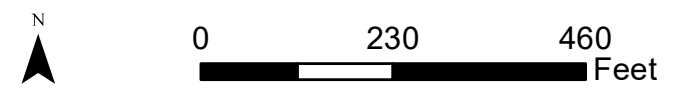
Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

Coordinate System:  
 Ohio State Plane North  
 NAD 1983

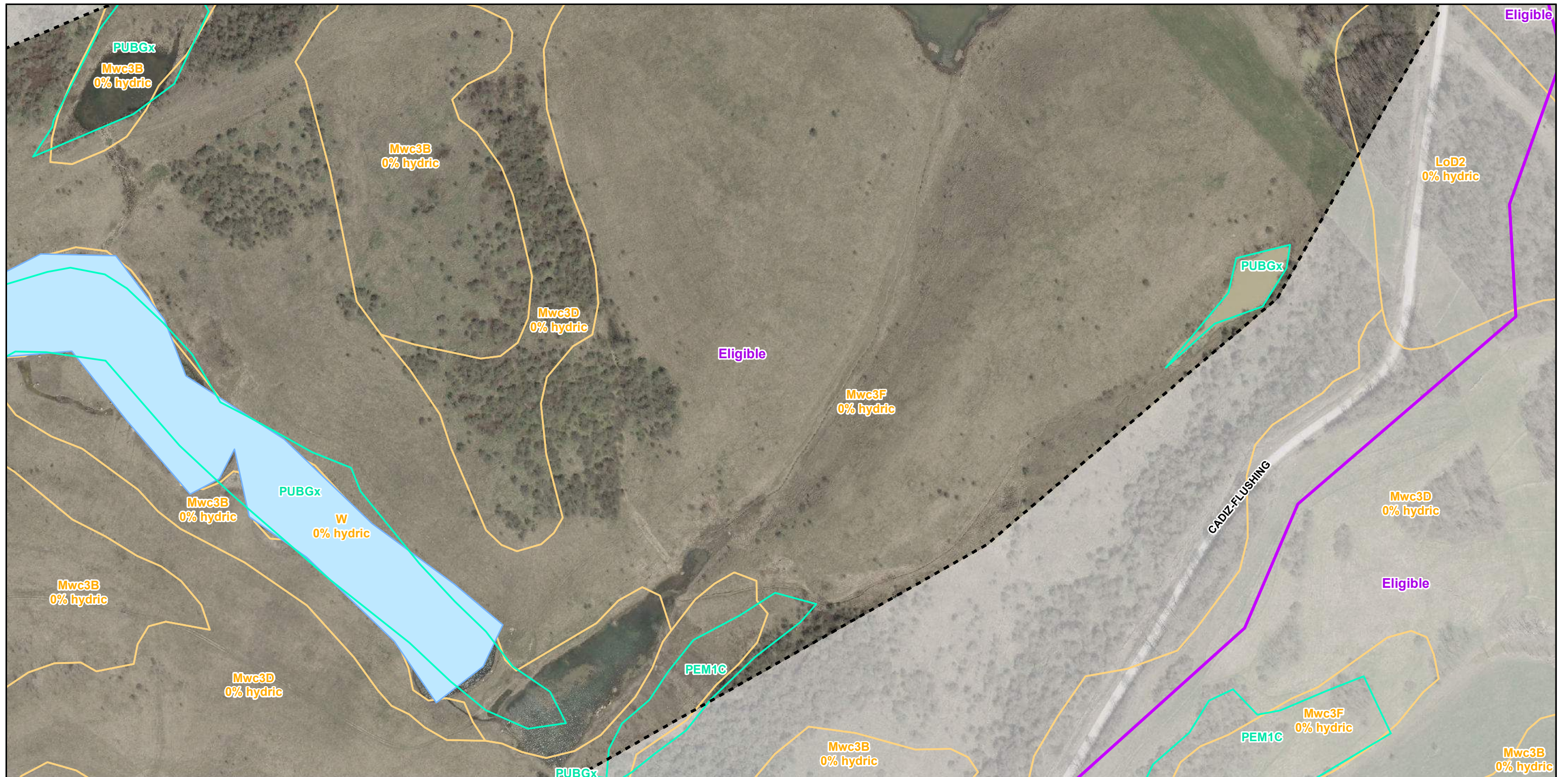
March 19, 2021



NOTTINGHAM SOLAR SITE  
**Figure 2. Environmental Basemap**





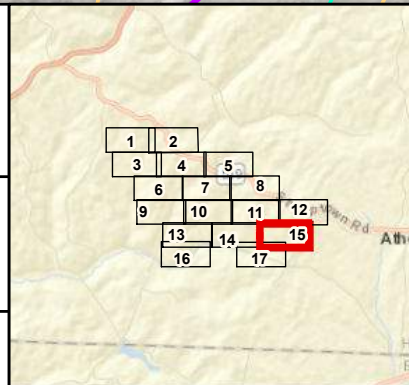


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Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

Coordinate System:  
 Ohio State Plane North  
 NAD 1983

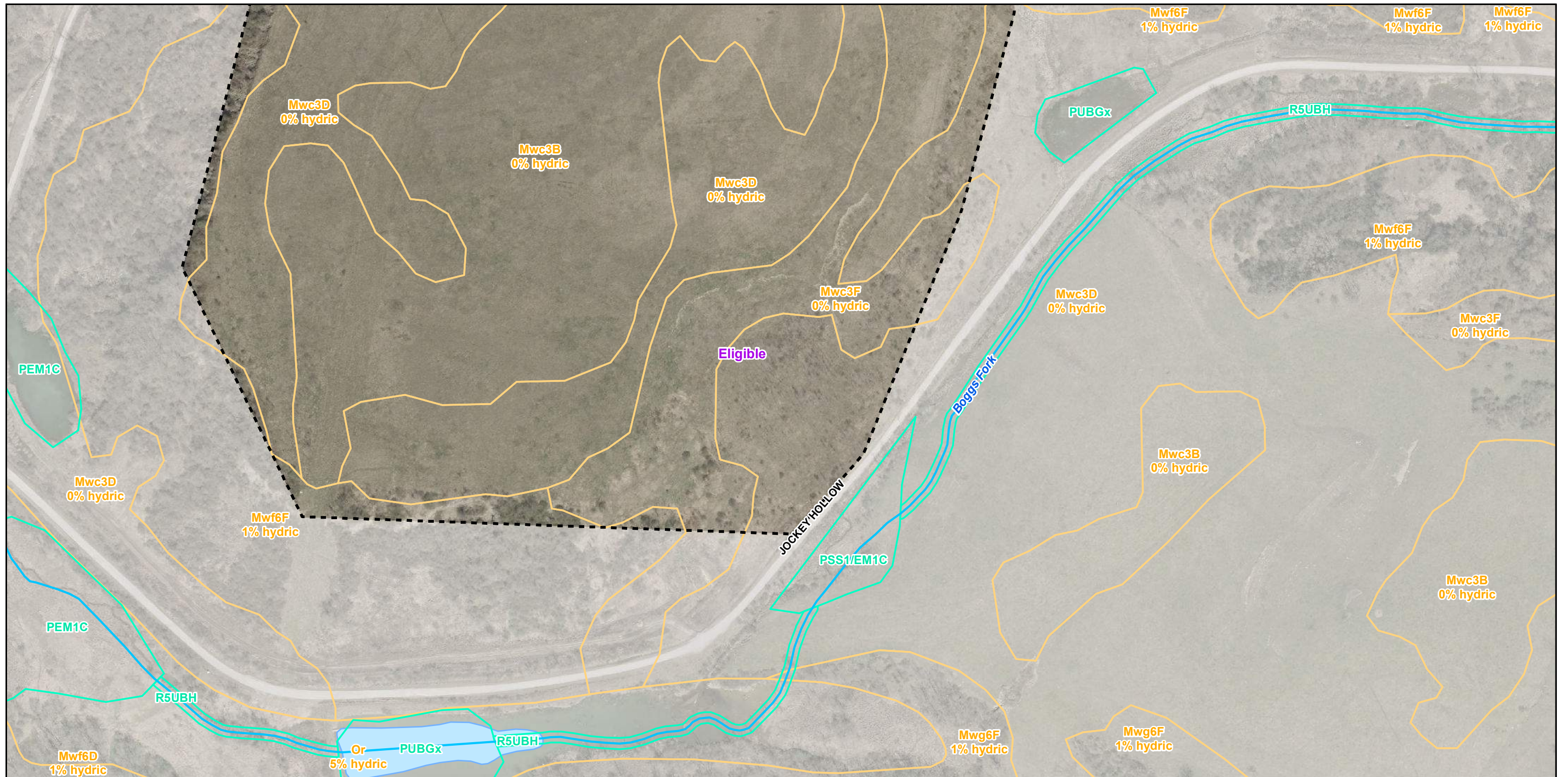
March 19, 2021



NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**

0
230
460
Feet

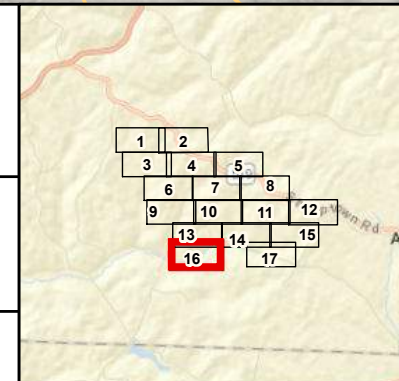


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

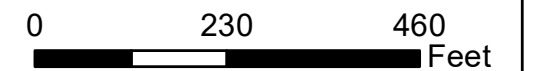
Coordinate System:  
 Ohio State Plane North  
 NAD 1983

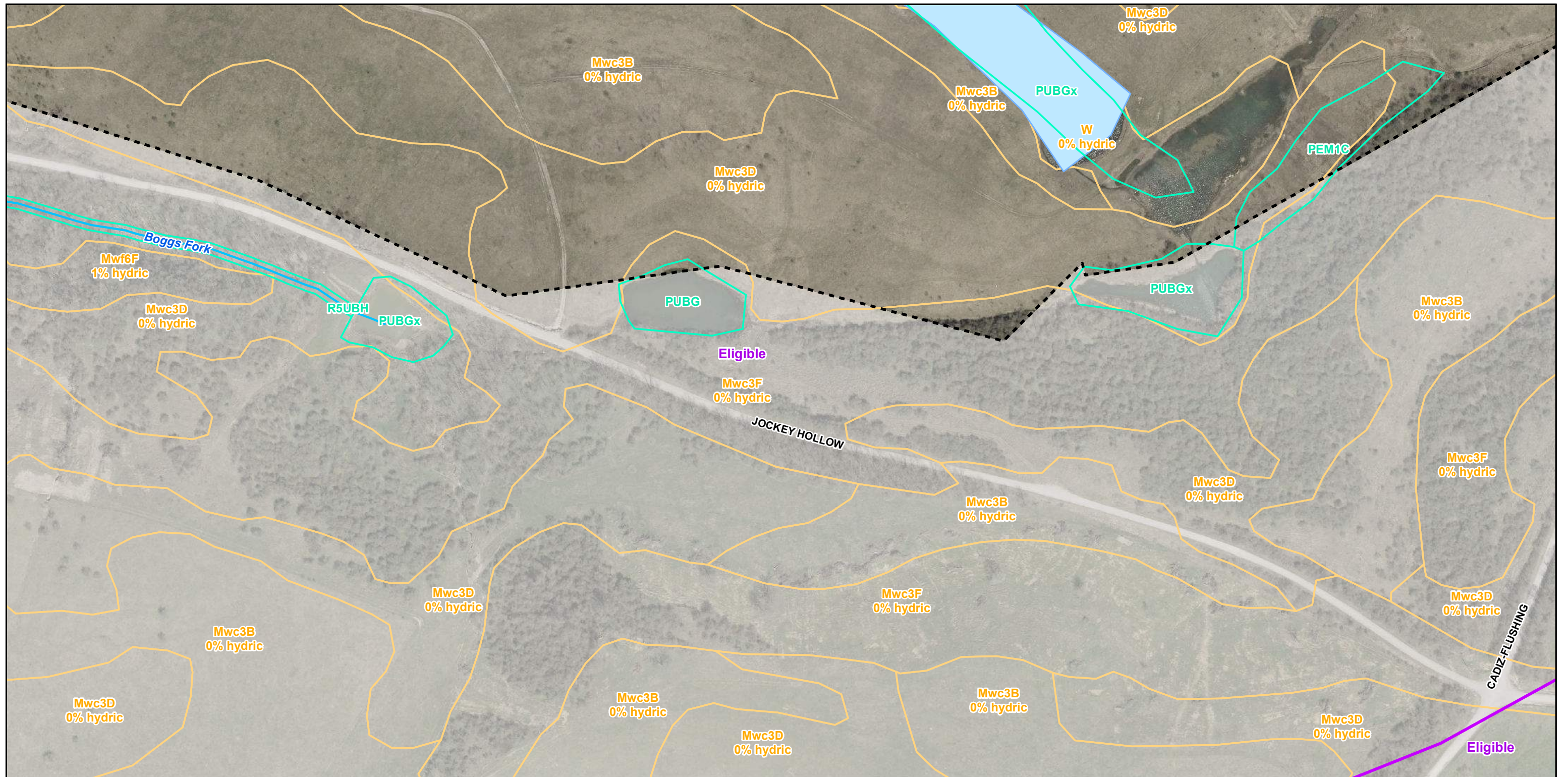
March 19, 2021



NOTTINGHAM SOLAR SITE

**Figure 2. Environmental Basemap**



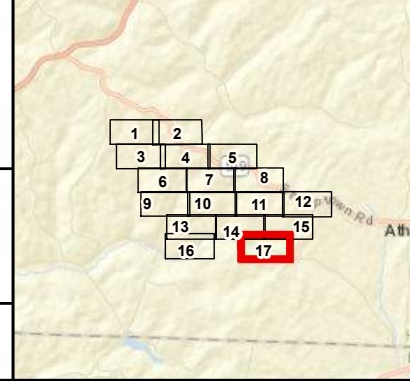


- NHD Stream
- NHD Waterbody
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- Ohio EPA 401 Eligibility
- Environmental Survey Area

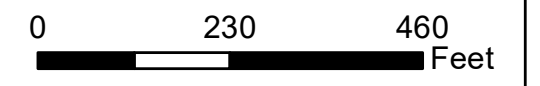
Sources:  
 Imagery (OGRIP)  
 Road Labels (ODOT)  
 Wetlands (USFWS)  
 Hydrography (USGS)  
 Floodplains (FEMA)  
 Soil Map Units (USDA)

Coordinate System:  
 Ohio State Plane North  
 NAD 1983

March 19, 2021



NOTTINGHAM SOLAR SITE  
**Figure 2. Environmental Basemap**



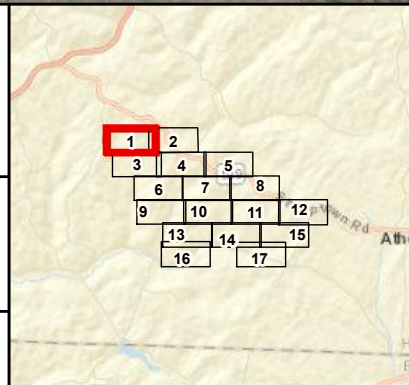


● Upland Data Point	— Consol Delineated Stream	<b>Page 1 of 17</b>
● Wetland Data Point	— Consol Delineated Wetland	
— WSP Delineated Stream		
— WSP Delineated Wetland		
— WSP Delineated Pond		
— Environmental Survey Area		

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

Coordinate System:  
Ohio State Plane North  
NAD 1983

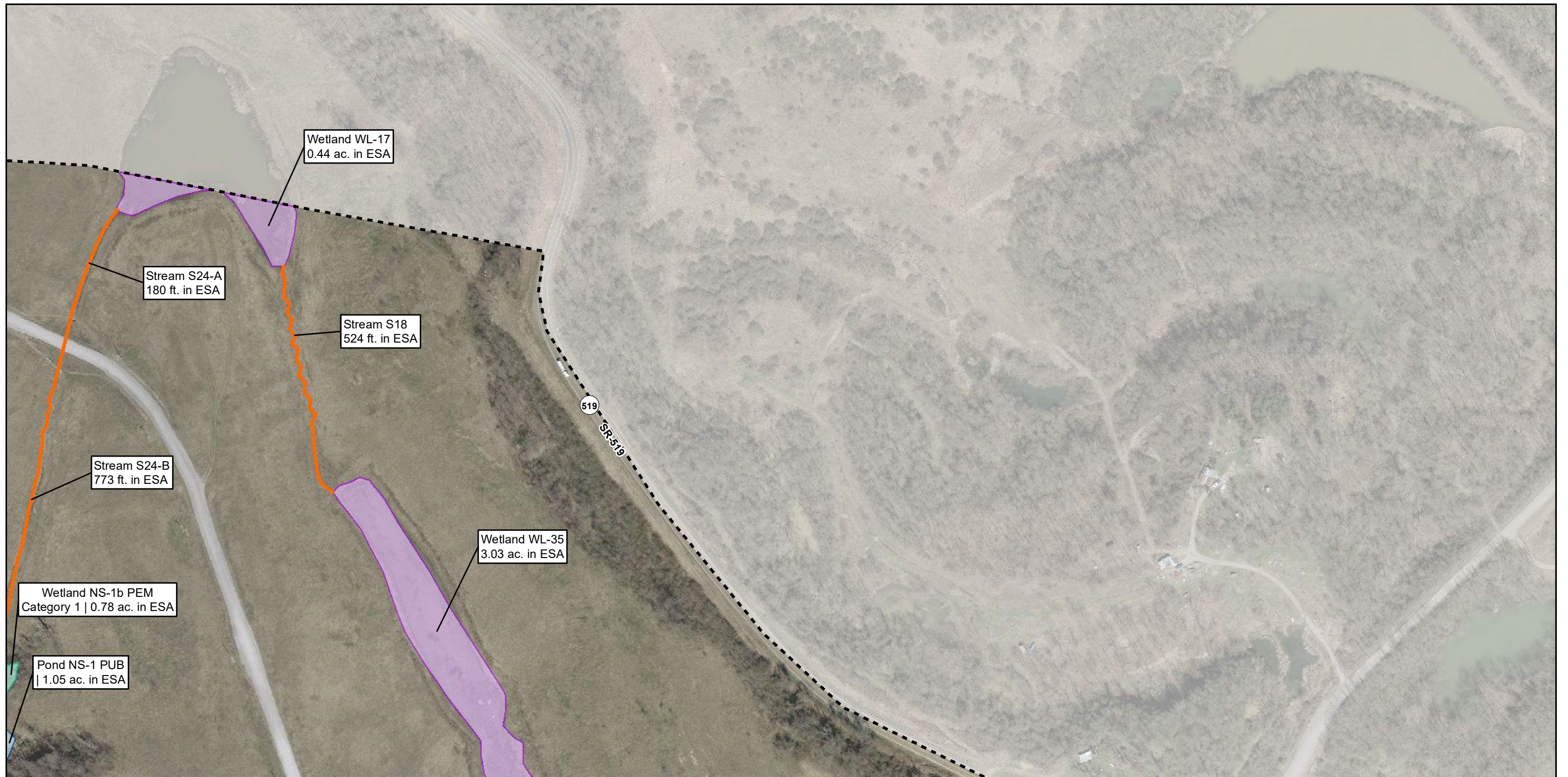
March 26, 2021



NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

0 200 400 Feet

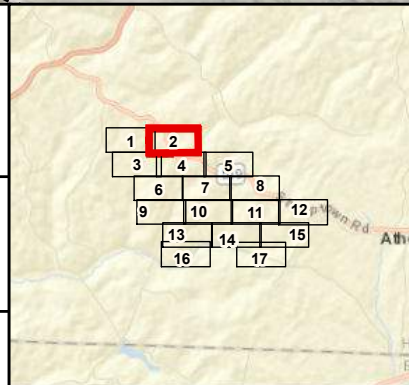


● Upland Data Point	— Consol Delineated Stream	<b>Page 2 of 17</b>
● Wetland Data Point	■ Consol Delineated Wetland	
— WSP Delineated Stream		
■ WSP Delineated Wetland		
■ WSP Delineated Pond		
--- Environmental Survey Area		

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)


Coordinate System:  
Ohio State Plane North  
NAD 1983

March 26, 2021



NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**



N

0      200      400  
Feet



<ul style="list-style-type: none"> <li><span style="color: orange;">●</span> Upland Data Point</li> <li><span style="color: blue;">●</span> Wetland Data Point</li> <li><span style="color: blue;">—</span> WSP Delineated Stream</li> <li><span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> WSP Delineated Wetland</li> <li><span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> WSP Delineated Pond</li> <li><span style="border-bottom: 1px dashed black; width: 15px; display: inline-block;"></span> Environmental Survey Area</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid orange; width: 20px; display: inline-block;"></span> Consol Delineated Stream</li> <li><span style="background-color: lightpurple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Consol Delineated Wetland</li> </ul>	<p><b>Page 3 of 17</b></p>
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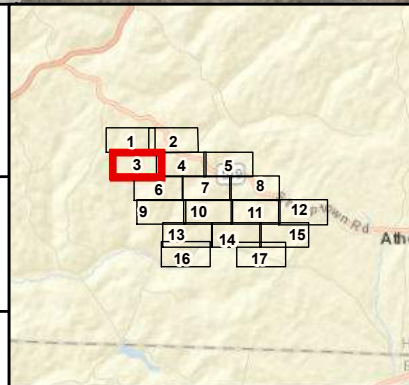
Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

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Coordinate System:  
Ohio State Plane North  
NAD 1983

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March 26, 2021



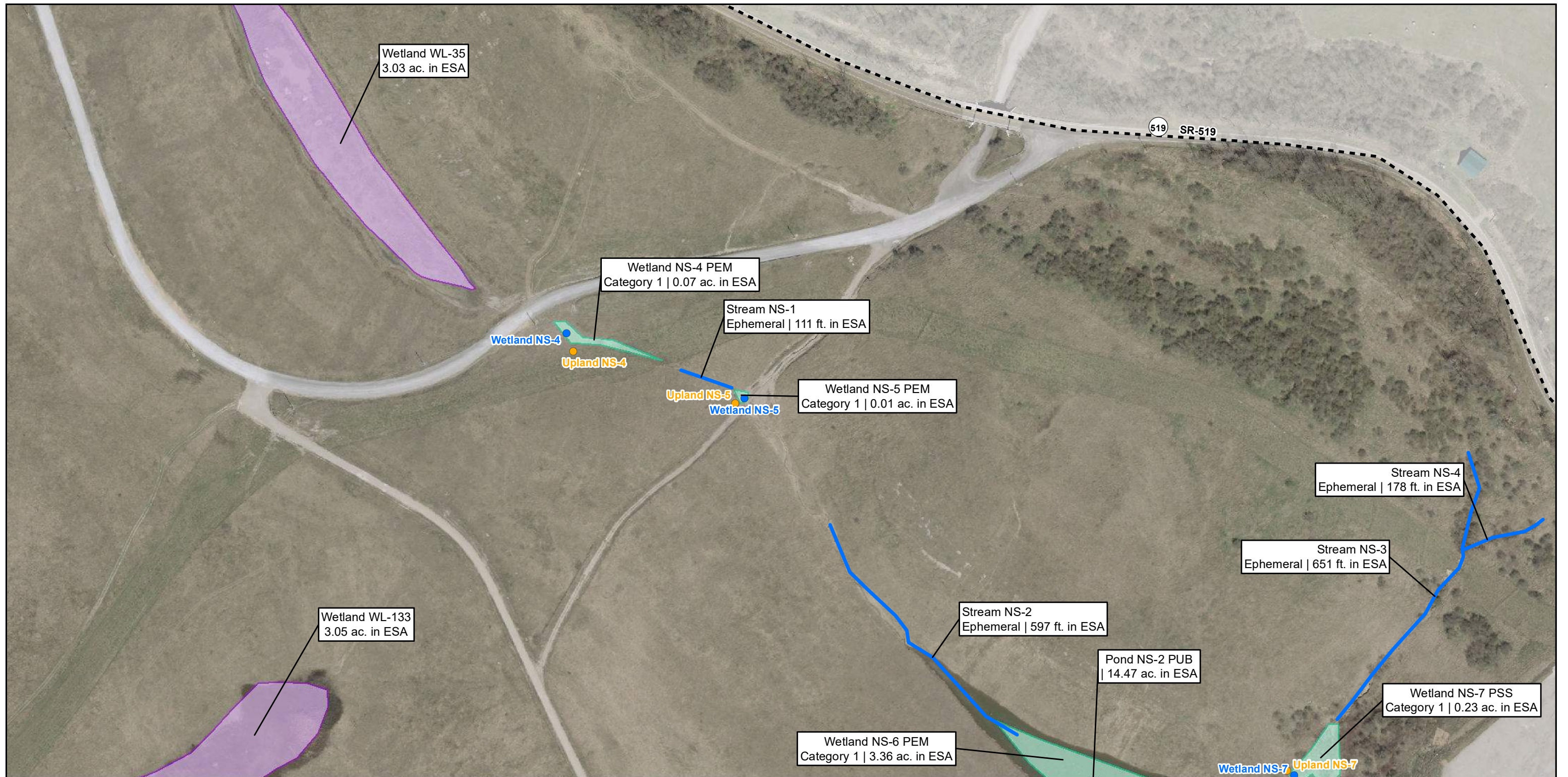
NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

N

0      200      400

Feet

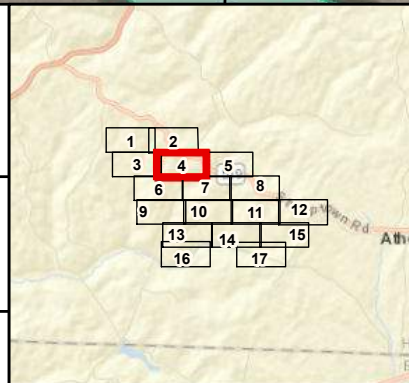


● Upland Data Point	— Consol Delineated Stream	<b>Page 4 of 17</b>
● Wetland Data Point	— Consol Delineated Wetland	
— WSP Delineated Stream		
— WSP Delineated Wetland		
— WSP Delineated Pond		
— Environmental Survey Area		

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

Coordinate System:  
Ohio State Plane North  
NAD 1983

March 26, 2021



NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

0 200 400 Feet



Stream NS-4  
Ephemeral | 178 ft. in ESA

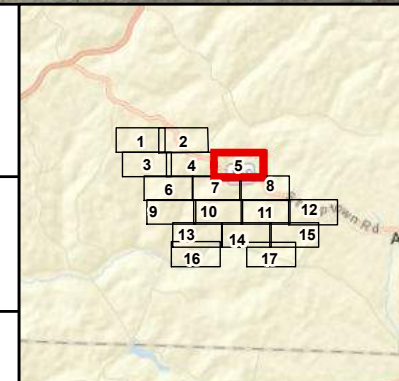
519  
SR-519

- Upland Data Point
- Wetland Data Point
- WSP Delineated Stream
- WSP Delineated Wetland
- WSP Delineated Pond
- Environmental Survey Area
- Consol Delineated Stream
- Consol Delineated Wetland

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

Coordinate System:  
Ohio State Plane North  
NAD 1983

March 26, 2021

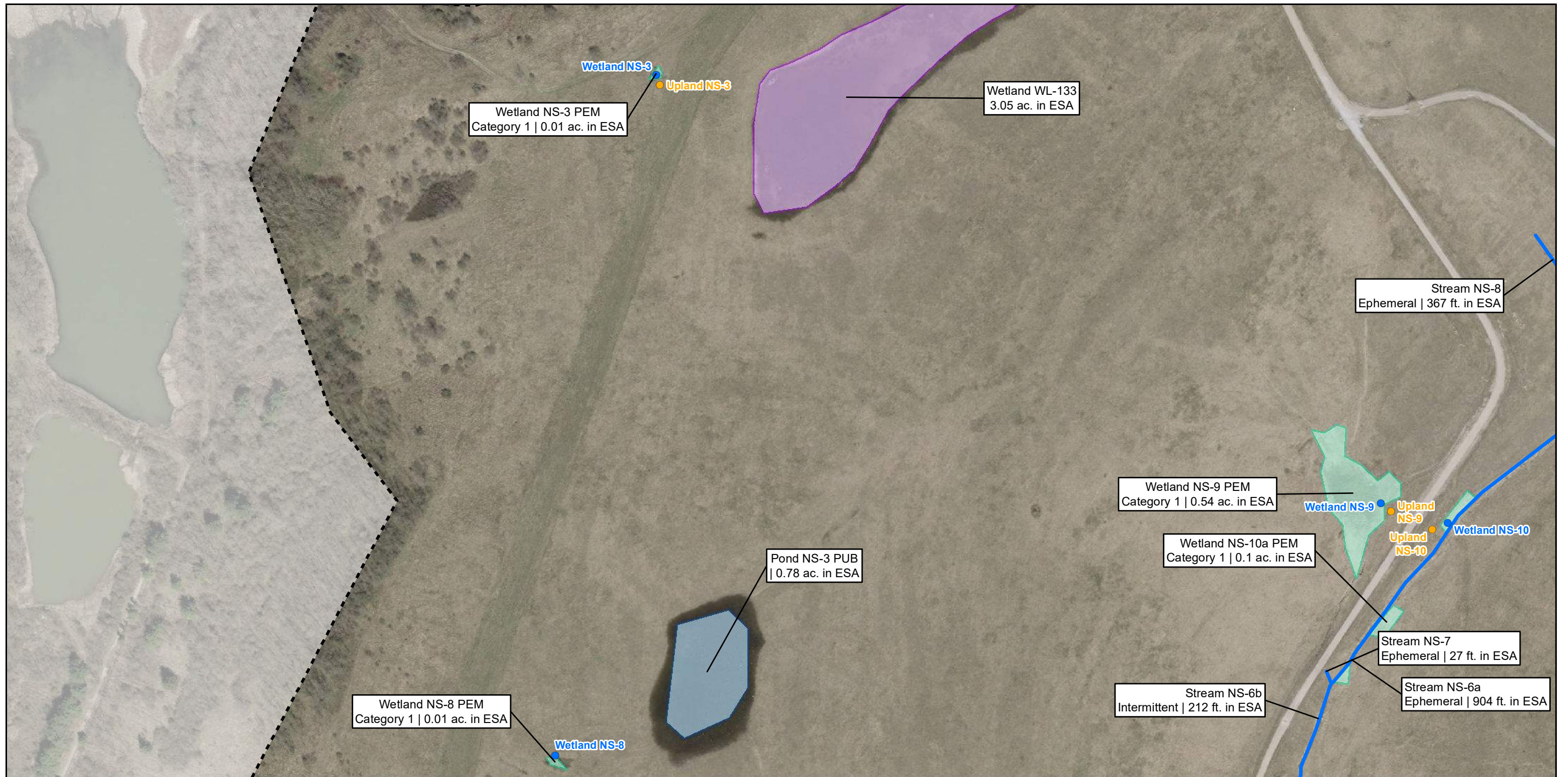


NOTTINGHAM SOLAR SITE  
**Figure 3. Delineated Features**



0 200 400 Feet





<ul style="list-style-type: none"> <li><span style="color: orange;">●</span> Upland Data Point</li> <li><span style="color: blue;">●</span> Wetland Data Point</li> <li><span style="color: blue;">—</span> WSP Delineated Stream</li> <li><span style="color: lightgreen;">—</span> WSP Delineated Wetland</li> <li><span style="color: lightblue;">—</span> WSP Delineated Pond</li> <li><span style="border: 1px dashed black; display: inline-block; width: 10px; height: 10px;"></span> Environmental Survey Area</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: orange;">—</span> Consol Delineated Stream</li> <li><span style="color: purple;">—</span> Consol Delineated Wetland</li> </ul>	<p><b>Page 6 of 17</b></p>
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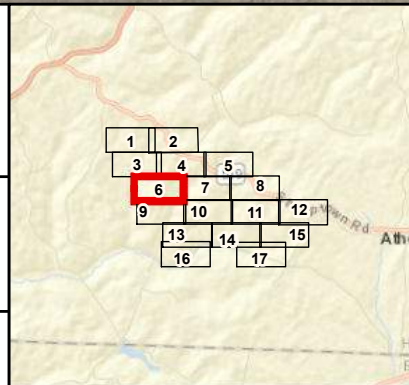
Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

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Coordinate System:  
Ohio State Plane North  
NAD 1983

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March 26, 2021



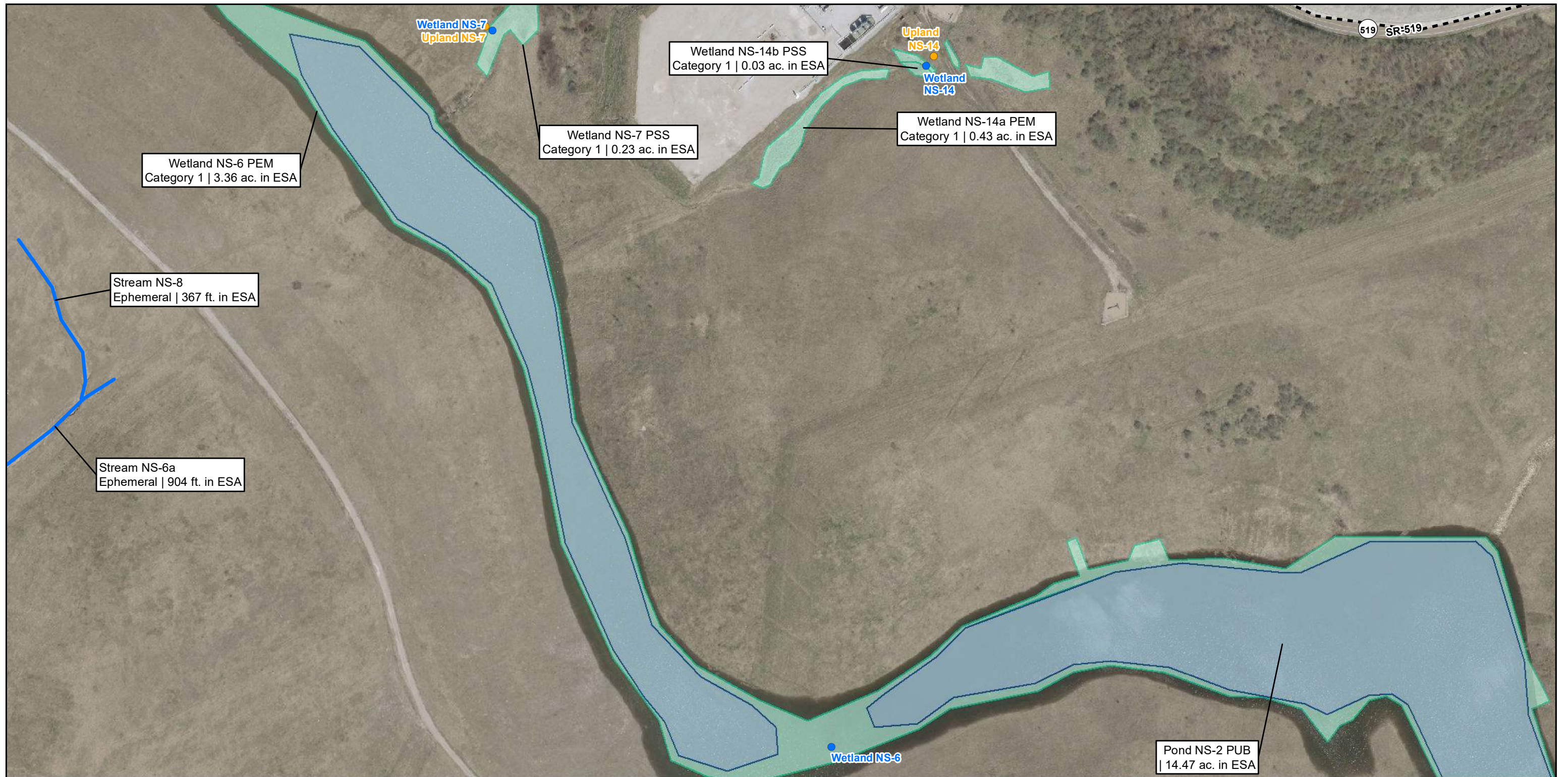
NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

N

0      200      400

Feet



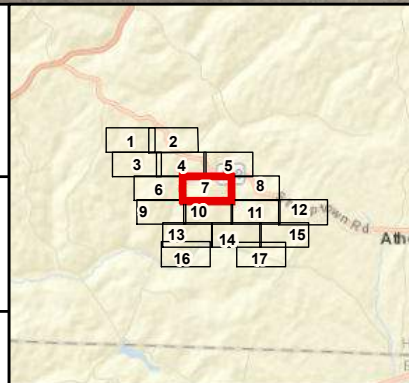
**Page 7 of 17**

- Upland Data Point
- Wetland Data Point
- WSP Delineated Stream
- WSP Delineated Wetland
- WSP Delineated Pond
- Environmental Survey Area
- Consol Delineated Stream
- Consol Delineated Wetland

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

Coordinate System:  
Ohio State Plane North  
NAD 1983

March 26, 2021



NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

wsp

N

0      200      400  
Feet



<ul style="list-style-type: none"> <li><span style="color: orange;">●</span> Upland Data Point</li> <li><span style="color: blue;">●</span> Wetland Data Point</li> <li><span style="color: blue;">—</span> WSP Delineated Stream</li> <li><span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> WSP Delineated Wetland</li> <li><span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> WSP Delineated Pond</li> <li><span style="border: 2px dashed black; display: inline-block; width: 15px; height: 10px;"></span> Environmental Survey Area</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid orange; width: 20px; display: inline-block;"></span> Consol Delineated Stream</li> <li><span style="background-color: lightpurple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Consol Delineated Wetland</li> </ul>	<p><b>Page 8 of 17</b></p>
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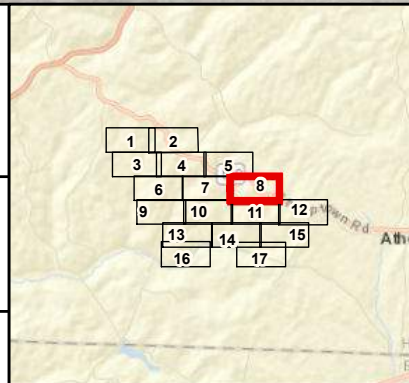
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Road Labels (ODOT)

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Coordinate System:  
Ohio State Plane North  
NAD 1983

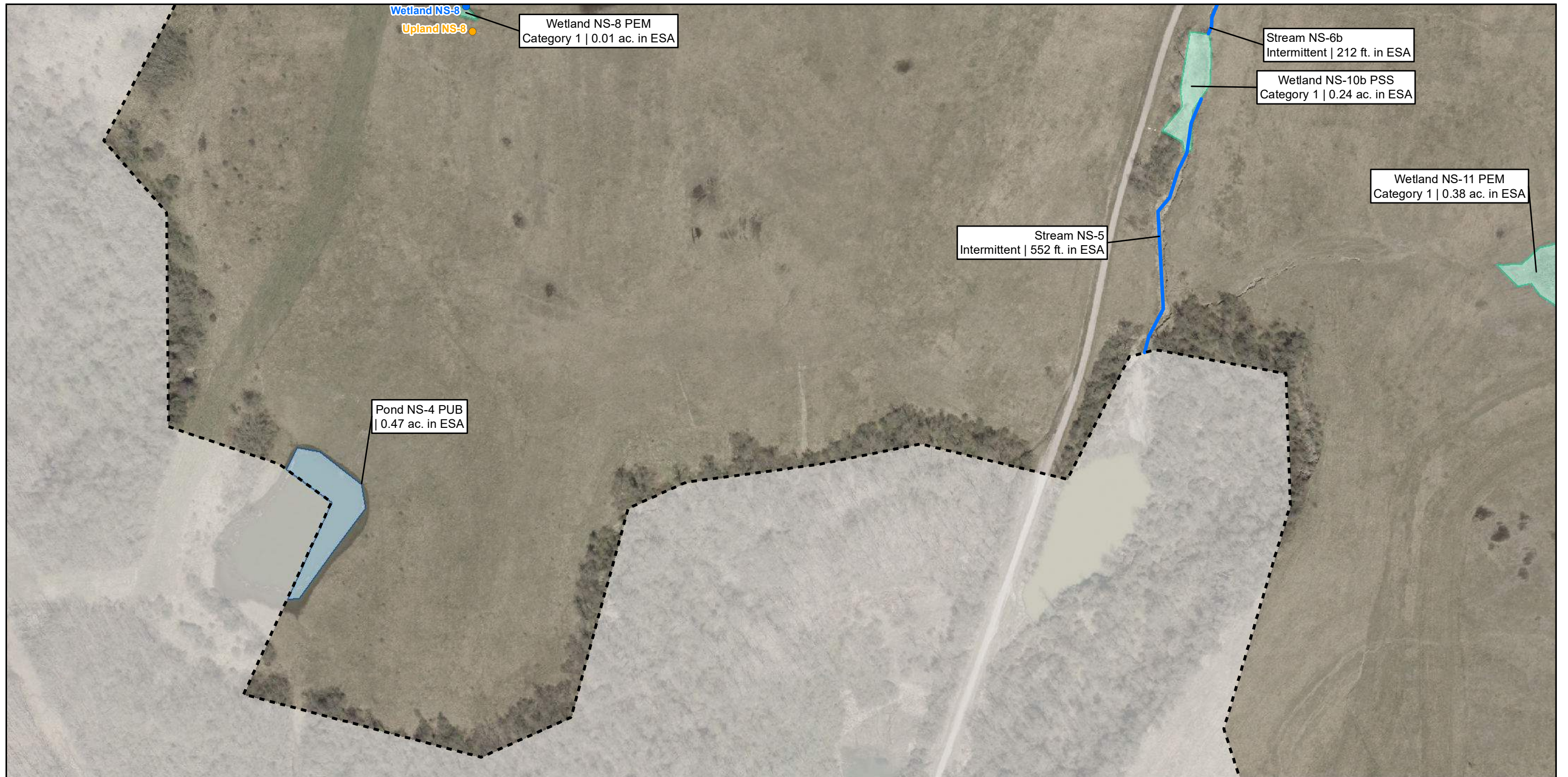
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March 26, 2021



NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

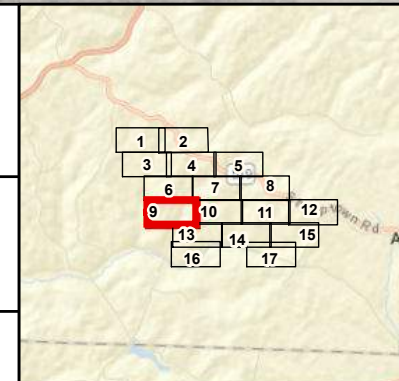


- Upland Data Point
- Wetland Data Point
- WSP Delineated Stream
- WSP Delineated Wetland
- WSP Delineated Pond
- Environmental Survey Area
- Consol Delineated Stream
- Consol Delineated Wetland

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

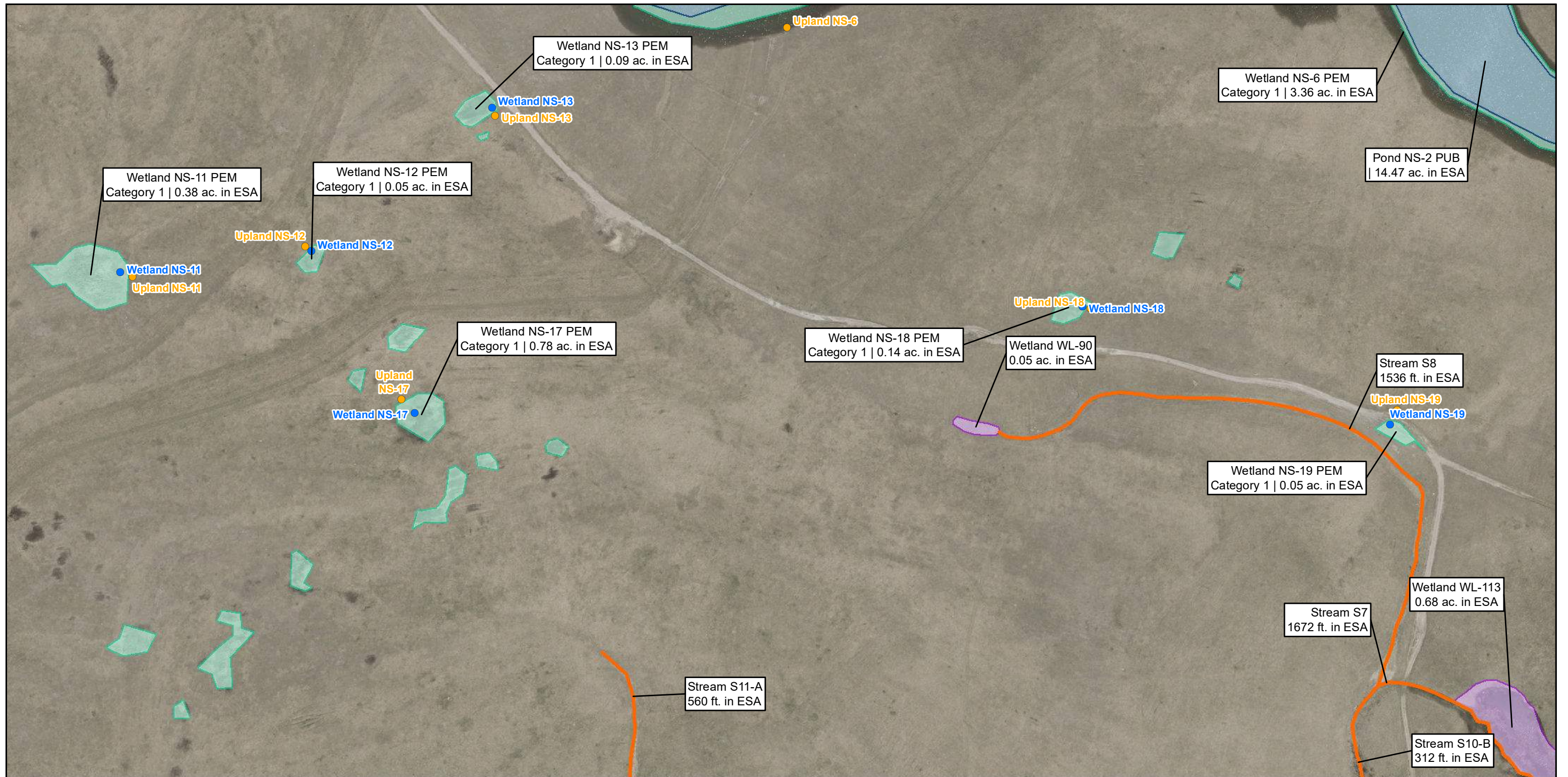
Coordinate System:  
Ohio State Plane North  
NAD 1983

March 26, 2021



NOTTINGHAM SOLAR SITE  
**Figure 3. Delineated Features**



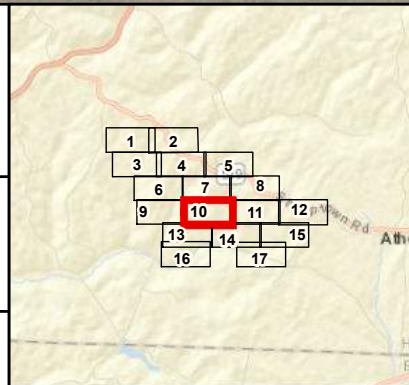


● Upland Data Point	— Consol Delineated Stream	<b>Page 10 of 17</b>
● Wetland Data Point	■ Consol Delineated Wetland	
— WSP Delineated Stream		
■ WSP Delineated Wetland		
■ WSP Delineated Pond		
⋯ Environmental Survey Area		

Sources:  
Imagery (OGRIP)  
Road Labels (ODOT)

Coordinate System:  
Ohio State Plane North  
NAD 1983

March 26, 2021



NOTTINGHAM SOLAR SITE

**Figure 3. Delineated Features**

N

0      200      400  
Feet