Exhibit P
Wetland and Waterbody Delineation Report

Stantec

January 23, 2021

DICKINSON WRIGHT PLLC

Birch Solar Project

Wetland and Waterbody Delineation Report

January 23, 2021

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Sign-off Sheet

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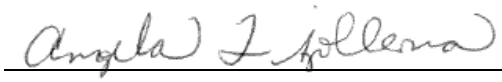
Reviewed by 

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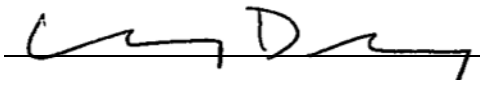
Approved by 

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Courtney Dohoney, PMP, Project Manager

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1.0 INTRODUCTION

1.1 PURPOSE

Lightsource bp is proposing to construct the Birch Solar Project, a 300-megawatt alternating current solar energy facility, composed of photovoltaic solar modules mounted on a racking system, inverters, an electrical collection system transferring power from the inverters to a new project substation, and internal access roads with perimeter fence, securing the area (the Project). The Project area includes 2,345 acres of existing agriculture and forested areas, located approximately 3 miles southwest of the City of Lima, Ohio. The Project is located in Shawnee Township, Allen County, and Logan Township, Auglaize County, Ohio (Figure 1, Appendix A).

Stantec Consulting Services Inc. (Stantec) was retained by Lightsource bp to conduct a delineation of potential waters of the United States (WOUS), including wetlands, waterbodies, and potentially isolated wetlands within the Project area. The purpose of this delineation was to identify potentially jurisdictional features present within the Project area.

Stantec completed the delineation of wetlands and waterbodies on August 3 – 6, September 3 – 4, and December 16 – 17, 2020. The information contained in this report reflects the current site conditions that were observed during the field delineation.

1.2 LOCATION OF PROJECT

The Project is located in Shawnee Township, Allen County, and Logan Township, Auglaize County, Ohio (Appendix A, Figure 1). The Project area is depicted on the Cridersville, Ohio U.S. Geological Survey (USGS) 7.5-minute series topographic map and the approximate center point of the Project area in latitude and longitude coordinates is 40.672303˚N, -84.203592˚W, respectively. The Project area is located in the Sims Run – Auglaize River watershed (HUC 12: 041000070203) that drains into the Auglaize River, the Little Ottawa River watershed (HUC 12: 041000070401) that drains into the Little Ottawa River, and the Twomile Creek watershed (HUC 12: 041000070201) that drains into Twomile Creek.

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the survey, a desktop review of the Project area was conducted using the Cridersville, Ohio USGS 7.5 Minute Series topographic maps (Appendix A, Figure 1), U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Surveys of Allen and Auglaize counties, Ohio (USDA 2005, 1981; Appendix A, Figure 2), the National Wetlands Inventory map (USFWS 2019) (Appendix A, Figure 3), and aerial imagery mapping were reviewed to assess the likelihood of occurrence and probable location of wetlands and waterbodies within the Project area.

Following this desktop review, Stantec conducted field surveys within the Project area on August 3 – 6, September 3 – 4, and December 16 – 17, 2020. Wetland boundaries were assessed using the "Routine On-site Determination Method" as described in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (USACE 2010). As of August 17, 1991, the USACE was directed to utilize the USACE Wetland Delineation Manual (USACE Environmental Laboratory 1987) to identify and delineate wetlands potentially subject to regulation under Section 404 of the Clean Water Act (CWA). Wetlands were classified according to "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979). In this classification system, wetland habitats are divided into five major systems including: (1) Marine, (2) Estuarine, (3) Lacustrine, (4) Palustrine, and (5) Riverine. Each of these systems is further divided into subsystems, classes, and subclasses. Vegetative communities were inventoried to assess the dominant plant species in each of four vegetative layers: trees, saplings/shrubs, herbs, and woody vines. The wetland indicator status for each of the dominant species was obtained using the 2016 National Wetland Plant List (Lichvar et al. 2016). The wetland soil indicators were obtained using the Munsell soil-color chart (Munsell Color 2009) and the hydric soil field indicators (USDA, NRCS 2010). The uppermost wetland boundary and sampling points were identified and surveyed using a handheld Global Positioning System (GPS) unit and mapped with Geographical Information System (GIS) software. Stantec collected data and completed relevant assessment forms, which included: USACE Wetland Determination Forms (WDF), and Ohio Rapid Assessment Method v 5.0 forms (ORAM; Mack 2001). Datasheets are provided in Appendix B.

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's Guidance on Ordinary High Water Mark Identification (Regulatory Guidance Letter, No. 05-05; USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definition in the 85 Federal Register 22250 (effective June 22, 2020). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI; OEPA 2018) and/or Qualitative Habitat Evaluation Index (QHEI; OEPA 2006). Datasheets are provided in Appendix B. The centerline of each waterway, or both banks for streams 15 feet or wider, were identified and surveyed using a sub-meter accurate handheld GPS unit and mapped with GIS software.

2.3 OPEN WATER DELINEATION

Open water boundaries were assessed using the definition described in the "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979) which includes wetland and deepwater habitats with most of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent areal coverage; and (3) total area exceeds 20 acres (8 hectares [ha]). Similar wetland and deepwater habitats totaling less than 20 acres (8 ha) are also included in the Lacustrine System if an active wave-formed or bedrock shoreline feature makes up most or part of the boundary, or if the water depth in the deepest part of the basin exceeds 6.6 feet (2 meters) at low water (estimated).

3.0 OVERVIEW OF PROJECT AREA

3.1 GEOLOGY AND TOPOGRAPHY

The Project lies within the Till Plains section of the Central Lowland physiographic province. The Project lies within the Central Ohio Clayey Till Plain region, which is characterized by: (1) a surface of clayey till; (2) well-defined moraines with intervening flat-lying ground moraine and intermorainal lake basins; (3) no boulder belts; (4) silt-, clay-, and till-filled lake basins; and (5) few large streams and limited sand and gravel outwashes. The geology of the region consists of clayey, high-lime Wisconsinan-age till from a northeastern source and lacustrine materials over Lower Paleozoic-age carbonate rocks. The eastern side of the region is more shales. Elevation ranges from 700 – 1,150 feet with moderate relief (ODGS 1998).

3.2 CLIMATE

The average winter temperature in Allen County is 28 degrees Fahrenheit (°F), and the average daily minimum temperature is 20°F. The average summer temperature is 72°F, and the average daily maximum temperature is 83°F. Precipitation in Allen County averages 35.98 inches per year. Usually 55% of the annual rainfall occurs between May and October (USDA 2005). The average winter temperature in Auglaize County is 28°F, and the average winter daily minimum temperature is 20°F. The average summer temperature is 72°F and the average daily maximum temperature is 83°F. Precipitation in Auglaize County averages 20 inches per year. Usually 55% of the annual rainfall occurs between April and September (USDA 1981).

3.3 SOILS

The Soil Survey of Allen and Auglaize Counties, Ohio (USDA 2005, USDA 1981) and the Natural Resources Conservation Service (NRCS) Web Soil Survey were consulted to assess soil types within the Project area (USDA, NRCS 2010). A copy of the soil map is included in Appendix A, Figure 2. Soils within the Project area with respective acreages and percentages are included in Table 1. Nine soils listed within the Project area were considered to be hydric as shown in Table 1.

Table 1. Soil Types Known to Occur within the Birch Solar Project Area, Allen and Auglaize Counties, Ohio

Map Unit Symbol	Map Unit Name	Hydric?	Acres in the Project Area	Percent within Project Area
AkA	Alvada loam, 0 to 1 percent slopes	Yes	3.86	0.16%
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	No*	36.00	1.54%
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	No*	453.40	19.34%
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	No*	38.96	1.66%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	No*	256.69	10.95%
BrA	Blount-Jenera complex, 0 to 3 percent slopes	No*	3.92	0.17%

Map Unit Symbol	Map Unit Name	Hydric?	Acres in the Project Area	Percent within Project Area
CyA	Cygnet loam, 0 to 3 percent slopes	No*	18.49	0.79%
DmA	Digby loam, 0 to 2 percent slopes	No*	2.52	0.11%
DmB	Digby loam, 2 to 6 percent slopes	No	13.20	0.56%
GaB	Gallman loam, 2 to 6 percent slopes	No	89.69	3.83%
GaC	Gallman loam, 6 to 12 percent slopes	No	4.97	0.21%
Gwd5C2	Glynwood clay loam, 6 to 12 percent slopes, eroded	No	7.61	0.32%
Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	No*	22.65	0.97%
Gwg5B2	Glynwood clay loam, ground moraine, 2 to 6 percent slopes, eroded	No*	10.16	0.43%
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	No*	0.15	0.01%
GkB	Glynwood loam, 2 to 6 percent slopes	No*	13.76	0.59%
Gwe1B1	Glynwood silt loam, end moraine, 2 to 6 percent slopes	No*	101.71	4.34%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	No*	14.96	0.64%
HkA	Haskins loam, 0 to 2 percent slopes	No*	4.99	0.21%
HkB	Haskins loam, 2 to 6 percent slopes	No*	8.80	0.38%
HrA	Houcktown loam, 0 to 2 percent slopes	No*	8.86	0.38%
HrB	Houcktown loam, 2 to 6 percent slopes	No*	46.72	1.99%
HpB	Houcktown sandy loam, 2 to 4 percent slopes	No*	5.01	0.21%
HsA	Houcktown silt loam, 0 to 2 percent slopes	No*	1.74	0.07%
HsB	Houcktown silt loam, 2 to 4 percent slopes	No	1.91	0.08%
HuC2	Houcktown-Glynwood complex, 6 to 12 percent slopes, eroded	No*	3.53	0.15%
MbA	Medway silt loam, 0 to 2 percent slopes, occasionally flooded	No*	3.49	0.15%
Mk	Millgrove clay loam	Yes	31.83	1.36%
PmA / Pt	Pewamo silty clay loam, 0 to 1 percent slopes	Yes	527.66	22.50%
ReA	Rensselaer loam, till substratum, 0 to 1 percent slopes	Yes	33.94	1.45%
Sb / SbA	Saranac silty clay loam, 0 to 1 percent slopes, rarely flooded	Yes	104.21	4.44%
Sc / ScA	Saranac silty clay loam, till substratum, 0 to 1 percent slopes, frequently flooded	Yes	15.76	0.67%
SfB	Shawtown loam, 2 to 6 percent slopes	No	23.41	1.00%
So	Sloan silty clay loam, frequently flooded	Yes	18.10	0.77%
TkA	Thackery loam, sandy substratum, 0 to 2 percent slopes	No	103.60	4.42%

Map Unit Symbol	Map Unit Name	Hydric?	Acres in the Project Area	Percent within Project Area
ThB	Thackery sandy loam, sandy substratum, 1 to 3 percent slopes	No*	61.16	2.61%
WdA	Westland clay loam, 0 to 1 percent slopes	Yes	195.54	8.34%
WeA	Westland-Rensselaer complex, 0 to 1 percent slopes	Yes	51.72	2.21%
		Total Acreage in Project Area	**2,344.67**	**100.00%**

*Contains Hydric inclusions

4.0 RESULTS

4.1 EXISTING CONDITIONS

Upland habitat within the Project area consists of agriculture, new field, old field, fence row, and second growth deciduous forests. The agriculture habitat was dominated by corn (*Zea mays*), soybean (*Glycine max*), and winter wheat (*Triticum aestivum*). The new field habitat consisted of red clover (*Trifolium pratense*), crab grass (*Digitaria sanguinalis*), barnyard grass (*Echinochola crus-galli*), yellow foxtail (*Setaria pumila*), English plantain (*Plantago lanceolata*), common dandelion (*Taraxacum officinale*), and Queen Ann's lace (*Daucus carota*). The old field habitat was dominated by common teasel (*Dipsacus fullonum*), chicory (*Cichorium intybus*), common dandelion, Canada thistle (*Cirsium arvense*), common ragweed (*Ambrosia artemisiifolia*), Canada goldenrod (*Solidago canadensis*), tall fescue (*Festuca arundinacea*), and nodding foxtail (*Setaria faberi*). The fence row consisted of common hackberry (*Celtis occidentalis*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), Ohio buckeye (*Aesculus glabra*), and white mulberry (*Morus alba*) in the overstory. Virginia creeper (*Parthenocissus quinquefolia*) and common grapevine (*Vitis vinifera*) were dominant fence row vine layer. Canada goldenrod, black raspberry (*Rubus idaeus*), and curly dock (*Rumex crispus*) dominated the herbaceous layer of the fence row habitat. The overstory of the second growth deciduous forest habitat was dominated by common hackberry, sugar maple, silver maple (*Acer saccharinum*), American elm (*Ulmus americana*), northern red oak (*Quercus rubra*), and pin oak (*Quercus palustris*). The shrub layer of the second growth deciduous forest consisted of honeysuckle (*Loniceria maackii*), black raspberry, poison ivy (*Toxicodendron radicans*), and American elm.

4.2 WETLAND HABITAT

Three wetlands were identified within the Project area, totaling approximately 0.50 acres (Appendix A, Figure 4). Appendix B contains the WDF and ORAM forms for the wetlands identified within the Project area. Representative photographs of the wetlands are provided in Appendix C. The wetlands are described below and summarized in Table 2.

Wetland 1

Wetland 1 is a palustrine forested (PFO) wetland approximately 0.24 acre in size within the Project area. The functional assessment (ORAM) of Wetland 1 yielded a score of 34 and identifies this wetland as a Category 2 wetland, indicating it is a wetland of "poor-fair" quality. Wetland 1 is potentially hydrologically isolated. A WDF (SP01) was completed, and the first soil horizon was 6 inches of loam with a chroma matrix of 10YR 2/1. The following 10 inches were silt loam with a chroma matrix of 10YR 4/2 and redox concentrations in the matrix (10R 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Primary hydrological indicators included oxidized rhizospheres on living roots. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including American elm (FACW), silver maple (FACW) in the tree stratum, green ash (*Fraxinus pennsylvanica*; FACW) in the sapling/shrub stratum, and silver maple (FACW) in the herbaceous stratum.

Wetland 2

Wetland 2 is a palustrine scrub/shrub (PSS) wetland approximately 0.03 acre in size within the Project area. The functional assessment (ORAM) of Wetland 2 yielded a score of 16 and identifies this wetland as a Category 1 wetland, indicating it is a wetland of "poor" quality. Wetland 2 is potentially jurisdictional due to its physical hydrological connection to Stream 4. A WDF (SP04) was completed, and the first soil horizon was 2 inches of mucky loam with a low chroma matrix 10YR 2/1. The following 14 inches were clay loam with a low chroma matrix of 10YR 5/1 and redox concentrations in the matrix (10R 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Primary hydrological indicators included saturation. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including black willow (*Salix nigra*; OBL) in the sapling/shrub stratum and reed canary grass (*Phalaris arundinacea*; FACW) in the herbaceous stratum.

Wetland 3

Wetland 3 is a PFO wetland approximately 0.23 acre in size within the Project area. The functional assessment (ORAM) of Wetland 3 yielded a score of 41 and identifies this wetland as a Category 2 wetland, indicating it is a wetland of "fair-moderate" quality. Wetland 3 is potentially hydrologically isolated. A WDF (SP08) was completed, the first soil horizon was 8 inches of silty clay with a low chroma matrix of 10YR 4/2. The following 8 inches was silty clay with a chroma matrix of 10YR 4/1 and redox concentrations in the matrix (10YR 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Secondary hydrological indicators included geomorphic position and FAC-neutral test. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including swamp white oak (*Quercus bicolor*; FACW) in the tree stratum, green ash (FACW) in the tree and sapling/shrub stratum, and Gray's sedge (*Carex grayi*; OBL) and sweet woodreed (*Cinna arundinacea*; FACW) in the herbaceous stratum.

Table 2. Potential Wetlands Identified in the Birch Solar Project Area, Allen and Auglaize Counties, Ohio

Wetland Name	Latitude	Longitude	Cowardin Classification	ORAM Score	ORAM Regulatory Category	Total Acres in Project Area
Wetland 1	40.676896	-84.192615	PFO	34	2	0.24
Wetland 2	40.680703	-84.195156	PSS	16	1	0.03
Wetland 3	40.673821	-84.217605	PFO	41	2	0.23
					Total Delineated Wetland	**0.50**

4.3 STREAM HABITAT

Fourteen streams were identified within the Project area, totaling approximately 27,007 linear feet (Appendix A, Figure 4). Appendix B contains the QHEI and HHEI datasheets. Representative photographs of the streams are provided in Appendix C. The streams are described below and summarized in Table 3.

Stream 1

Stream 1 is an intermittent stream with approximately 823 linear feet within the Project area. The functional assessment (HHEI) of Stream 1 yielded a score of 51, indicating it is a Class II PHWH stream. The stream had a bankfull width of 10 feet and a bankfull depth of 4 feet and had a moist channel with isolated pools at the time of site visit. Substrates observed were primarily silt and clay. Stream 1 drains into Twomile Creek outside the Project area.

Stream 2

Stream 2 is an intermittent stream with approximately 1,103 linear feet within the Project area. The functional assessment (HHEI) of Stream 2 yielded a score of 56, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 12 feet and a bankfull depth of 4 feet and was flowing at the time of site visit. Substrates observed were primarily silt and clay. Stream 2 drains into Twomile Creek outside the Project area.

Stream 3

Stream 3, Little Ottawa River, is a perennial stream with approximately 153 linear feet within the Project area. The functional assessment (QHEI) of Stream 3 yielded a score of 44.25, indicating it is a “fair” quality stream. The stream had a bankfull width of 40 feet and a bankfull depth of 5 feet and was flowing at the time of site visit. The substrates observed were primarily sand and gravel. Stream 3 drains into the Ottawa River outside Project area.

Stream 4

Stream 4 is an ephemeral stream with approximately 1,355 linear feet within the Project area. The functional assessment (HHEI) of Stream 4 yielded a score of 47, indicating it as Modified Class II PHWH stream. The stream had a bankfull width of 12 feet and a bankfull depth of 5 feet and had moist channels with isolated pools at the time of site visit. The substrates observed were primarily silt and clay. Stream 4 drains into Stream 5 within the Project area.

Stream 5

Stream 5 is a perennial stream with approximately 5,672 linear feet within the Project area. The functional assessment (HHEI) of Stream 5 yielded a score of 53, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 14 feet and a bankfull depth of 3 feet and was flowing at the time of site visit. The substrates observed were primarily silt and clay. Stream 5 drains into Twomile Creek within the Project area.

Stream 6

Stream 6 is an ephemeral stream with approximately 1,675 linear feet within the Project area. The functional assessment (HHEI) of Stream 6 yielded a score of 40, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 16 feet and a bankfull depth of 6 feet and had a dry channel at the time of site visit. The substrates observed were primarily silt and clay. Stream 6 drains into Stream 5 within the Project area.

Stream 7

Stream 7 is an ephemeral stream with approximately 1,733 linear feet within the Project area. The functional assessment (HHEI) of Stream 7 yielded a score of 45, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 10 feet and a bankfull depth of 3 feet and was flowing at the time of site visit. The substrates observed were primarily silt and clay. Stream 7 drains into the Stream 5 within the Project area.

Stream 8

Stream 8 is an intermittent stream with approximately 239 linear feet within the Project area. The functional assessment (HHEI) of Stream 8 yielded a score of 56, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 12 feet and a bankfull depth of 6 feet and was D- flowing at the time of site visit. The substrates observed were primarily silt and clay. Stream 8 drains into Twomile Creek outside Project area.

Stream 9

Stream 9, Twomile Creek, is a perennial stream with approximately 5,000 linear feet within the Project area. The stream crosses the Project area in two separate locations and a data sheet was taken for each stretch. The functional assessment (QHEI) of Stream 9 yielded a score of 34.75, indicating it is a “poor” quality stream. The stream had a bankfull width of 30 feet and a bankfull

depth of 8 feet and was flowing at the time of site visit. The substrate observed was primarily silt and sand.

The second segment of Stream 9, Twomile Creek functional assessment (QHEI) of Stream 9 yielded a score of 50.5, indicating it is a fair" quality stream. The stream had a bankfull width of 35 feet and a bankfull depth of 6 feet and was flowing at the time of site visit. The substrate observed was primarily sand and silt. Stream 9 drains into the Auglaize River outside the Project area.

Stream 10

Stream 10 is a perennial stream with approximately 3,433 linear feet within the Project area. The functional assessment (HHEI) of Stream 10 yielded a score of 55, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 10 feet and a bankfull depth of 3 feet and was flowing at the time of site visit. The substrates observed were primarily silt and clay. Stream 10 flows into Twomile Creek outside Project area.

Stream 11

Stream 11 is an intermittent stream with approximately 1,861 linear feet within the Project area. The functional assessment (HHEI) of Stream 11 yielded a score of 50, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 6 feet and a bankfull depth of 3 feet and was flowing at the time of site visit. The substrates observed were primarily silt and clay. Stream 11 flows into Stream 10 within the Project area.

Stream 12

Stream 12 is a perennial stream with approximately 931 linear feet within the Project area. The functional assessment (HHEI) of Stream 12 yielded a score of 56, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 12 feet and a bankfull depth of 3 foot and was flowing at the time of site visit. The substrates observed were silt and clay. Stream 12 flows into Twomile Creek outside the Project area.

Stream 13

Stream 13 is a perennial stream with approximately 2,120 linear feet within the Project area. The functional assessment (HHEI) of Stream 13 yielded a score of 49, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 5 feet and a bankfull depth of 2 feet and was flowing at the time of site visit. The substrate observed was primarily sand and muck. Stream 13 drains into the Twomile Creek outside the Project area.

Stream 14

Stream 14 is an intermittent stream with approximately 909 linear feet within the Project area. The functional assessment (QHEI) of Stream 14 yielded a score of 59, indicating it is a "good" quality stream. The Stream had a bankfull width of 5 feet and a bankfull depth of 2.5 feet and was flowing

at the time of the site visit. The substrate observed was primarily gravel and sand. Stream 14 drains into Twomile Creek outside the Project area.

Table 3. Potential Streams Identified in the Birch Solar Project Area, Allen and Auglaize Counties, Ohio

Stream Name	Latitude	Longitude	OHWM Width (feet)	OHWM Depth (feet)	Classification	Evaluation Method	Score	Total Linear feet in Project Area
Stream 1	40.68684	-84.18950	2.5	0.75	Intermittent	HHEI	51	823
Stream 2	40.68312	-84.18845	4	1	Intermittent	HHEI	56	1103
Stream 3 (Little Ottawa River)	40.68200	-84.17508	25	2.5	Perennial	QHEI	44.25	153
Stream 4	40.68145	-84.19661	3	1	Ephemeral	HHEI	47	1,355
Stream 5	40.67474	-84.20314	8	1	Perennial	HHEI	53	5,672
Stream 6	40.67331	-84.20141	6	1.5	Ephemeral	HHEI	40	1,675
Stream 7	40.67742	-84.20611	3	1	Ephemeral	HHEI	45	1,733
Stream 8	40.68336	-84.21275	2	0.5	Intermittent	HHEI	56	239
Stream 9 (Twomile Creek)	40.67054	-84.2164	18	3	Perennial	QHEI	34.75	5,000
	40.66257	-84.2295	25	1			50.5	
Stream 10	40.67288	-84.23205	2.5	0.5	Perennial	HHEI	55	3,433
Stream 11	40.67616	-84.23332	2	0.5	Intermittent	HHEI	50	1,861
Stream 12	40.65864	-84.23117	4	1.25	Perennial	HHEI	56	931
Stream 13	40.66667	-84.18646	3	0.5	Perennial	HHEI	49	2,120
Stream 14	40.65728	-84.18543	4	0.5	Intermittent	QHEI	59	909
							Total Linear Feet in Project Area	**27,007**

4.4 OPEN WATERS

One open water feature, a pond, was identified within the Project area, totaling approximately 0.69 acre (Appendix A, Figure 4). Representative photographs of the open water feature are provided in Appendix C. The open water is summarized in Table 4.

Table 4. Potential Open Water Features Identified in the Birch Solar Project Area, Allen and Auglaize Counties, Ohio

Open Water Name	Classification	Latitude	Longitude	Total Acreage in Project Area
Open Water 1	PUB	40.676905	-84.212956	0.69
			Total Acres in Project Area	**0.69**

5.0 CONCLUSION

Stantec conducted a delineation of potential WOUS within the Project area located in Shawnee Township, Allen County and Logan Township, Auglaize County, Ohio. The purpose and objective of the wetland and waterbody delineation was to identify the extent and spatial arrangement of potential jurisdictional wetlands and waterbodies within the Project area.

One potentially USACE-jurisdictional wetland and eleven potentially USACE-jurisdictional streams were identified within the Project area. A total of approximately 0.03 acre of Category 1 PSS wetland was identified in the Project area that is potentially USACE-jurisdictional. The remaining wetlands delineated within the Project area, including approximately 0.47 acre of Category 2 PFO wetlands, are potentially isolated wetlands and would be under the jurisdiction of the OEPA. These wetlands have no direct connection to other potentially USACE-jurisdictional features.

Fourteen streams, with a total of 17,310 linear feet of perennial stream, 4,935 linear feet of intermittent stream, and 4,762 linear feet of ephemeral stream were delineated within the Project area. The perennial and intermittent streams, totaling 22,245 linear feet within the Project area, are potentially WOUS and therefore likely USACE-jurisdictional streams. Stream 4, Stream 6, and Stream 7, totaling 4,762 linear feet within the Project area, were determined to have a potentially ephemeral flow regime. The ephemeral flow regime of these three streams means they may not be USACE-jurisdictional and, therefore, would be regulate by OEPA.

Stantec's opinion regarding the presence/absence of jurisdictional WOUS and isolated wetlands is preliminary. Only the USACE can provide an official determination of the presence and extent of jurisdictional WOUS. Wetlands that are considered WOUS are subject to regulation under Section 404 of the CWA and the jurisdictional regulatory authority lies with the USACE. Additionally, the OEPA has regulatory authority over isolated wetlands under Ohio Revised Code 6111.021. Stantec recommends that Lightsource bp contact the USACE Buffalo District for final jurisdictional review and concurrence with Stantec's opinion regarding the presence/absence of WOUS within the Project area prior to construction activities associated with this Project.

6.0 REFERENCES

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APPENDICES

Appendix A FIGURES

A.1 FIGURE 1 – PROJECT LOCATION AND TOPOGRAPHY MAP

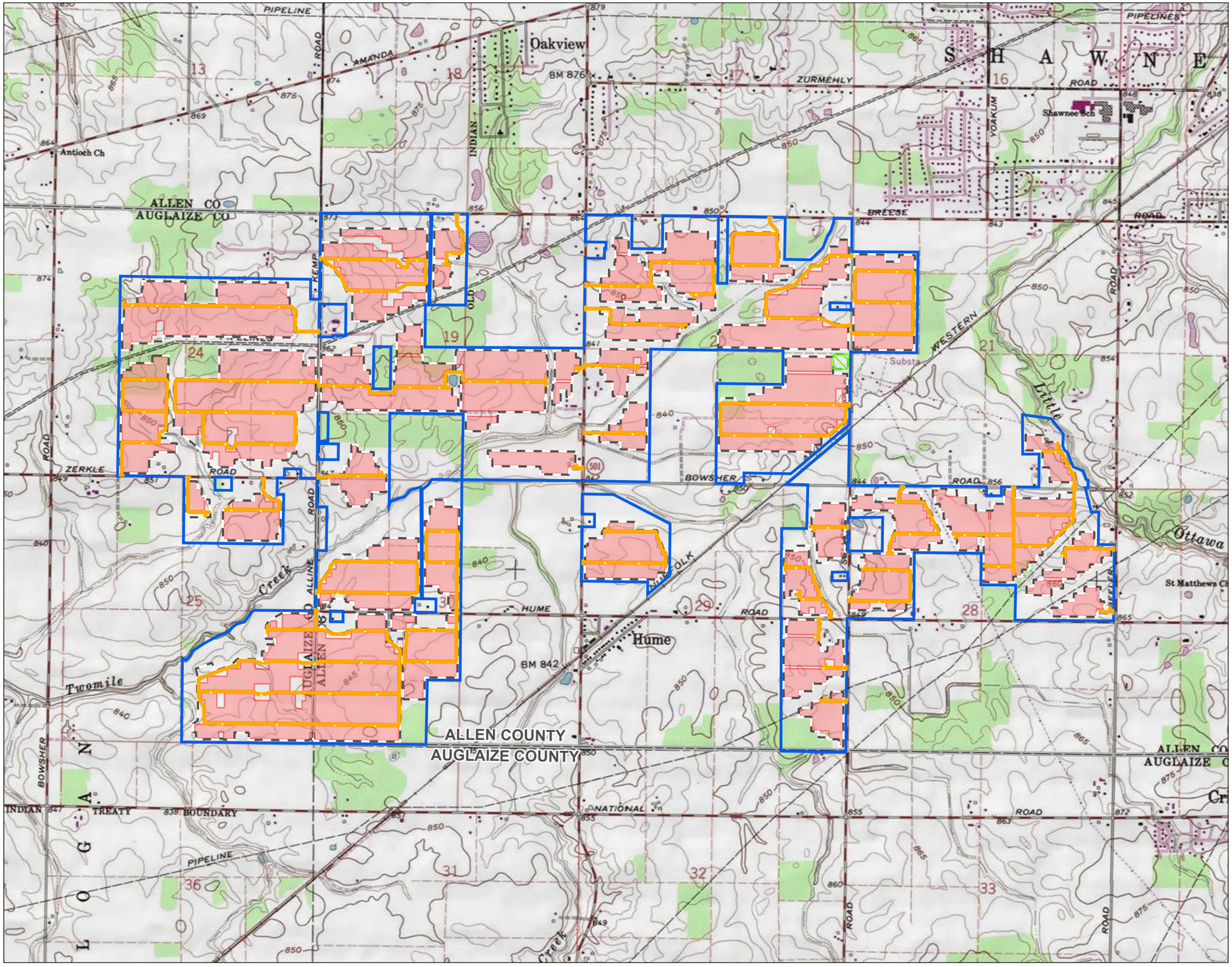

Figure No.

1

Title

Project Location and Topography

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 1,000 2,000 Feet

(At original document size of 11x17)
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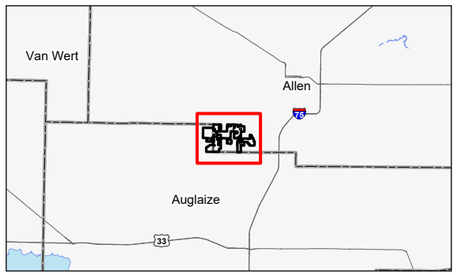
Legend

- Project Area
- Solar Array
- Inverter
- Substation
- Fence
- Access Road



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Ligthsource, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles

Stantec

A.2 FIGURE 2 – NRCS SOIL SURVEY DATA AND HYDRIC RATINGS MAP

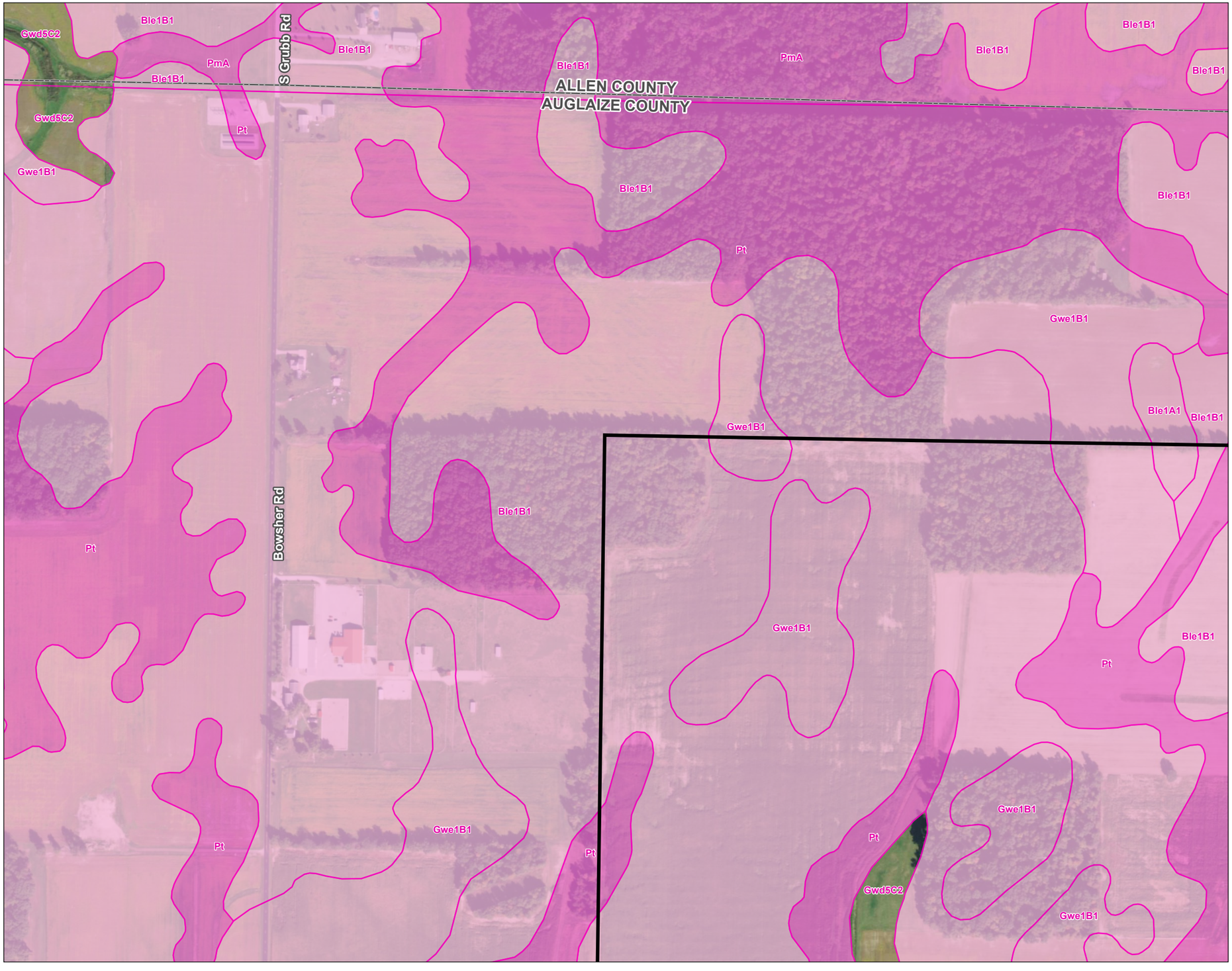


Figure No.
2

Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
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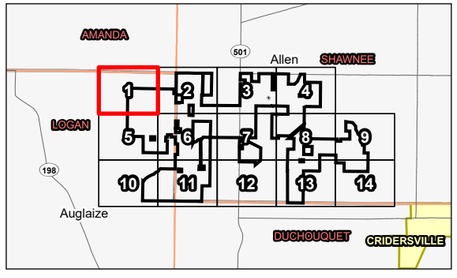
Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



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3. Orthophotography: 2019 NAIP

Stantec

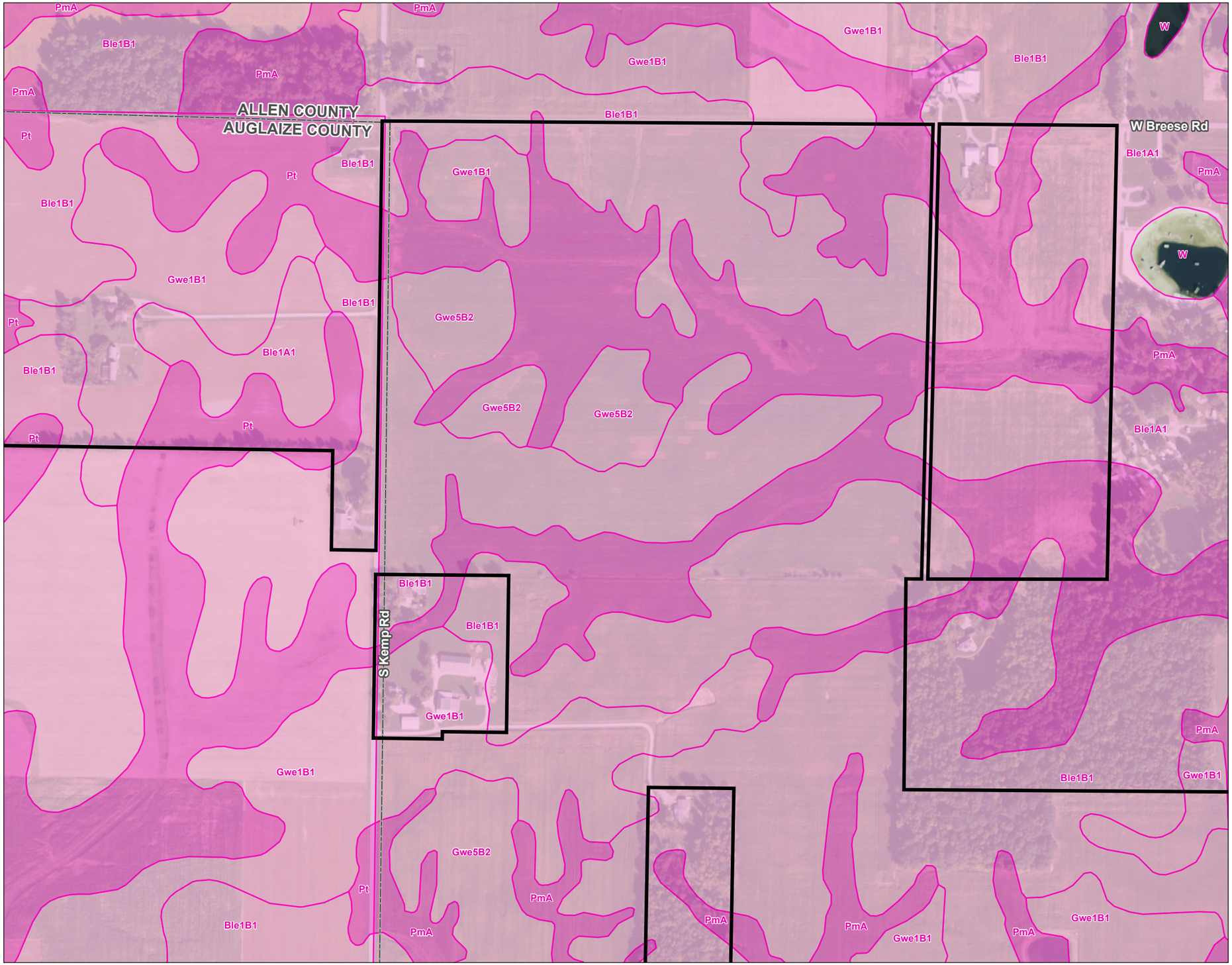

Figure No.
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Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

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(At original document size of 11x17)
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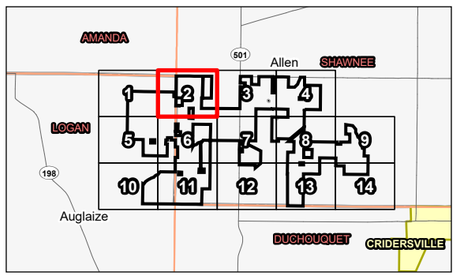
Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



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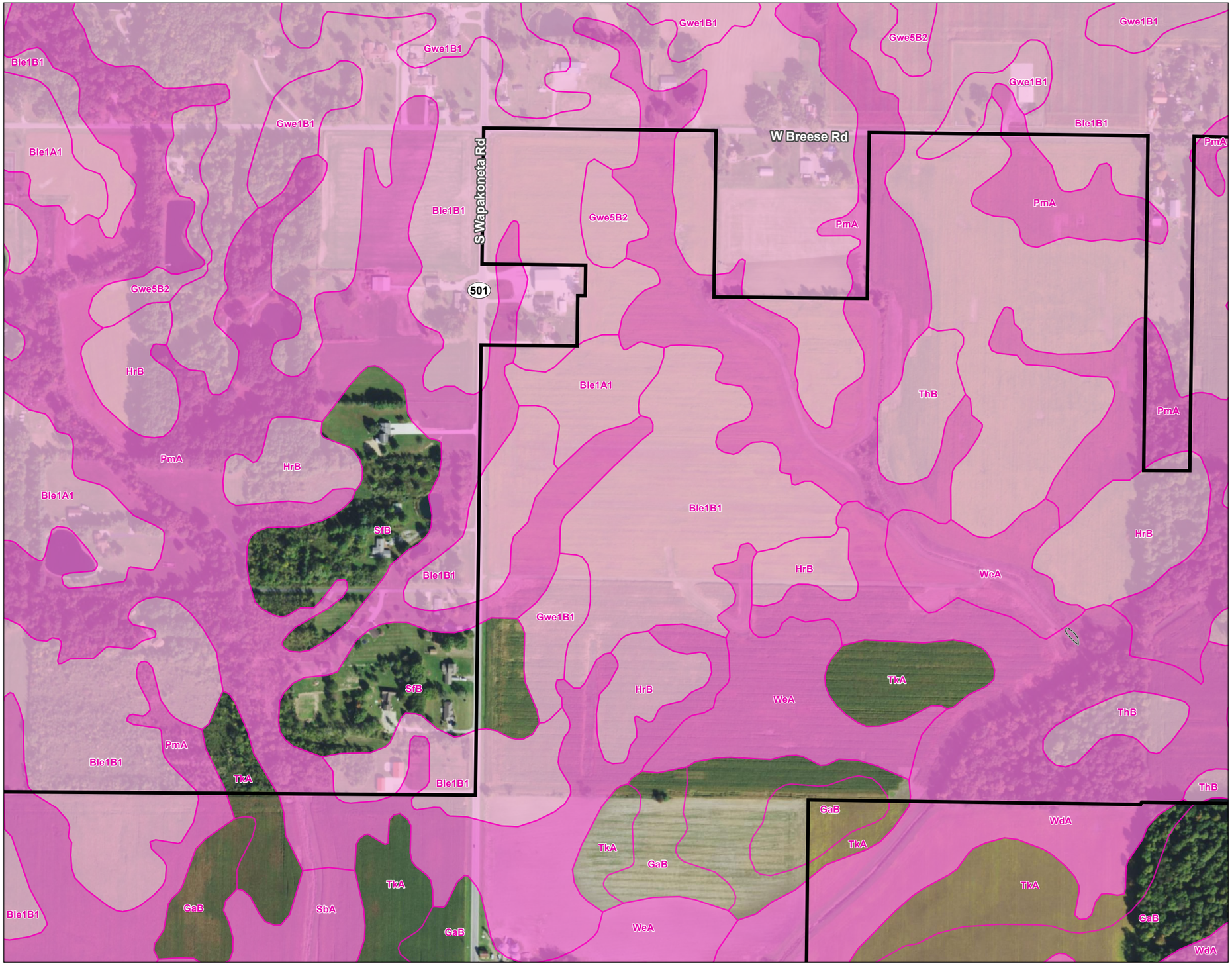

Figure No.
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Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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(At original document size of 11x17)
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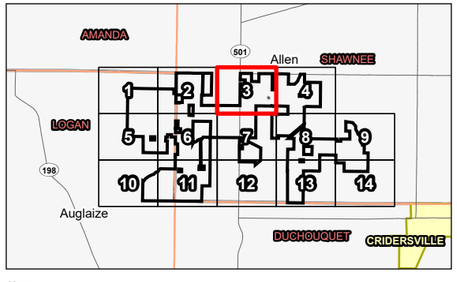
Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



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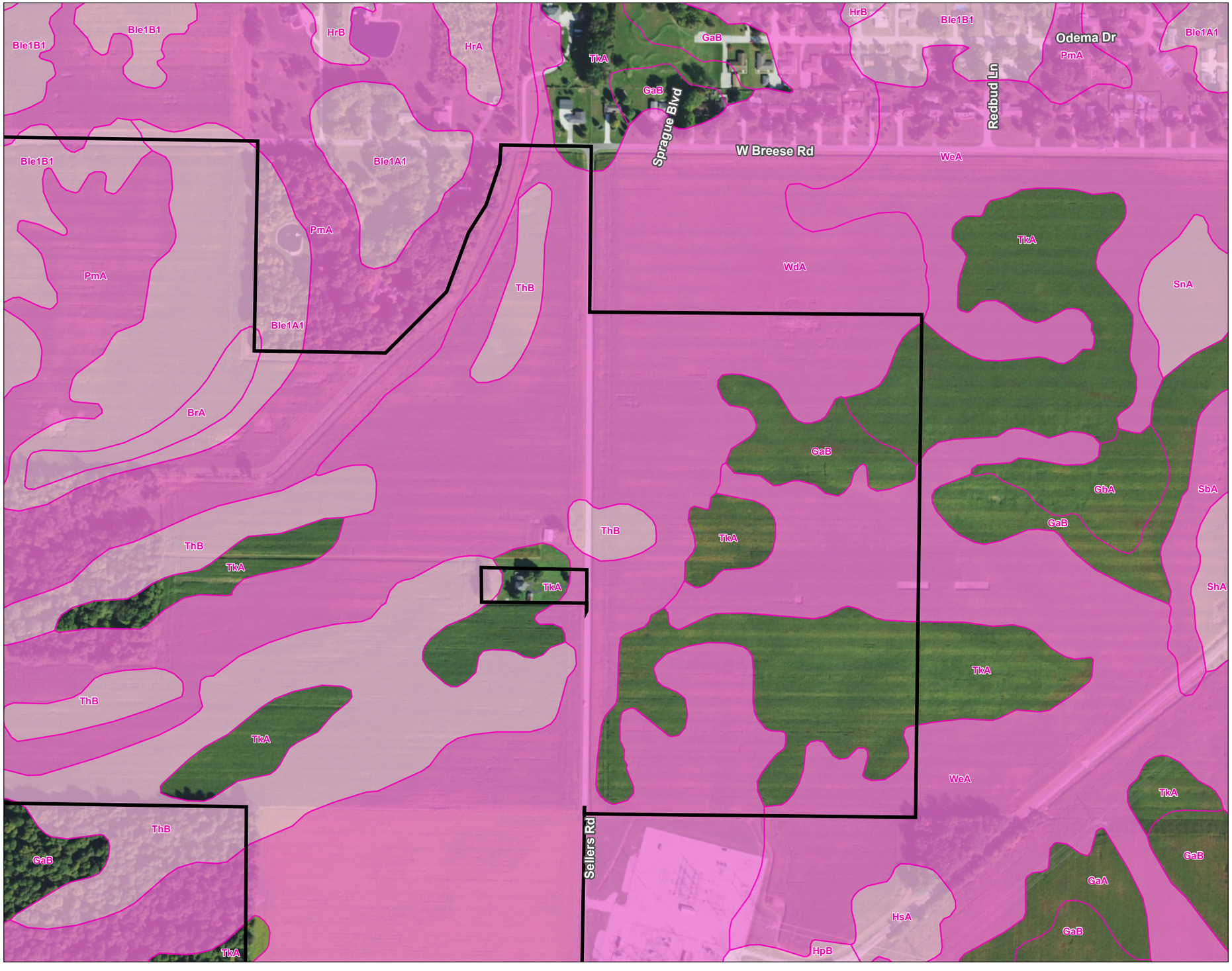

Figure No.
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Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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(At original document size of 11x17)
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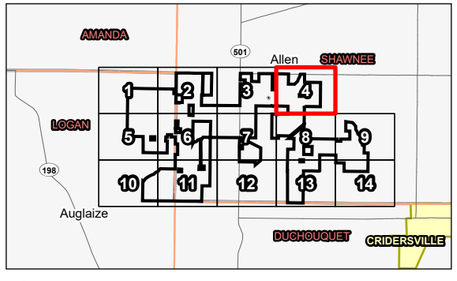
Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



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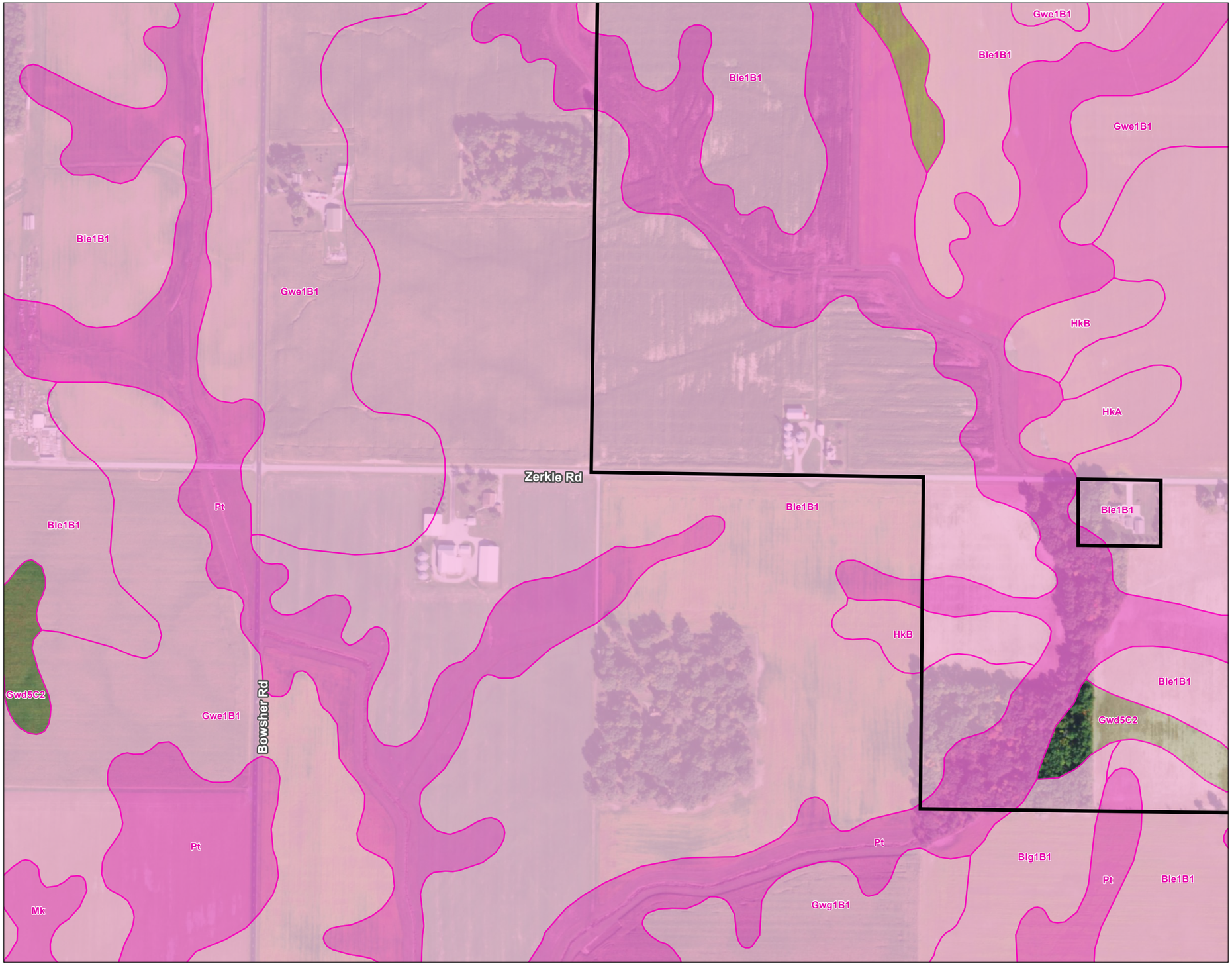

Figure No.
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Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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(At original document size of 11x17)
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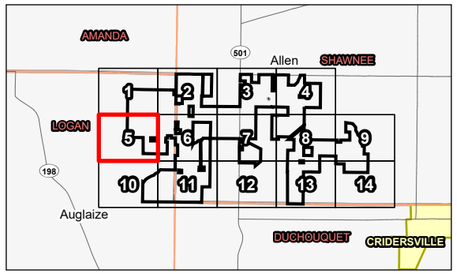
Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



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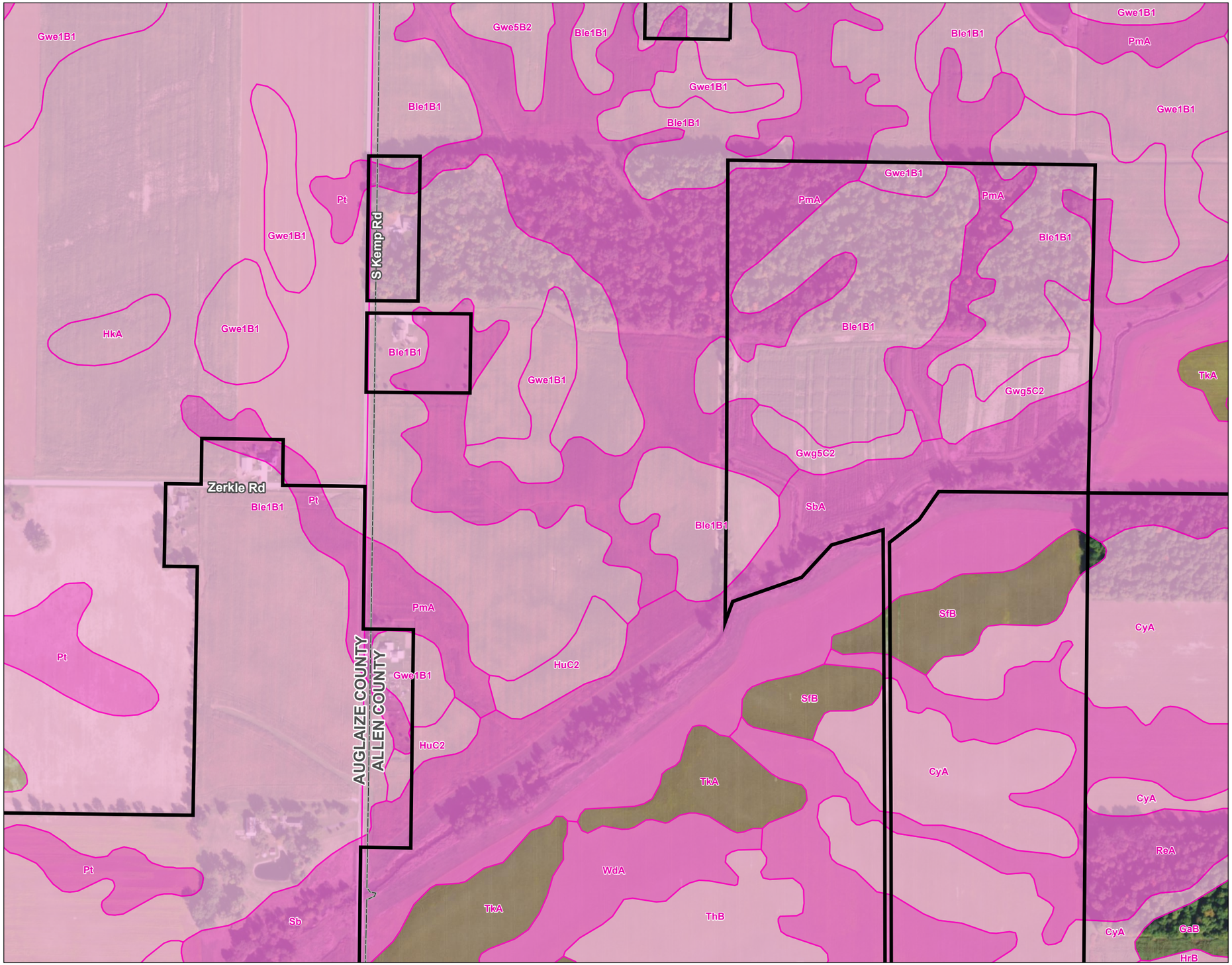

Figure No.
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Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
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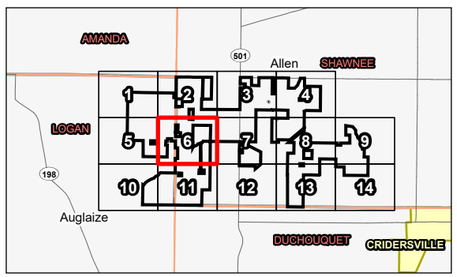
- Non-Hydric Soil



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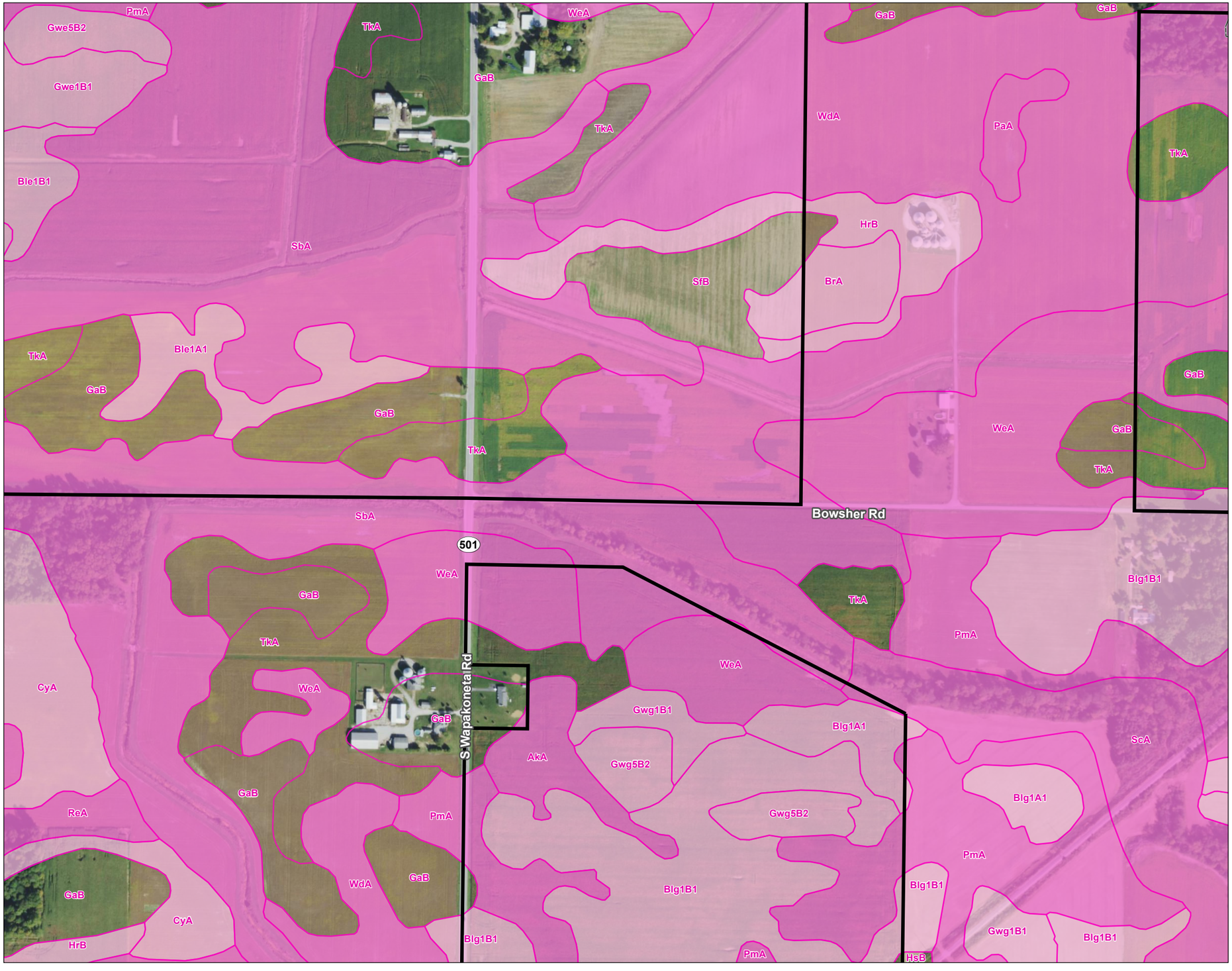

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Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
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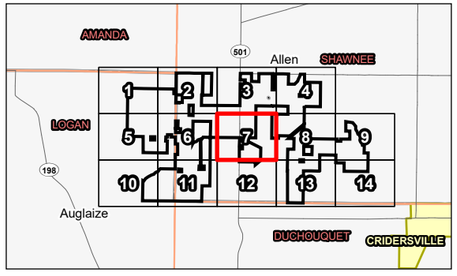
- Non-Hydric Soil



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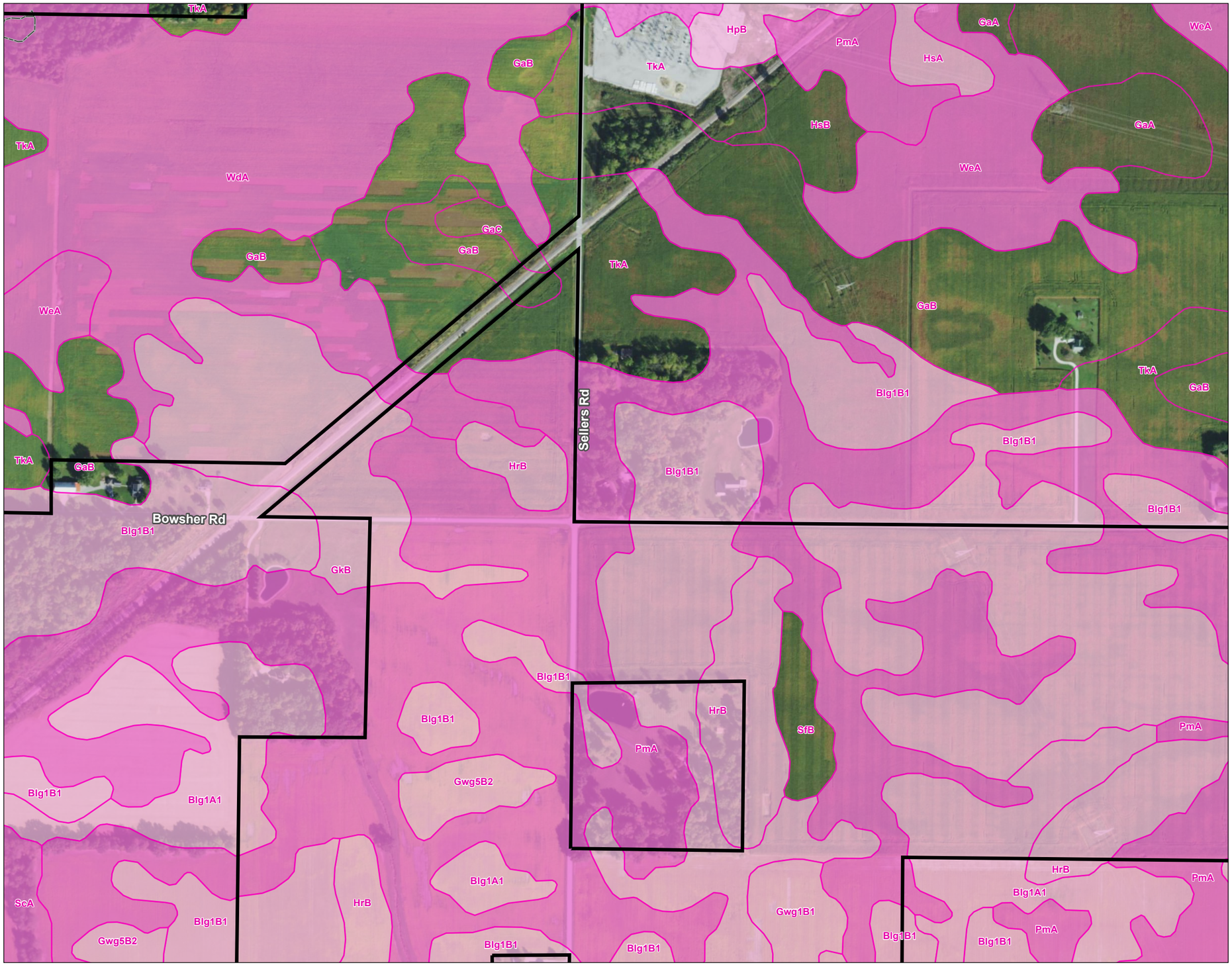

Figure No.
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Title
NRCS Soil Survey Map

Client/Project
Lightsource bp
Birch Solar Project

2028113238

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
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Legend
- Project Area

NRCS Soil Survey Data

Hydric Soil Rating
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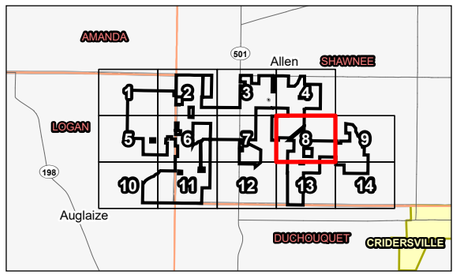

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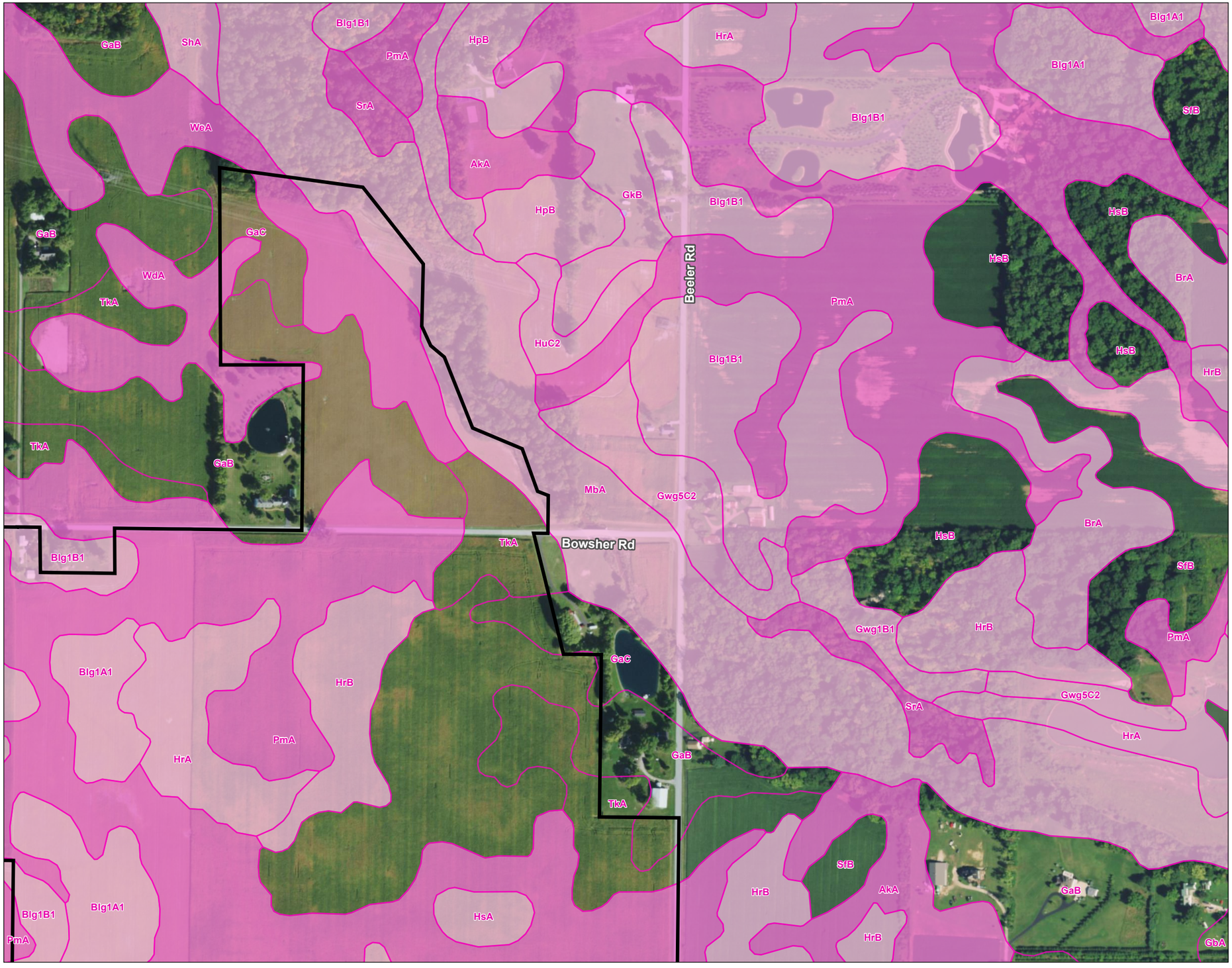

Figure No.

2

Title

NRCS Soil Survey Map

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
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IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
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Legend

- Project Area

NRCS Soil Survey Data

Hydric Soil Rating

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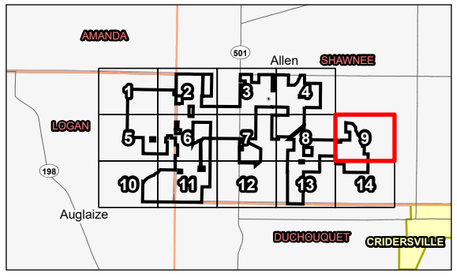
- Non-Hydric Soil



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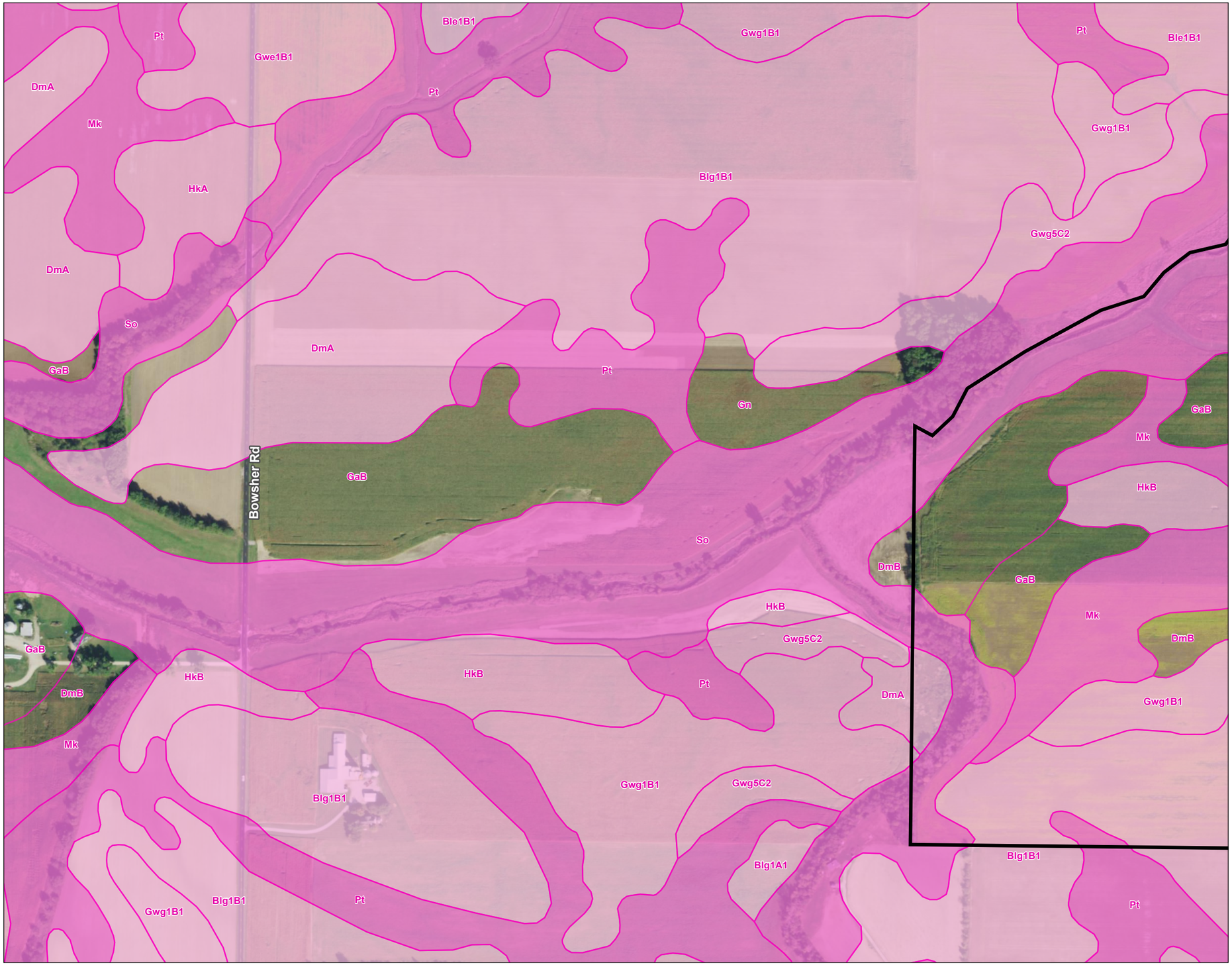

Figure No.

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Title

NRCS Soil Survey Map

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

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Legend

- Project Area

NRCS Soil Survey Data

Hydric Soil Rating

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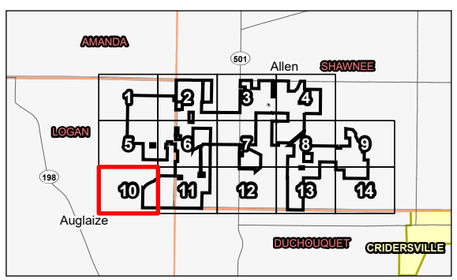

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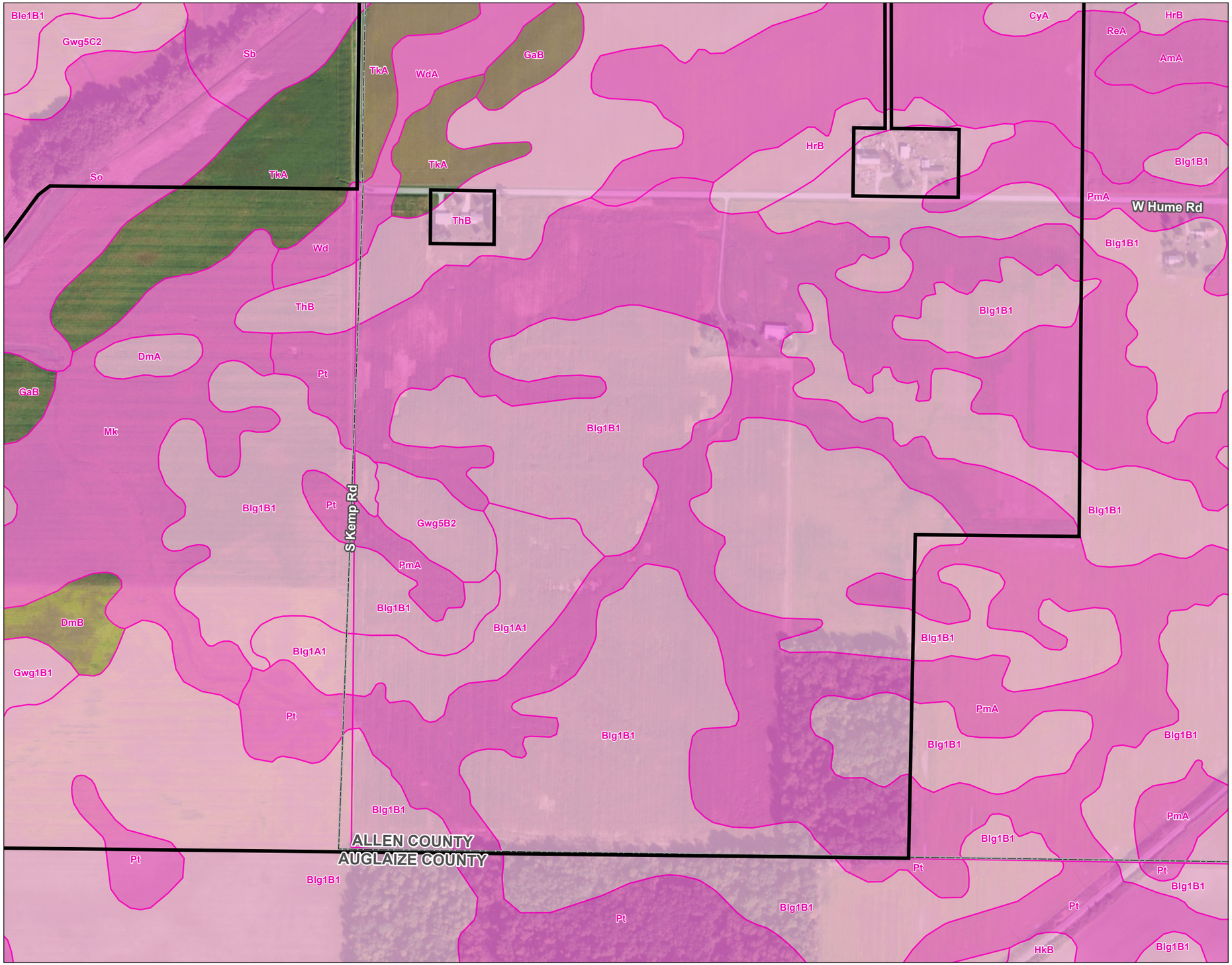

Figure No.
2

Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

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Legend
- Project Area

NRCS Soil Survey Data
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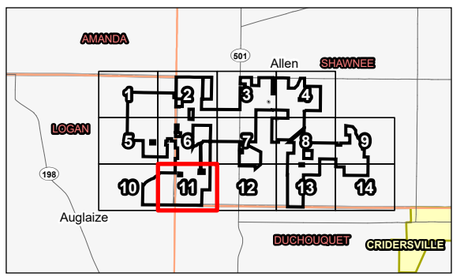

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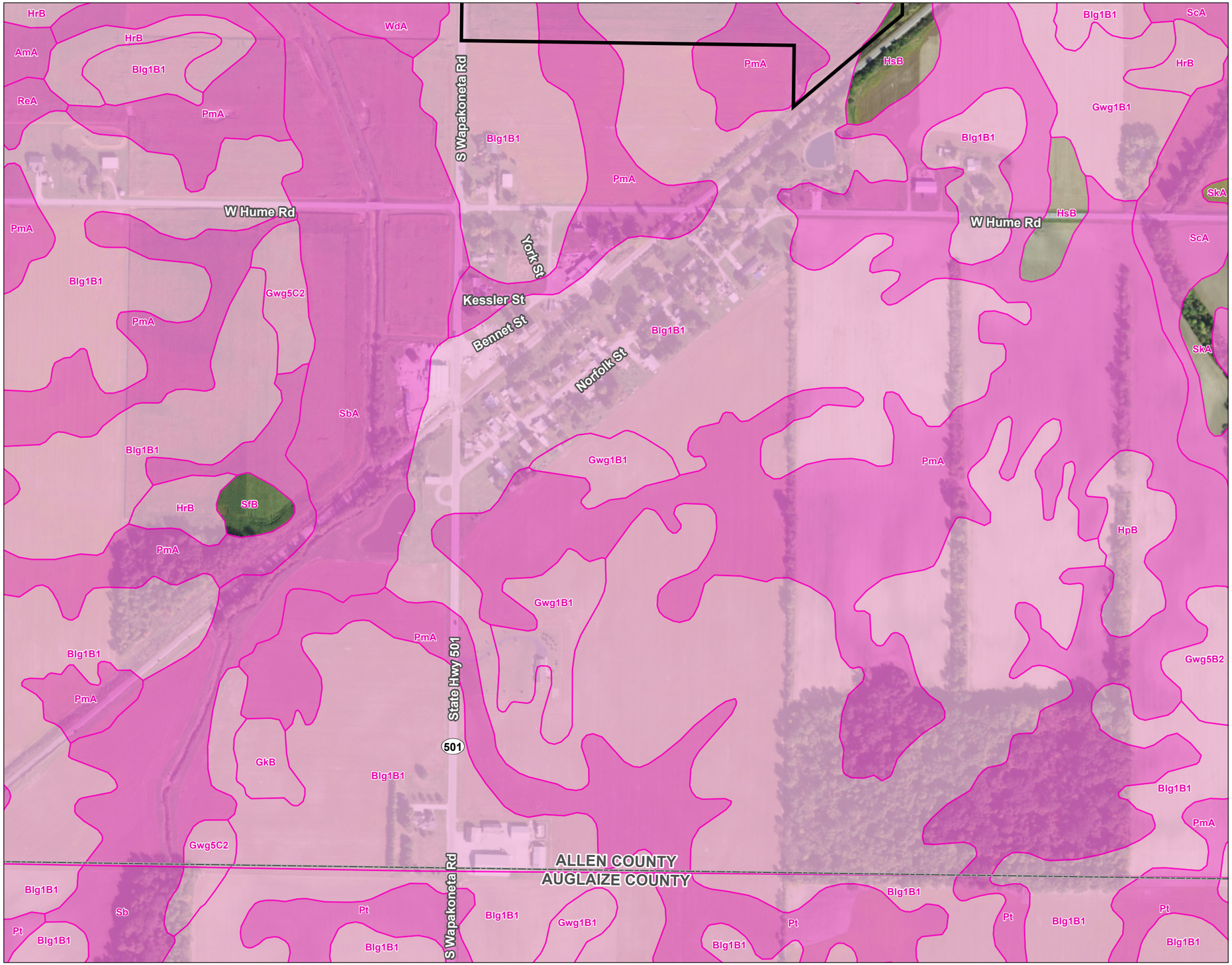


Figure No.
2

Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

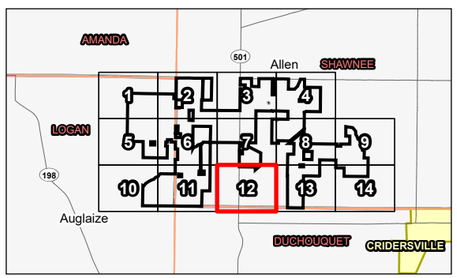
Project Location
Allen and Auglaize Counties, Ohio

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area

NRCS Soil Survey Data
Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



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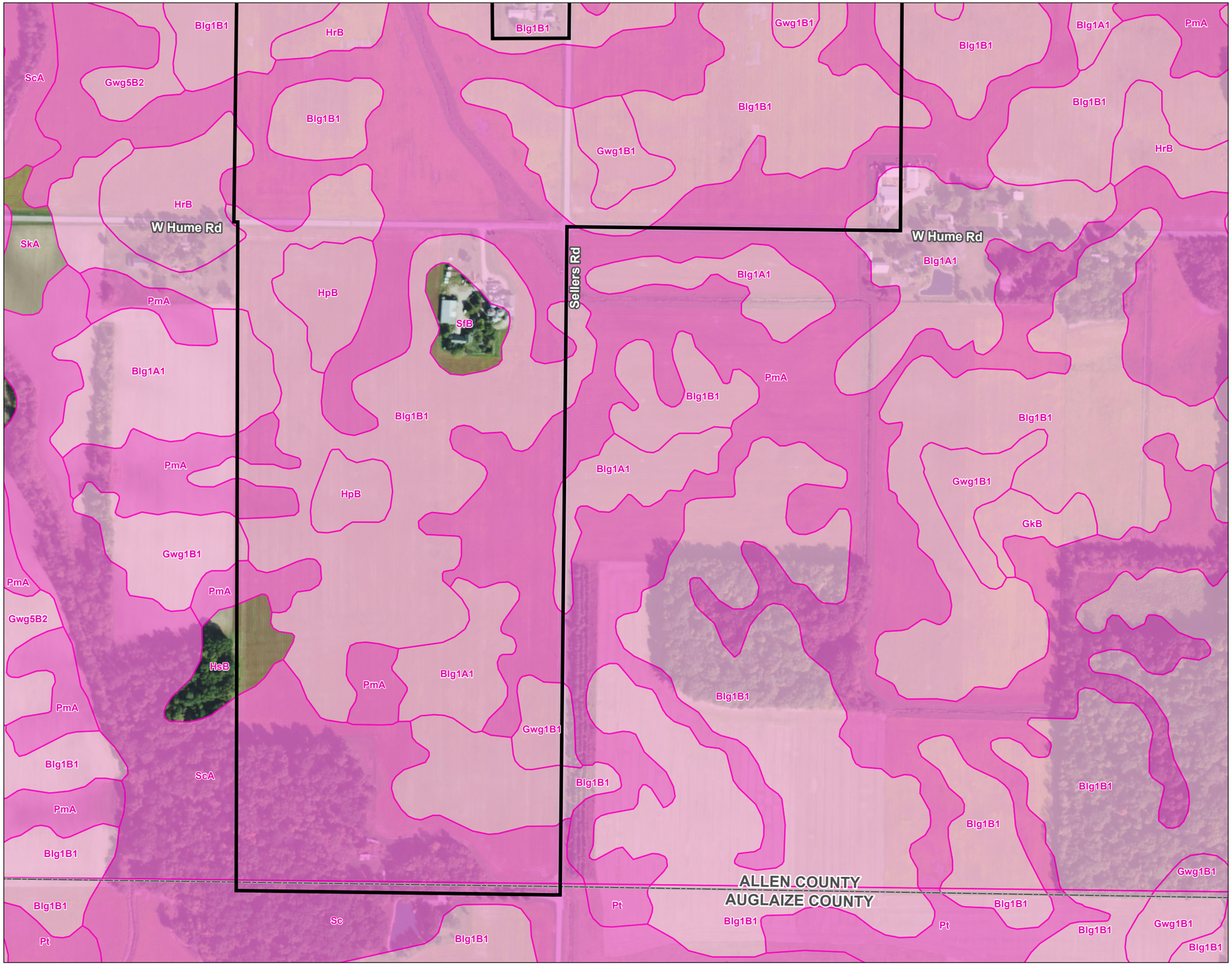


Figure No.
2

Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

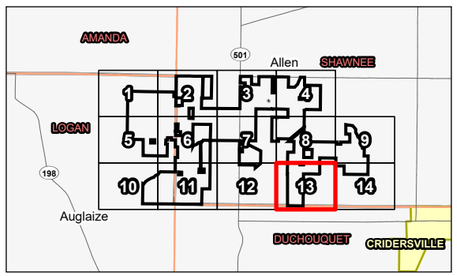
Project Location
Allen and Auglaize Counties, Ohio

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area

NRCS Soil Survey Data
Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, NRCS, NADS
3. Orthophotography: 2019 NAIP

Stantec

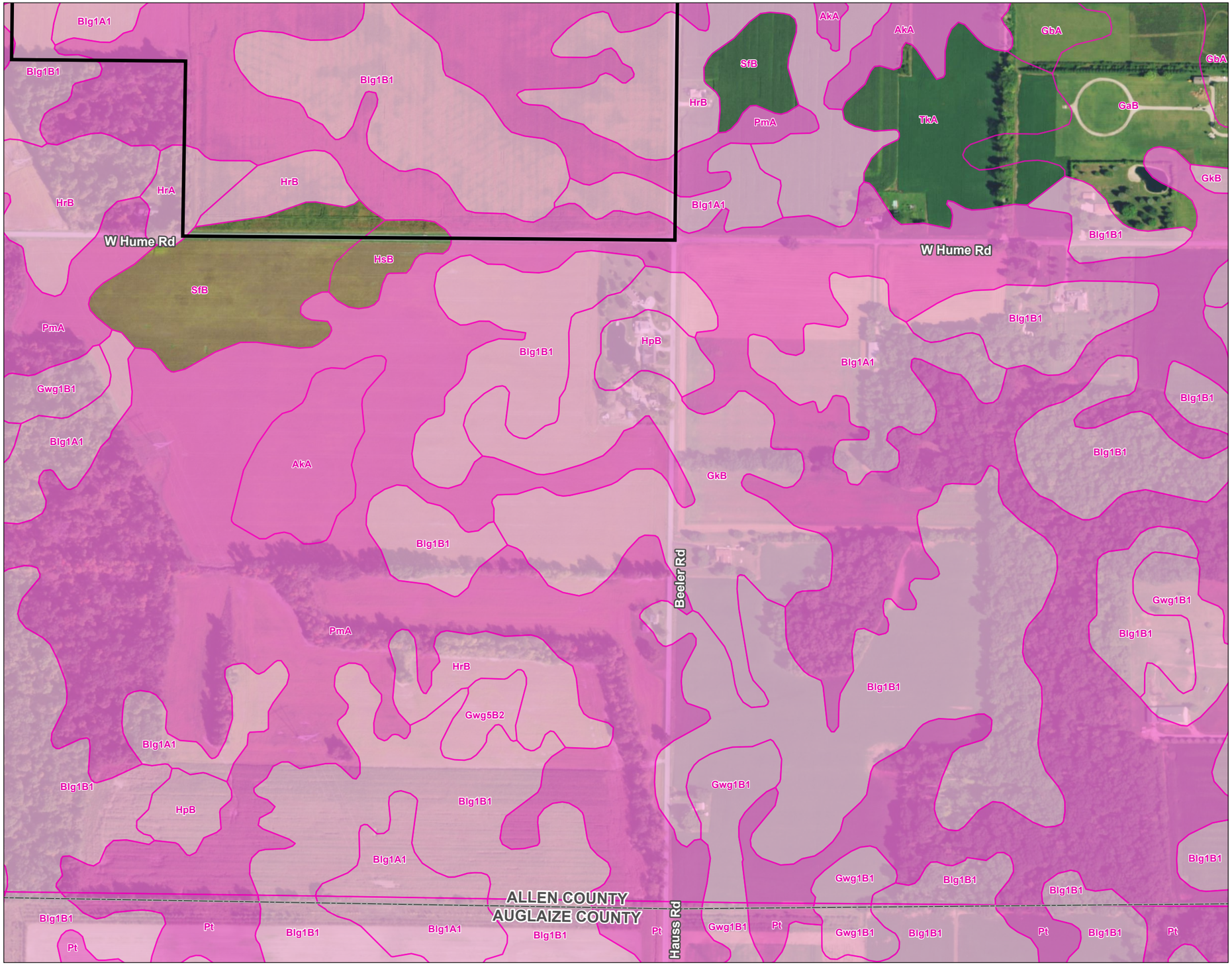


Figure No.
2

Title
NRCS Soil Survey Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

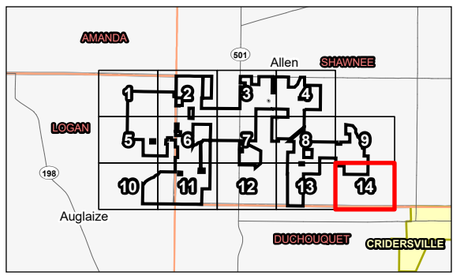
Project Location
Allen and Auglaize Counties, Ohio

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area

NRCS Soil Survey Data
Hydric Soil Rating
- Predominantly Hydric Soil
- Partially Hydric Soil
- Non-Hydric Soil



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, NRCS, NADS
3. Orthophotography: 2019 NAIP

Stantec

A.3 FIGURE 3 – NATIONAL WETLANDS INVENTORY MAP

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

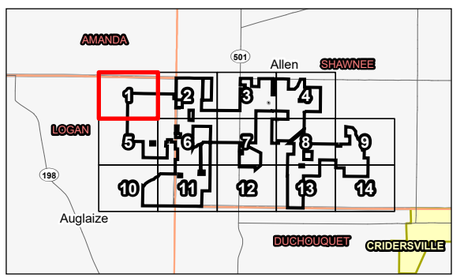
Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

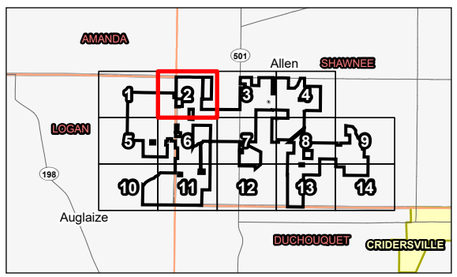
0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend

- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset

- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

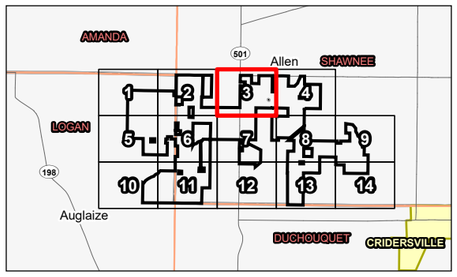
Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

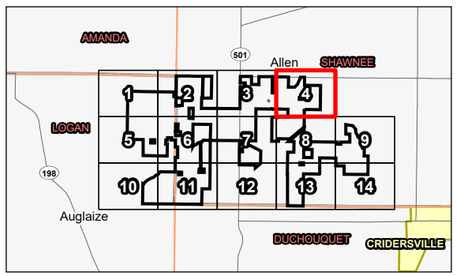
Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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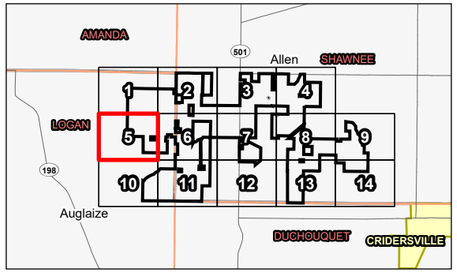
Legend

- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset

- Perennial Stream
- Intermittent Stream
- Waterbody



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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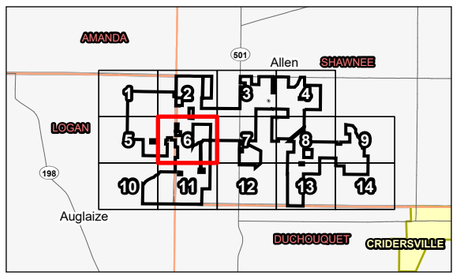
Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

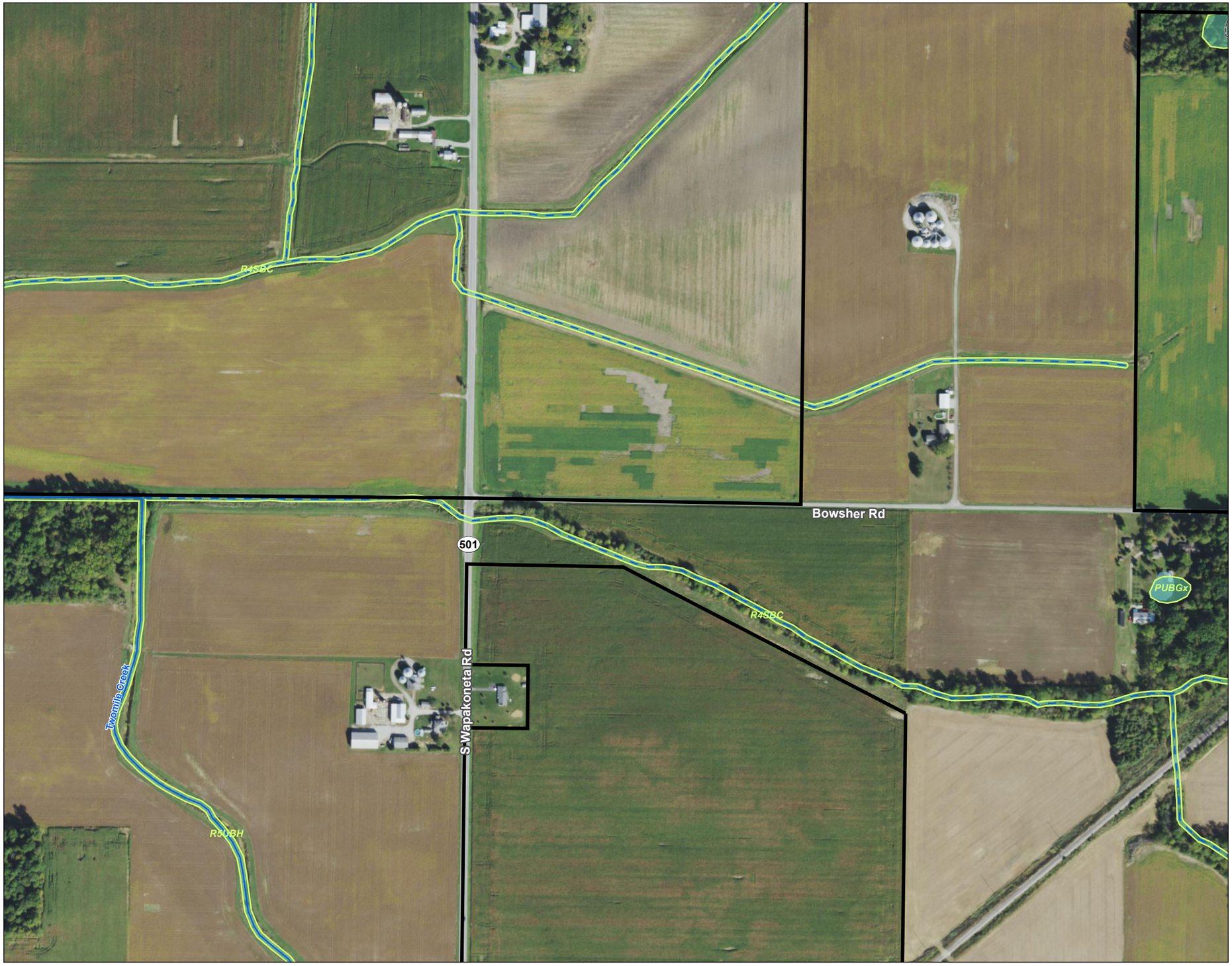

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project
Lightsource bp
Birch Solar Project

2028113238

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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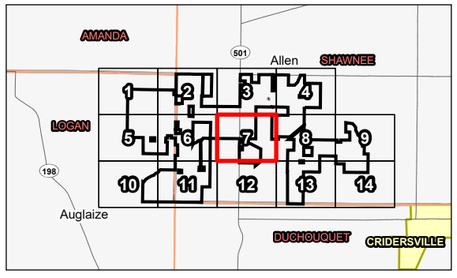
Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project
Lightsource bp
Birch Solar Project
2028113238

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
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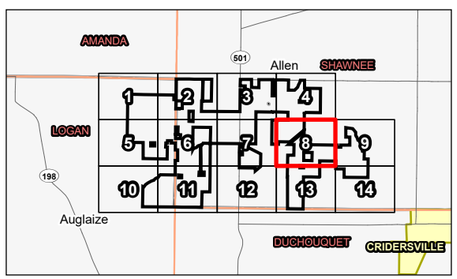
Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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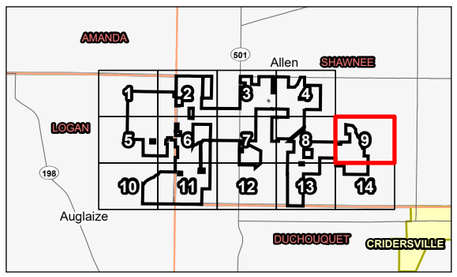
Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



Notes
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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
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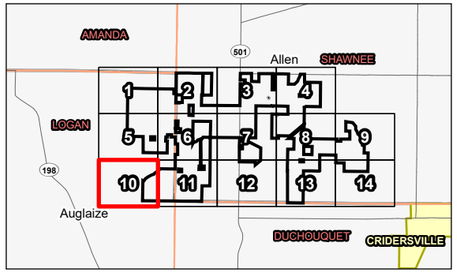
Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

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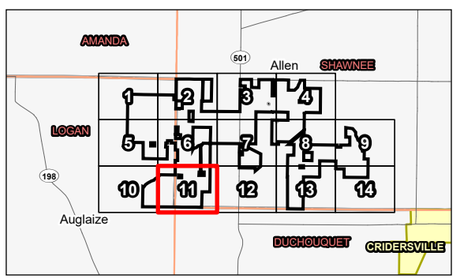
Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

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(At original document size of 11x17)
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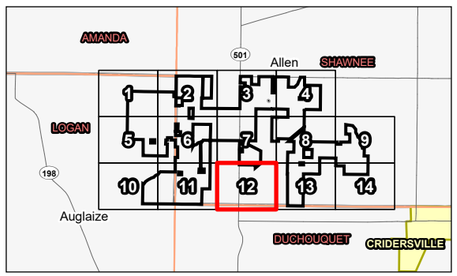
Legend

- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset

- Perennial Stream
- Intermittent Stream
- Waterbody



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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
3

Title
National Wetlands Inventory Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

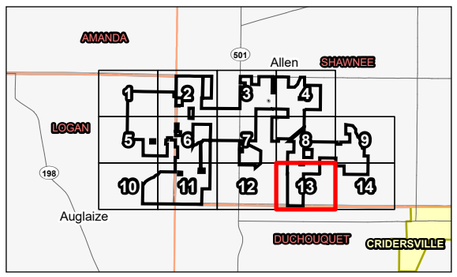
Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody



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2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 2028113238

Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

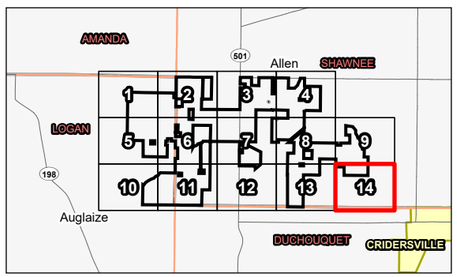
0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend

- Project Area
- National Wetlands Inventory Feature

National Hydrography Dataset

- Perennial Stream
- Intermittent Stream
- Waterbody



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, USFWS, NADS
3. Orthophotography: 2019 NAIP

Stantec

A.4 FIGURE 4 – WETLAND AND WATERBODY DELINEATION MAP

Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

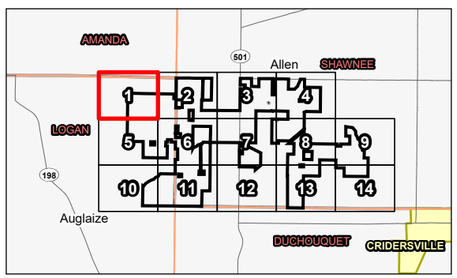
Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
- Field Delineated Open Water
- Field Delineated Forested Wetland
- Field Delineated Scrub Shrub Wetland



Notes
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2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

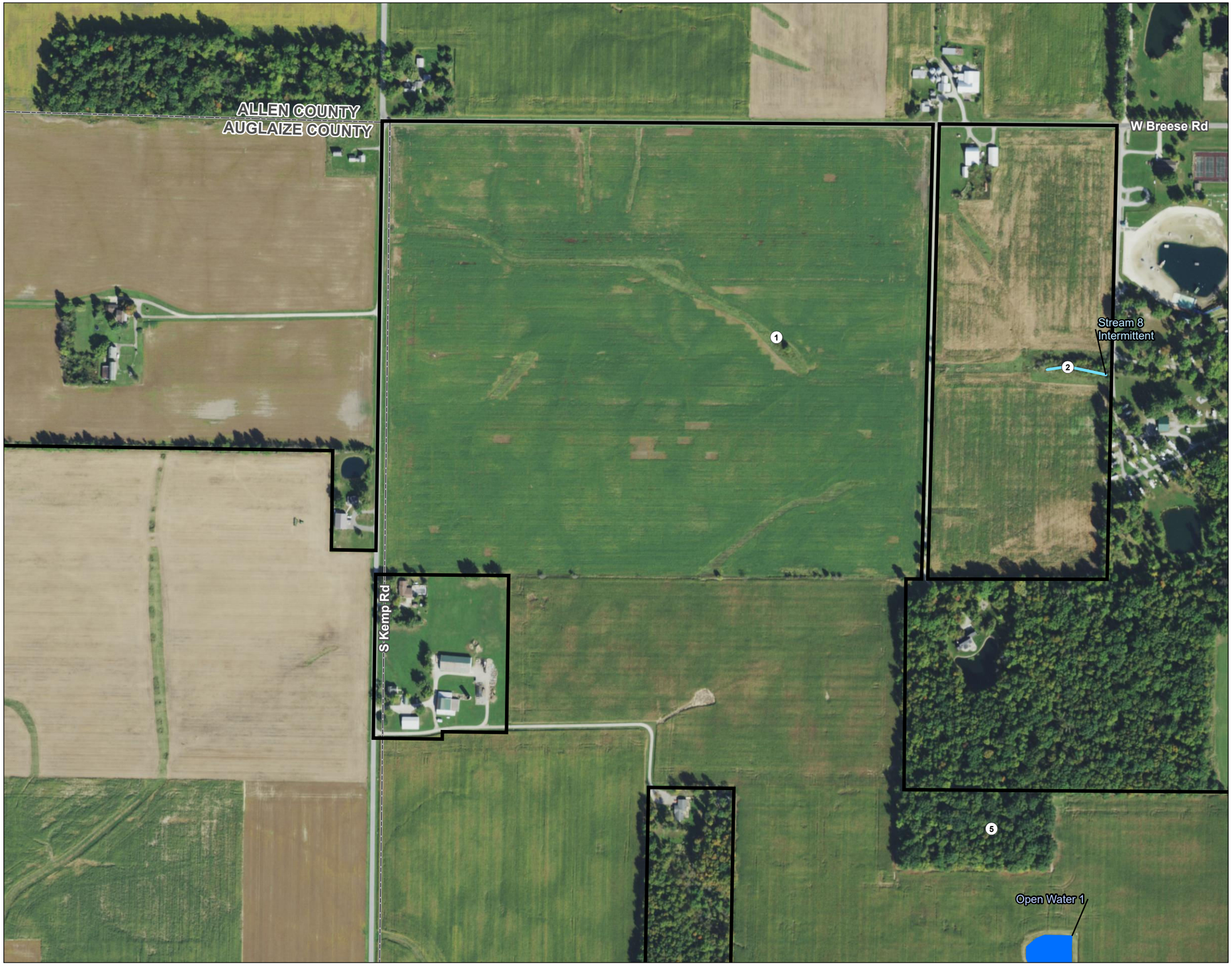


Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

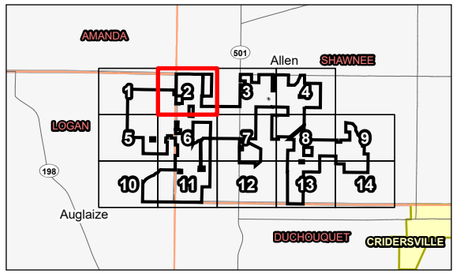
Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
- Field Delineated Open Water
- Field Delineated Forested Wetland
- Field Delineated Scrub Shrub Wetland



Notes
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2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

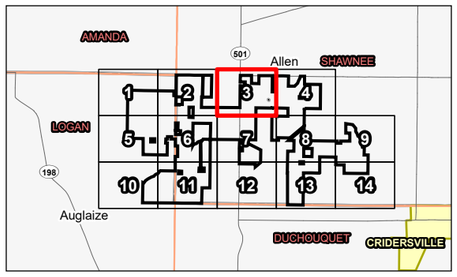
Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
- Field Delineated Open Water
- Field Delineated Forested Wetland
- Field Delineated Scrub Shrub Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

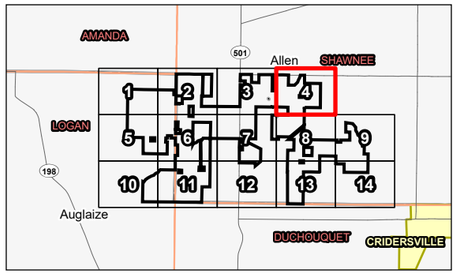
Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
- Field Delineated Open Water
- Field Delineated Forested Wetland
- Field Delineated Scrub Shrub Wetland



Notes
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2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
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- Field Delineated Forested Wetland
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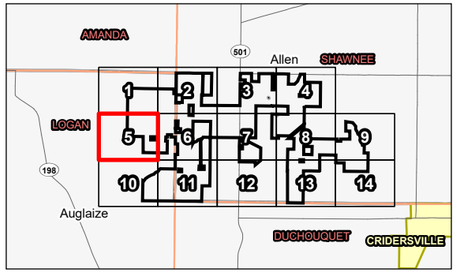

Notes
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2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
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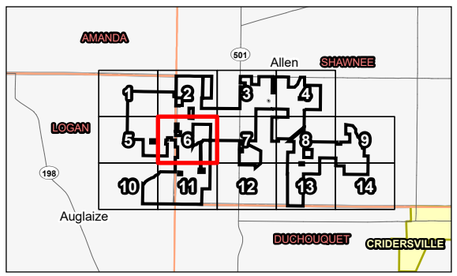


Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

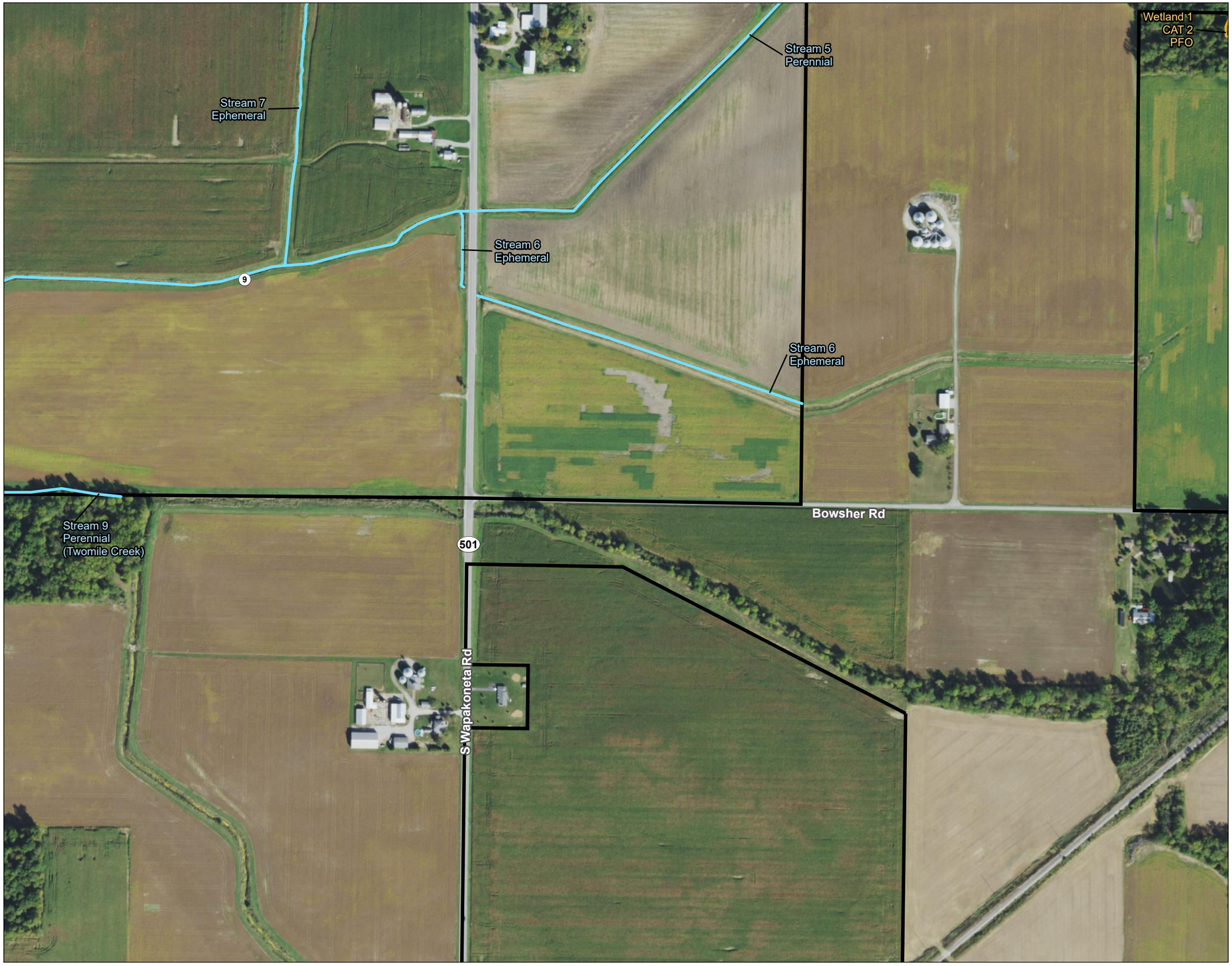


Figure No.
4

Title
Wetland and Waterbody Delineation Map

Client/Project 2028113238
Lightsource bp
Birch Solar Project

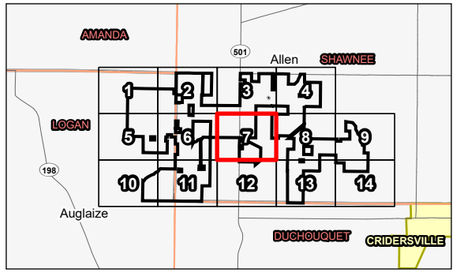
Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-01-21
TR by CA on 2021-01-21
IR by CD on 2021-01-21

N

0 200 400 Feet
(At original document size of 11x17)
1:4,800

Legend
- Project Area
- Photo Location
- Wetland Determination Sample Point
- Field Delineated Waterway
- Field Delineated Open Water
- Field Delineated Forested Wetland
- Field Delineated Scrub Shrub Wetland



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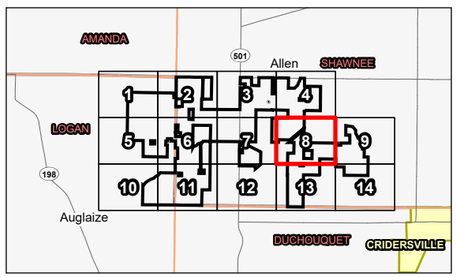

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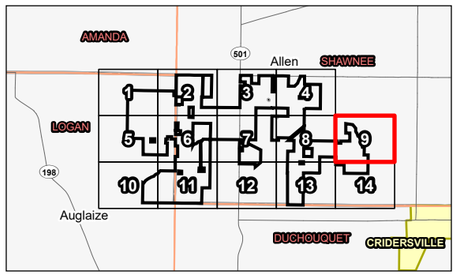

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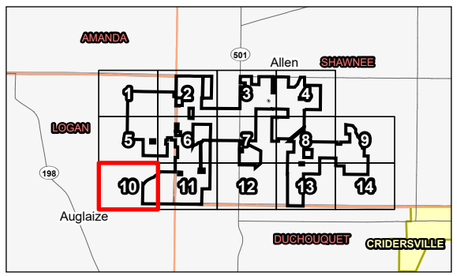

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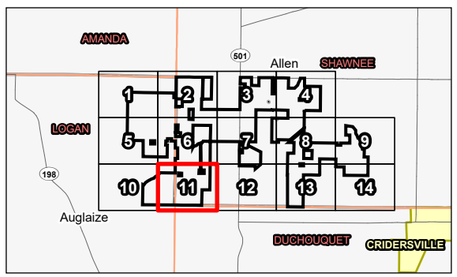

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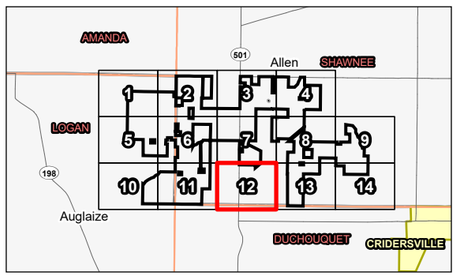

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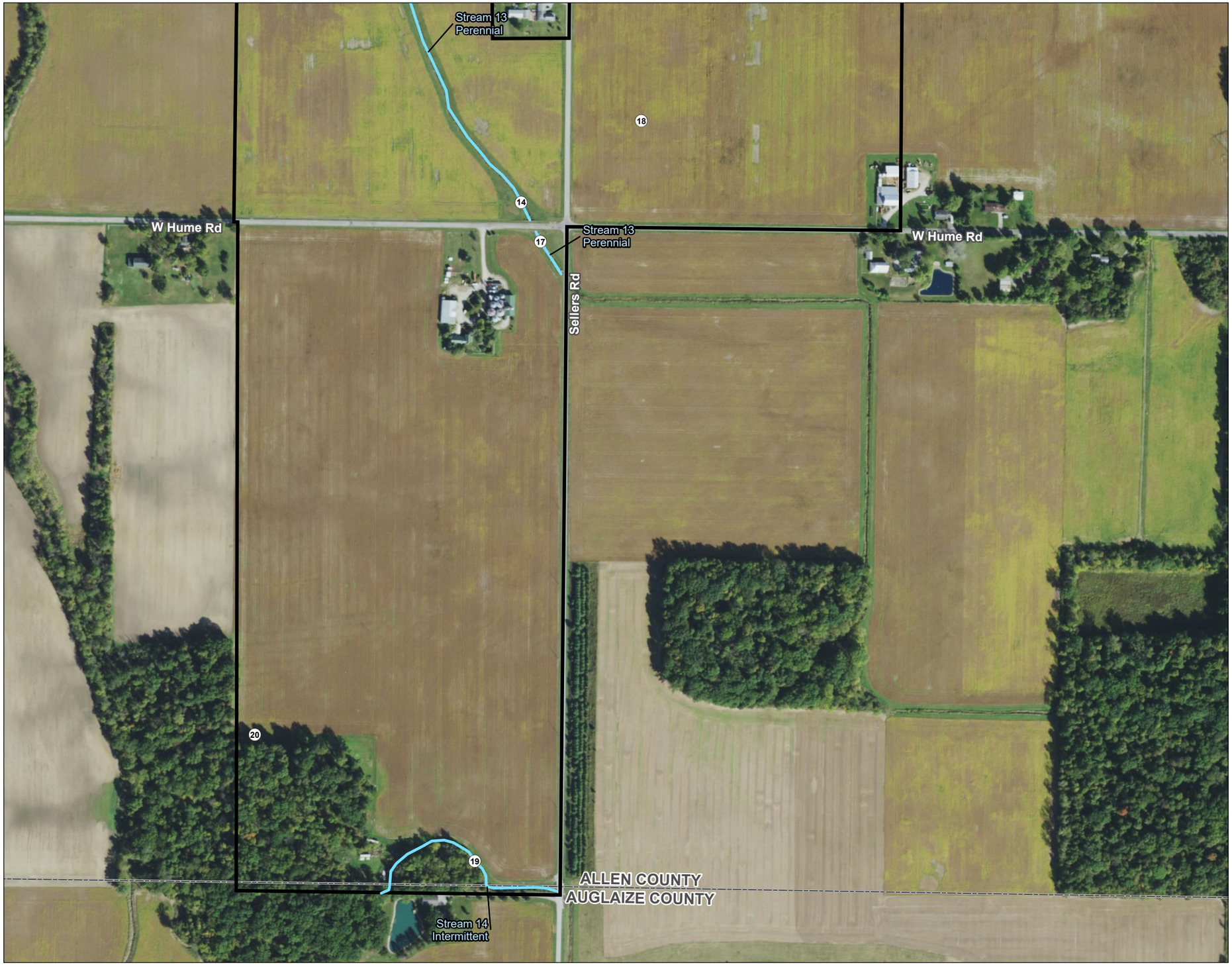

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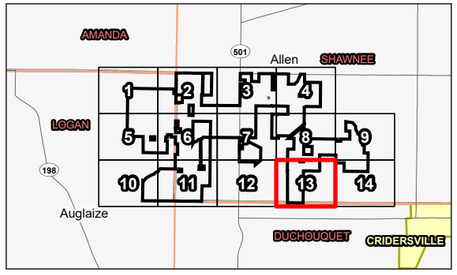

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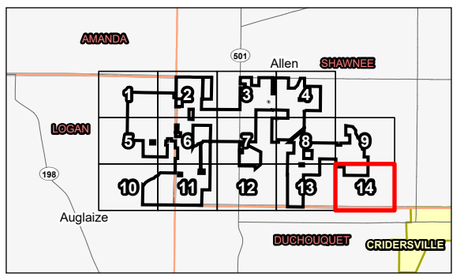

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Stantec

Appendix B DATA FORMS

B.1 WETLAND DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Westland clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	PFO1C
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.676918°N Longitude: -84.192580°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/03/20
County:	Allen
State:	Ohio
Wetland ID:	Wetland 1
Sample Point:	SP01
Community ID:	PFO
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland 1

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Westland clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	2/1	100	--	--	--	--	--	loam
6	16	2	10YR	4/2	90	10R	4/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Wetland 1 | Sample Point: SP01

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Ulmus americana*	25	Y	FACW
2.	*Acer saccharinum*	50	Y	FACW
3.	*Acer rubrum*	15	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Fraxinus pennsylvanica*	25	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 5 ft radius)

1.	*Acer saccharinum*	15	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

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%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Westland clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	PFO1C
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.677051°N Longitude: -84.192596°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/03/20
County:	Allen
State:	Ohio
Wetland ID:	Wetland 1
Sample Point:	SP02
Community ID:	Upland
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☑ **No**

Remarks: Wetland 1

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
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- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Westland clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR 2/1	100	-- --	--	--	--	loam
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
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- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
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- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Wetland 1 | Sample Point: SP02

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	70	Y	FACU
2.	*Quercus alba*	10	N	FACU
3.	*Carya ovata*	10	N	FACU
4.	*Aesculus glabra*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Aesculus glabra*	5	Y	FAC
2.	*Fraxinus pennsylvanica*	5	Y	FACW
3.	*Asimina triloba*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 5 ft radius)

1.	*Fraxinus pennsylvanica*	15	Y	FACW
2.	*Carex grayi*	2	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	17		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Pewamo silty clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	PEM1A
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 40.679156°N Longitude: -84.202108°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/04/20
County:	Allen
State:	Ohio
Wetland ID:	Non-JD
Sample Point:	SP03
Community ID:	Upland
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR 3/3	100	-- --	--	--	--	loam
10	16	2	10YR 4/4	100	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Non-JD | Sample Point: SP03

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Bromus inermis*	30	Y	FACU
2.	*Apocynum cannabinum*	15	N	FAC
3.	*Asclepias syriaca*	15	N	FACU
4.	*Solidago canadensis*	30	Y	FACU
5.	*Cirsium arvense*	10	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: *0%* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	15	x 3 =	45
FACU spp.	85	x 4 =	340
UPL spp.	0	x 5 =	0
Total	100 (A)		385 (B)

Prevalence Index = B/A = *3.850*

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Pewamo silty clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	2	Latitude: 40.680616°N Longitude: -84.195082°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/04/20
County:	Allen
State:	Ohio
Wetland ID:	Wetland 2
Sample Point:	SP04
Community ID:	PSS
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	2	1	10YR	2/1	100	--	--	--	--	--	mucky loam
2	16	2	10YR	5/1	90	10R	4/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Wetland 2 | Sample Point: SP04

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Salix nigra*	75	Y	OBL
2.	*Fraxinus pennsylvanica*	5	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	30	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

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%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Pewamo silty clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	N/A
Landform:	Rise	Local Relief:	Convex
Slope (%):	2	Latitude: 40.680599°N Longitude: -84.195108°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/04/20
County:	Allen
State:	Ohio
Wetland ID:	Wetland 2
Sample Point:	SP05
Community ID:	UPL
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR	5/4	45	--	--	--	--	--	clay loam
0	16	1	10YR	6/8	45	--	--	--	--	--	clay loam
0	16	1	10YR	2/1	10	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Fill material

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Wetland 2 | Sample Point: SP05

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Ulmus rubra*	10	Y	FAC
2.	*Juglans nigra*	10	Y	FACU
3.	*Morus rubra*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Fraxinus pennsylvanica*	2	N	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	2		

Herb Stratum (Plot size: 5 ft radius)

1.	*Solidago canadensis*	69	Y	FACU
2.	*Cirsium arvense*	10	N	FACU
3.	*Phalaris arundinacea*	20	Y	FACW
4.	*Lythrum salicaria*	1	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Rubus allegheniensis*	15	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	15		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***29%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	1	x 1 =	1
FACW spp.	22	x 2 =	44
FAC spp.	10	x 3 =	30
FACU spp.	114	x 4 =	456
UPL spp.	0	x 5 =	0
Total	147 (A)		531 (B)

Prevalence Index = B/A = ***3.612***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Westland clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	PFO1A
Landform:	Depression	Local Relief:	Concave
Slope (%):	2	Latitude: 40.679749°N Longitude: -84.194964°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/04/20
County:	Allen
State:	Ohio
Wetland ID:	Non-JD
Sample Point:	SP06
Community ID:	UPL
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☑ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Westland clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR 2/2	100	-- --	--	--	--	mucky loam
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Non-JD | Sample Point: SP06

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	85	Y	FACU
2.	*Aesculus glabra*	10	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Asimina triloba*	2	N	FAC
2.	*Lindera benzoin*	2	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	4		

Herb Stratum (Plot size: 5 ft radius)

1.	*Laportea canadensis*	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	5		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

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%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	7	x 2 =	14
FAC spp.	12	x 3 =	36
FACU spp.	85	x 4 =	340
UPL spp.	0	x 5 =	0
Total	104 (A)		390 (B)

Prevalence Index = B/A = ***3.750***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Westland clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	PFO1A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	2	Latitude: 40.679246°N Longitude: -84.196536°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/04/20
County:	Allen
State:	Ohio
Wetland ID:	Non-JD
Sample Point:	SP07
Community ID:	UPL
Section:	20
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Westland clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR 2/1	100	-- --	--	--	--	silty clay loam
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Non-JD | Sample Point: SP07

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Celtis occidentalis*	45	Y	FAC
2.	*Tilia americana*	25	Y	FACU
3.	*Juglans nigra*	10	N	FACU
4.	*Aesculus glabra*	10	N	FAC
5.	*Fraxinus americana*	10	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Asimina triloba*	5	Y	FAC
2.	*Lindera benzoin*	15	Y	FACW
3.	*Carpinus caroliniana*	2	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	22		

Herb Stratum (Plot size: 5 ft radius)

1.	*Laportea canadensis*	30	Y	FACW
2.	*Carex grayi*	5	N	FACW
3.	*Boehmeria cylindrica*	5	N	OBL
4.	*Elymus canadensis*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Pewamo silty clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 40.674086°N Longitude: -84.217527°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/04/20
County:	Allen
State:	Ohio
Wetland ID:	Wetland 3
Sample Point:	SP08
Community ID:	PFO
Section:	19
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	4/1	100	--	--	--	--	--	silty clay
8	16	2	10YR	4/1	92	10YR	4/6	8	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Wetland 3 | Sample Point: SP08

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Quercus bicolor*	35	Y	FACW
2.	*Fraxinus pennsylvanica*	15	Y	FACW
3.	*Acer negundo*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Fraxinus pennsylvanica*	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 5 ft radius)

1.	*Cinna arundinacea*	30	Y	FACW
2.	*Boehmeria cylindrica*	5	N	OBL
3.	*Pilea pumila*	10	N	FACW
4.	*Laportea canadensis*	5	N	FACW
5.	*Carex grayi*	30	Y	FACW
6	*Carex vulpinoidea*	5	N	FACW
7.	*Lysimachia nummularia*	20	N	FACW
8.	*Symphyotrichum novae-angliae*	5	N	FACW
9.	*Impatiens capensis*	5	N	FACW
10.	*Mimulus ringens*	5	N	OBL
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	120		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Pewamo silty clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	N/A
Landform:	Rise	Local Relief:	Convex
Slope (%):	1	Latitude: 40.674163°N Longitude: -84.217445°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/05/20
County:	Allen
State:	Ohio
Wetland ID:	Wetland 3
Sample Point:	SP09
Community ID:	UPL
Section:	19
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR 4/3	100	-- --	--	--	--	silty clay
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Wetland 3 | Sample Point: SP09

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Carya cordiformis*	65	Y	FACU
2.	*Acer negundo*	5	N	FAC
3.	*Fraxinus pennsylvanica*	5	N	FACW
4.	*Ulmus americana*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Fraxinus pennsylvanica*	2	N	FACW
2.	*Acer negundo*	3	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 5 ft radius)

1.	*Persicaria virginiana*	10	N	FAC
2.	*Lysimachia nummularia*	25	Y	FACW
3.	*Cinna arundinacea*	15	Y	FACW
4.	*Acer negundo*	2	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	52		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***67%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project	Stantec Project #:	2028113328
Applicant:	Lightsource Renewable Energy		
Investigator #1:	Aaron Kwolek	Investigator #2:	
Soil Unit:	Pewamo silty clay loam, 0 to 1 percent slopes	NWI/WWI Classification:	PFO1A
Landform:	Talf	Local Relief:	Linear
Slope (%):	1	Latitude: 40.673989°N Longitude: -84.218984°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/05/20
County:	Allen
State:	Ohio
Wetland ID:	Non-JD
Sample Point:	SP10
Community ID:	UPL
Section:	19
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0 to 1 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR 5/3	100	-- --	--	--	--	silty clay
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--
--	--	--	--	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Non-JD | Sample Point: SP10

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	60	Y	FACU
2.	*Asimina triloba*	20	Y	FAC
3.	*Carya cordiformis*	10	N	FACU
4.	*Ulmus rubra*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Asimina triloba*	2	N	FAC
2.	*Acer saccharum*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	4		

Herb Stratum (Plot size: 5 ft radius)

1.	*Geum canadense*	2	N	FAC
2.	*Asimina triloba*	2	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	4		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

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%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	36	x 3 =	108
FACU spp.	72	x 4 =	288
UPL spp.	0	x 5 =	0
Total	108 (A)		396 (B)

Prevalence Index = B/A = ***3.667***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Birch Solar Project Lightsource	Stantec Project #:	2028113328
Applicant:	Renewable Energy		
Investigator #1:	Michelle Kearns	Investigator #2:	Charlie Allen
Soil Unit:	Thackery loam, sandy substratum, 0 to 2 percent slopes	NWI/WWI Classification:	PFO1C
Landform:	Sideslope	Local Relief:	Concvex
Slope (%):	2	Latitude: 40.68095°N Longitude: -84.1914°W	Datum: NAD 83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes No ☐

Date:	12/16/20
County:	Allen
State:	Ohio
Wetland ID:	Non-JD
Sample Point:	SP11
Community ID:	Upland
Section:	17
Township:	4S
Range:	6E Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 2 to 4 percent slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	4/4	100	--	--	--	--	--	sandy loam
10	20	2	10YR	5/6	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Birch Solar Project | Wetland ID: Non-JD | Sample Point: SP11

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Prunus serotina*	5	Y	FACU
2.	*Fraxinus pennsylvanica*	5	Y	FACW
3.	*Acer saccharum*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Lonicera morrowii*	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Herb Stratum (Plot size: 5 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Vitis riparia*	30	Y	FACW
2.	*Rubus occidentalis*	50	Y	UPL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	80		

Remarks: No herbaceous layer, 20% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	35	x 2 =	70
FAC spp.	0	x 3 =	0
FACU spp.	25	x 4 =	100
UPL spp.	50	x 5 =	250
Total	110 (A)		420 (B)

Prevalence Index = B/A = ***3.8***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

B.2 ORAM FORMS

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

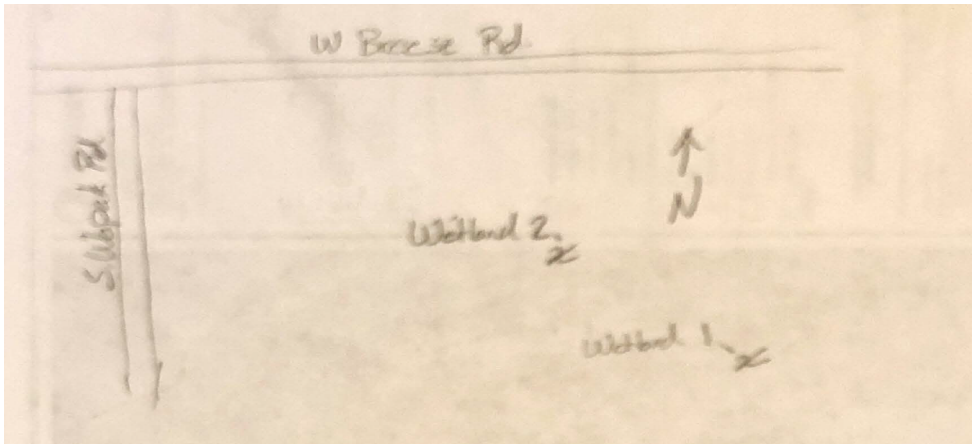
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name:	Aaron Kwolek
Date:	August 3, 2020
Affiliation:	Stantec Consulting Services
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-908-7599
e-mail address:	aaron.kwolek@stantec.com
Name of Wetland:	Wetland 1
Vegetation Communit(ies):	PFO
HGM Class(es):	Depression

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate	40.676986, -84.192615
USGS Quad Name	Cridersville, Ohio
County	Allen
Township	Shawnee
Section and Subsection	20, 4S, 6E
Hydrologic Unit Code	04100007201
Site Visit	8/3/2020
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	Allen County Soil Survey
Delineation report/map	Wetland and Water Body Delineation Report, Figure 4

Summary: Application - 21 of 31 (Exhibit P – Part 1 of 2 - Wetland and Waterbody Delineation Report) electronically filed by Christine M.T. Pirik on behalf of Birch Solar 1, LLC