

Ecological Resource Analysis Report

New Market Solar II
Stringtown Road
Buford, Highland County, Ohio
August 27, 2020
Terracon Project No. N1207316



Prepared for:

Hecate Energy Highland 2, LLC
Chicago, Illinois

Prepared by:

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terracon.com

Terracon

Ohio Power Siting Board Application
New Market Solar Farm
Hecate Energy Highland 4 LLC and
Hecate Energy Highland 2, LLC
Exhibit G: Ecological Report New Market II
Page 105

Environmental

Facilities

Geotechnical

Materials

August 27, 2020

Hecate Energy Highland 2, LLC
621 Randolph Street
Chicago, Illinois 60661

Attn: Ms. Patti Shorr
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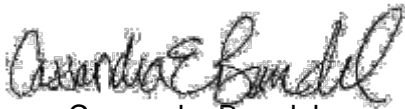
Re: Ecological Resources Analysis Report
New Market Solar II
Stringtown Road
Buford, Highland County, Ohio
Terracon Project No. N1207316

Dear Ms. Shorr:

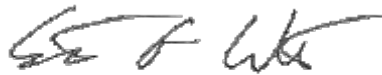
Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Ecological Resource Analysis Report (ECAR) for the above-referenced site. Terracon's services were performed in a manner consistent with generally accepted practices of profession undertaken in similar studies in the same geographical area during the same time period. We appreciate the opportunity to provide services to Hecate Energy Highland 2, LLC. If you have any questions concerning this report, or if we can assist you in any other matter, please call our office at 513-612-9094.

Sincerely,

TERRACON CONSULTANTS, INC.



Cassandra Brendel
Staff Scientist



Scott West
Group Manager

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1.0 EXECUTIVE SUMMARY

Terracon Consultants, Inc. (Terracon), on behalf of Hecate Energy Highland 2, LLC, has completed an Ecological Resource Analysis (ERA) of the proposed New Market Solar II Project. The ERA was conducted per the *Ohio Power Siting Board (OPSB) in order to fulfill the requirements of Ohio Administrative Code (OAC) § 4906-4-08(B)*. The purpose of ERA was to evaluate Project impacts on ecological resources through environmental studies and state and federal natural resources agency coordination. This evaluation includes a project site map review, a plant and animal literature review, a plant and animal field survey, a Waters of the United States (WOUS) field survey, a review of potential impacts to the aforementioned resources, and short-term and long-term mitigation measures.

Project Information

Hecate Energy Highland 2, LLC, is proposing to construct the New Market Solar II solar farm (Project Site) near Buford, Ohio, which is located approximately 25 miles east of Cincinnati, Ohio. The proposed photovoltaic (PV) solar energy facility will have a generation capacity of 35 megawatts (MW). The Project is proposed to be constructed within approximately 721-acres of private leased land located in Highland County, Ohio.

Ecological Resource Project Site Map Review

Terracon performed an ecological resource project site map review of the approximately 721-acre Project Site and within a 0.25-mile buffer around the Project Site. The Project Site map review included an assessment of topography, aerial imagery, wetlands and water features, soils, land use, wildlife resources and areas, nature preserves, and conservation areas within a quarter-mile of the site boundary. Based on the ecological resource Project Site map review, the Project Site is proposed to be built on predominantly, seasonally disturbed cultivated cropland. The Project Site will be converted from agricultural land to a commercial solar farm and will no longer be utilized for agriculture.

Literature Review – Plant and Animal

Terracon performed a plant and animal literature review of threatened and endangered (T&E) species habitat assessment review and species that are of commercial or recreational value at the Project Site. A review of federal and state-listed species that could potentially occur in the area of the Project Site identified two federally endangered and one federally threatened species, as well as six state endangered and three state threatened species.

Field Survey Results – Plant and Animal

The Project Site was observed as predominantly open agricultural land with limited, interspersed wooded areas. Potential suitable habitat for the federally-listed Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*) was observed within wooded areas on the Project Site.

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Field Survey Results – Vegetation and Surface Water

Terracon conducted wetland delineations to identify potential Waters of the United States (WOUS) and wetlands at the Project Site and within a 100-foot buffer around the Project Site. Based on the wetland delineations, ten wetlands totaling 45.78 acres, eight streams totaling 8,747 linear feet, and five ponds totaling 2.86 acres were observed on the Project Site and within the 100-foot buffer. Terracon anticipates that all identified stream channels will be jurisdictional, in accordance with Section 404 of the Clean Water Act (CWA). However, newly issued regulatory guidance may determine the on-site ephemeral streams to be non-jurisdictional to the USACE. The Ohio EPA will likely take jurisdiction on these features should the USACE not. The Project Site is located within the jurisdiction of the United States Army Corps of Engineers (USACE) Huntington District, Cincinnati Field Office, in Cincinnati, Ohio. The USACE holds jurisdiction over WOUS determined to be non-isolated within the Project Site boundaries. The Ohio Environmental Protection Agency (OEPA), in accordance with Section 401 of the CWA and the Ohio Revised Code 6111.02 to 6111.028 for issuance of a Water Quality Certificate (WQC), takes jurisdiction of isolated wetlands that may exist or are impacted within the Project Site boundaries.

Ecological Impacts

Based on our review, it is Terracon's opinion that the conversion of agricultural land to a solar farm should have no significant or adverse impact on wildlife within the vicinity of the Project Site. Suitable habitat for the Indiana bat and Northern long-eared bat (as well as three state listed species) was observed at the Project Site; therefore, any tree clearing should be performed seasonally (from October 1 to March 31) or a presence/absence survey by a qualified biologist and additional consultation with regulatory agencies may be necessary. In addition, incidental take of Northern long-eared bats is exempt in this location under the 4(d) rule. It is Terracon's opinion there is no suitable habitat for the other federal and state-listed species at the Project Site. Based on Terracon's review of the Project Site and planned development activities, no adverse effects to threatened or endangered species are anticipated. Terracon has begun early consultation with Ohio Department of Natural Resources (ODNR) and United States Fish and Wildlife Service (USFWS). Consultation correspondence records are appended to this report. A Preliminary Jurisdictional Determination Request has been submitted to the USACE for final concurrence with Terracon's Wetland Delineation Report for the Project Site (included as Appendix C). Solar arrays are not expected to impact regulated features on the Project Site. If impacts to these WOUS cannot be fully avoided, permitting would be required by these agencies.

2.0 PROJECT DESCRIPTION

2.1 Project Site

The Project Site comprises approximately 721-acres of land. The majority of the Project Site is comprised of agricultural land, the proposed photovoltaic (PV) panel area, and a substation and associated structures and equipment. These portions of the Project Site consist of agricultural land with few, small intermittent patches of forested areas. A transmission line also traverses agricultural land and briefly parallels Stringtown Road to connect the PV panel area to the substation. Numerous overhead power lines appear to cross the Project Site and are assumed to provide a point of interconnection for the Project.



Figure 1. An aerial overview of the Project Site.

2.2 Project

The Project consists of a PV solar energy facility with a proposed generation capacity of 35 megawatts (MW). The Project includes the development of PV panels and supporting steel frames. Foundations for the solar array may consist of wide flange steel piles (W6x9 or similar) or other propriety sections. In addition, Terracon understands that invertors, transformers, and other appurtenant equipment may be supported on shallow spread or mat foundations or through a direct drilled pier foundation. We anticipate that the solar field will follow existing topographic grade with minimal grading required. Terracon understands plans also include the development of some access roads, transmission lines, and a small substation (Figure 1).

3.0 REGULATORY REVIEW

As stated in the Executive Summary, this Ecological Resource Analysis (ERA) was conducted per the Ohio Power Siting Board (OPSB) in order to fulfill the requirements of *Ohio Administrative Code (OAC) § 4906-4-08(B)*. The purpose of conducting this ERA was to evaluate Project impacts on ecological resources through environmental studies and state and federal natural resources agency coordination. Per OPSB regulations, the evaluation includes a literature survey of plant and animal life within a 0.25-mile buffer beyond the Project Site boundary, field survey of suitable habitat and occurrence for plant and animal species identified in the literature review (1-A), a field survey of the vegetation and surface waters within 100-feet of the potential construction (1-B), and a summary of any additional studies which have been made by or for the applicant addressing the ecological impact of the proposed facility (1-E). Utilizing the results of the field survey, this evaluation details ecological resources that may be impacted during construction including, but not limited to linear feet and acreage impacted, proposed crossing methodology of each stream or wetland, the extent of vegetation clearing, potential reduction of woody vegetation clearing, potential impacts to wildlife and their habitat (2-A). Short-term and long-term mitigation measures are included and describe post-construction site restoration / stabilization of disturbed soils, a frac contingency plan for horizontal drilling under stream and wetlands, best management practices (BMPs) including sedimentation and erosion control for construction around streams and wetlands, and vegetative protection (2-B-i-vii).

Terracon will continue coordination with the Ohio Department of Natural Resources (ODNR) and United States Fish and Wildlife Service (USFWS) regarding occurrence records and recommendations regarding federal and state protected species. Post-construction agency coordination will occur including the submittal of an avian and bat monitoring plan.

4.0 LITERATURE REVIEW

4.1 Ecological Resource Project Site Map Review

4.1.1 Topographic Map

The United States Geologic Survey (USGS) 7.5-Minute Topographic Map of the Project Site was reviewed to identify drainages and/or other potential water features within the Project Site. Based on an evaluation of the USGS map, The Project Site appears to be relatively flat, averaging approximately 1,000 feet above sea level (asl), with steeper sloping in the northeastern corner of the Project Site. The USGS map indicates the presence of multiple intermittent streams across the Project Site. One intermittent stream is depicted as running northwest to southeast in the northeastern corner of the Project Site. Additionally, another intermittent stream crosses the proposed transmission line just west of Stringtown Road, and a third intermittent stream follows the proposed transmission line westward from approximately 3,000 feet east of Gath Road to where the proposed transmission line turns northwestward and crosses Gath Road. A fourth intermittent stream is depicted as running northeast to southwest in the north central portion of the Project Site. Five ponds are depicted on the Topographic Map; two ponds in the eastern portion of the Project Site, two ponds in the central portion of the project site, and one point in the southwestern portion of the Project Site. The USGS topographic map is included as Exhibit 2 in Appendix A.

4.1.2 Aerial Imagery

Terracon reviewed a 2019 aerial photograph of the Project Site. The Project Site predominately consists of agricultural land with interspersed forested areas and a few paved county roads and dirt/gravel farm roads. The 2019 aerial image is included as Exhibit 3 in Appendix A.

4.1.3 Wetlands and Waters of the United States

National Wetlands Inventory (NWI) data for the Project Site was reviewed to identify potential wetland areas. The map for the project site was published by the U.S. Department of the Interior's Fish and Wildlife Service and depicts probable wetland areas based on stereoscopic analysis of high-altitude aerial photographs and analysis of infrared bands from remotely-sensed imagery. The NWI map depicts six intermittent streams (R4SBC), four ponds, and one scrub/shrub wetland across the project site. The NWI map is included as Exhibit 4 in Appendix A.

4.1.4 Soils

Data from the soil survey of Highland County, Ohio was reviewed to identify soil types, including hydric soils. Data for the soil survey was compiled by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) in 1977. Hydric soils information was gathered from the 'National Hydric Soils List' (USDA Natural Resource Conservation Service, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>). A soil survey map is included as Exhibit 5A in Appendix A.

- Algiers silt loam (Ag): This soil is defined as somewhat poorly drained, nearly level, and typically located in flood plains. The soil color is typically dark grayish brown. This map unit is classified as hydric.
- Clermont silt loam, 0 to 1 percent slopes (Cle1A): This soil is defined as somewhat poorly to poorly drained and nearly level. The soil color is typically grayish brown. This map unit is classified as hydric.
- Eel silt loam, 0 to 2 percent slopes, occasionally flooded (Ee): This soil is defined as well drained to very poorly drained and is typically found in flood plains. The soil color ranges from yellowish brown to dark grayish brown. This map unit is classified as hydric.
- Hickory clay loam, 12 to 18 percent slopes, severely eroded (HyD3): This soil is defined as moderately well to well drained and is typically found in narrow bands along streams and at the end of waterways and stream outlets. The soil color ranges from dark grayish-brown with yellowish-brown mottles to dark yellowish brown. This map unit is not classified as hydric.
- Hickory clay loam, 6 to 12 percent slopes, severely eroded (HyC3): This soil is defined as moderately well to well drained and is typically found in narrow bands along streams and at the head of waterways. The soil color ranges from dark grayish-brown with yellowish-brown mottles to dark yellowish brown. This map unit is not classified as hydric.
- Hickory silt loam, 6 to 12 percent slopes, moderately eroded (HkC2): This soil is defined as moderately well to well drained and is typically found in narrow bands along streams and slope breaks. The soil color ranges from dark grayish-brown with yellowish-brown mottles to dark yellowish brown. This map unit is not classified as hydric.
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes (JoR1B1): This soil is defined as moderately well drained, gently sloping to sloping, and is typically found along drainageways. The soil color ranges from dark grayish brown to yellowish-brown. This map unit is not classified as hydric.
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes, eroded (JoR1B2): This soil is defined as moderately well drained, gently sloping to sloping, and is typically found along drainageways. The soil color ranges from dark grayish brown to yellowish-brown. This map unit is not classified as hydric.
- Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded (RpC2): This soil is defined as moderately well drained, sloping, and is typically found along drainageways.

The soil color ranges from dark grayish brown to yellowish-brown. This map unit is not classified as hydric.

- Westboro-Schaffer silt loams, 0 to 2 percent slopes (WsS1A1): This soil is defined as somewhat poorly drained, nearly level, and typically found in till plains. The soil color ranges from dark grayish brown to yellowish brown. This map unit is classified as hydric.
- Westboro-Schaffer silt loams, 2 to 4 percent slopes (WsS1B1): This soil is defined as somewhat poorly drained, gently sloping, and is typically found in till plains. The soil color ranges from dark grayish brown to yellowish brown. This map unit is classified as hydric.

Slopes greater than 12% are apparently not present within Project Site boundaries, according to the reviewed USDA SSURGO soils data; therefore, risk of soil erosion is considered to be negligible. A map has been included as Exhibit 5B in Appendix A.

4.1.5 Land Use

The Project Site consists of multiple land use types based on data provided by the Multi-Resolution Land Characteristics Consortium (MRLC), from the 2016 National Land Cover Database (Yang et al. 2018) and included as Exhibit 6 in Appendix A. The following land use categories were identified within the Project Site boundaries:

- Agricultural (Cultivated Crops)- areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.
- Forest (Deciduous)- areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.
- Forest (Mixed Forest)- areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.
- Open Water- areas of open water, generally with less than 25% cover of vegetation/land cover.
- Pasture/Hay- areas having vegetation cover comprised primarily of introduced or enhanced native forage species that is used for livestock grazing.
- Wetlands (Woody Wetlands)- areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.
- Developed, Open Space- areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot

- single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.
- Developed, Low Intensity- areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.
- Developed, Medium Intensity- areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.

The Project Site is located near Buford in rural, unincorporated Highland County, Ohio. Review of the 2016 NLCD determined that the most prominent land use on Project Site was cultivated crops, accounting for approximately 87% of the total Project Site acreage. The conversion of these agricultural fields to a solar farm should have negligible environmental impact as agricultural fields provide minimal habitat for plant and animal species and are seasonally disturbed via farming activities. Solar development will provide similar minimal habitat with no seasonal disturbances except for regular maintenance of ground cover. Adequate vegetative ground cover will be maintained as part of post construction and operation activities. Where possible, the client will utilize native plant species for post-construction ground cover.

4.2 Literature Review – Plant and Animal

4.2.1 Wildlife Resource Conservation Areas

A review of the Ohio Division of Wildlife Area maps was conducted to determine the potential for wildlife areas, nature preserves, and other conservation areas being located within the Project Site boundaries or within a 0.25-mile buffer surrounding the Project Site. The nearest wildlife conservation area is the Indian Creek Wildlife Area located in Fayetteville, Ohio, approximately eight miles northwest of the Project Site. There are no wildlife areas or nature preserves within the Project Site boundaries or within the 0.25-mile buffer, as shown in Exhibit 9 of Appendix A.

4.2.2 Migratory Birds and Bald Eagles

Migratory birds are protected by the Migratory Bird Treaty Act (MBTA) of 1918, and bald eagles are protected by the Bald and Golden Eagle Protection Act (BGEPA). These Acts prohibit the “take”, possession, import, export, transport, sale, purchase, barter, or offer for sale, purchase, or barter of any migratory bird, or the parts, nest, or eggs of such bird. The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, molest, or disturb”. “Disturb” means, “to agitate or bother such bird to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering

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behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior". Bald eagles, like most native birds, are also protected by the MBTA.

Construction activities on the Project Site have the potential to displace these species from habitat that is regularly utilized for foraging, breeding, and nesting. Terracon reviewed multiple bird species conservation platforms to determine the likelihood of utilization of the Project Site by these species. Terracon accessed the USFWS Information, Planning, and Conservation System (IPAC), which provides an online list of threatened and endangered (T&E) species as well as migratory birds, including eagles. No migratory birds, including eagles, or critical habitat for migratory birds were identified on the IPAC list as occurring within the Project Site or 0.25-mile buffer. The Audubon Society is a conservation group that designates Important Bird Areas (IBA) that provide essential habitat for bird species. It is Terracon's opinion that the Project Site and surrounding 0.25-mile buffer do not provide adequate habitat for these avian species. Terracon also reviewed eBird (Cornell Lab of Ornithology, 2002), which provides an online checklist program that compiles bird abundance and distribution data made by recreational and professional bird watchers. The nearest eBird 'personal location' was located approximately 6 miles north of the Project Site boundary. There are no records for known bald eagle nests within the Project Site boundaries or 0.25-mile buffer area.

The proposed Project solar array will employ PV solar panels. PV solar panels, in comparison with coal, oil, natural gas, and wind energy, provide electricity without emitting any carbon pollution. The PV panels proposed for this project are relatively short (8-foot tall panels), which reduces the risks of collisions from birds. The Project Site predominantly consists of cultivated cropland, which is seasonally disturbed for agriculture, and dispersed wooded land. There are no anticipated impacts to the wooded areas on the Project Site and no significant changes to the agricultural fields with the exception of revegetation, where necessary, with native grasses. Additionally, this land currently does not provide adequate habitat for most migratory birds, and most migratory birds would utilize higher quality habitat in surrounding areas. It is Terracon's opinion that the Project will have a minimal effect on migratory birds or bald eagles within the Project Site boundaries and 0.25-mile buffer.

4.2.3 Threatened and Endangered Species

Terracon has performed a desktop T&E species review and a site reconnaissance to determine the potential for federally protected species being located within the Project Site boundaries and 0.25-mile buffer surrounding the Project Site boundaries. Applicable federal species source lists for Highland County were reviewed to determine which listed species may be located in the Project Site area. Terracon searched available online data to evaluate the known past presence and potential presence of T&E species and critical habitat in the Project Site area. The USFWS IPAC list was reviewed to identify potential federally listed species that may occur near of the Project Site. Terracon submitted early coordination letters to the

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USFWS and ODNR for occurrences of listed species within the Project Site boundaries and 0.25-mile buffer. The following species were identified through these reviews.

Table 1. Federal and State-listed threatened and endangered species

Taxon	Name	Species Habitat	Status	Potential Habitat/Presence on the Project Site
Mammal	Indiana Bat (<i>Myotis sodalis</i>)	During winter, this species hibernates in caves or, occasionally, in abandoned mines. During summer, this species is found in wooded areas.	State and Federally Endangered	Potential suitable habitat on Project Site within wooded areas and presence established in the area.
Mammal	Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	During winter, this species hibernates in caves or, occasionally, in abandoned mines. During summer, this species is found in wooded areas.	Stated and Federally Threatened	Potential suitable habitat on Project Site within forested areas.
Avian	Loggerhead shrike (<i>Lanius ludovicianus</i>)	This species can be found in open areas with scattered shrubs and trees or found in heavily wooded habitats with large openings.	State Endangered	Lack of scrub shrub cover on the Project Site; therefore, no suitable habitat.
Avian	King Rail (<i>Rallus elegans</i>)	This species can be found in densely covered, shallow fresh or brackish marshes; however, this species is typically found closer to the eastern and Atlantic coastal regions.	State Endangered	Potential suitable habitat on Project Site within emergent wetlands; however, this species typically resides near the eastern and Atlantic coastal regions.
Avian	Barn Owl (<i>Tyto alba</i>)	This species can be found in a wide range of habitats including woodlands, barns, and cliffs with nearby farmland, marshes, and/or prairies.	State Endangered	Potential suitable habitat on Project Site within woodlands and emergent wetlands.
Fish	Bigeye shiner (<i>Notropis boops</i>)	This species can be found in flowing, clear creeks to small and medium-sized rivers. There are typically found in the emergent vegetation in gravel, rock, or sand substrate.	State Threatened	Suitable habitat on Project Site within stream channels. No anticipated impacts to streams; therefore, not likely to impact species habitat.

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Isopod	Frost Cave Isopod (<i>Caecidotea rotunda</i>)	This species is known to occur in very limited caves.	State Threatened	Lack of caves on Project Site; therefore, no suitable habitat.
Insect	Ohio Cave Beetle (<i>Pseudanophthalmus ohioensis</i>)	This species is known to occur in very limited caves.	State Endangered	Lack of caves on Project Site; therefore, no suitable habitat.
Insect	Blue Corporal (<i>Ladona deplanata</i>)	This species is known to occur around ponds, lakes, and open areas of slow streams.	State Endangered	Suitable habitat on Project Site within and around ponds, and open areas of slow streams. No anticipated impacts to ponds or streams; therefore, not likely to impact species habitat.
Flowering Plant	Running Buffalo Clover (<i>Trifolium stoloniferum</i>)	This species typically occurs in mesic habitats of partial to filtered sunlight, where there is a prolonged pattern of moderate periodic disturbance, such as mowing, trampling, or grazing. It is most often found in regions underlain with limestone or other calcareous bedrock.	Federally Endangered	Suitable habitat not likely to be present on the Project Site.

Based on the desktop evaluation to determine potential habitat, there is potentially suitable habitat for the Indiana bat, the Northern long-eared bat and the barn owl in the form of forested land, which may provide suitable summer roosting habitat on the Project Site. A field habitat assessment was performed for species that are likely to be present on site. This field habitat assessment is further detailed in Section 5.2. The USFWS IPAC report is provided in Appendix B.

4.2.4 Commercial and Recreational Plant and Animal Species

Due to the nature of the current Project Site use for row crop agriculture, commercial and recreational plant and animal species are not anticipated to be present on the Project Site.

5.0 FIELD SURVEY RESULTS

Field surveys were performed at the site, as applicable, based on the results of the desktop studies detailed above.

5.1 Field Results – Vegetative Communities

Various plant communities and types of land cover were observed at the site including forested wetlands, emergent wetlands, and various upland communities. The Project Site consists of approximately 87% agricultural row cropland dominated by the remnants of soybeans (*Glycine max*). The remaining portions of the Project Site predominantly consists of forested areas, which were dominated by white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), American beech (*Fagus. grandifolia*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*).

5.2 Field Results – Plant and Animal Threatened and Endangered Species

As stated above in Section 4.2.3, an ecological resource project site map review of threatened and endangered species and early coordination with ODNR and USFWS identified two federally endangered and one federally threatened species, as well as six state endangered and three state threatened species within the Project Site boundaries and 0.25-mile buffer. Potential habitat for the Indiana bat, the Northern long-eared bat and the barn owl was identified on the Project Site. Additionally, potential habitat for the blue corporal and the bigeye shiner was identified on the Project Site.

Terracon performed a species habitat survey, within the Project Site boundaries, in an effort to identify potential suitable habitat for the abovementioned species that were deemed likely to be present on site. Critical habitat for these species was not identified within the Project Site boundaries.

Table 2. Results of federal/State-listed threatened and endangered species survey

Name	Species Habitat	Results of Threatened and Endangered Species Field Survey	Effect Finding / Implication for Project
Indiana Bat (<i>Myotis sodalis</i>) and Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	During winter, these species hibernates in caves or, occasionally, in abandoned mines. During summer, these species is found in wooded areas.	Mature trees were observed in forested areas on the Project Site with relatively open understories and nearby stream corridors.	Potential habitat was identified on the Project Site. Any tree clearing should be performed seasonally (October 1 st – March 31 st) or presence/absence surveys would be necessary. Incidental take, which is the incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, of Northern long-eared bats is exempt in this location under the 4(d) rule.
Barn Owl (<i>Tyto alba</i>)	This species can be found in a wide range of habitats including woodlands, barns, and cliffs with	Forested areas with nearby wetlands were observed on the Project Site.	Potential habitat was identified on the Project Site. Impacts to forested areas will be avoided; therefore,

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	nearby farmland, marshes, and/or prairies.		impacts to this species are not anticipated.
Bigeye shiner (<i>Notropis boops</i>)	This species can be found in flowing, clear creek to small and medium-sized rivers. There are typically found in the emergent vegetation in gravel, rock, or sand substrate.	Small intermittent streams were identified within Project Site boundaries.	Potential habitat was identified on the Project Site. Impacts to streams will be avoided; therefore, impacts to this species are not anticipated.
Blue Corporal (<i>Ladona deplanata</i>)	This species is known to occur around ponds, lakes, and open areas of slow streams.	Ponds and slow, ephemeral streams were observed on the Project Site.	Potential habitat was identified on the Project Site. Impacts to streams will be avoided; therefore, impacts to this species are not anticipated.

It is Terracon's understanding that the proposed Project has prioritized avoidance measures for sensitive habitats such as eliminating the need for clearing of forested areas, avoidance of wetland features, and no proposed in-stream work.

5.3 Field Results – Wetland Delineation

Terracon performed a wetland delineation, which can be found in Appendix C, to determine if wetlands or other waters under the jurisdiction of the USACE or the OEPA are present at the Project Site. The purpose of these investigations was to identify and evaluate the impacts of this project to potential jurisdictional waters. Terracon conducted a site reconnaissance of the Project Site, in December of 2017, January, June, and July of 2018, August 2019, and January 2020, to characterize the existing site conditions and observe for the presence of wetlands and potential jurisdictional waters. The evaluation methods generally followed the routine on-site determination method referenced in the 1987 USACE Manual and 2010 Midwest Regional Supplement. Additionally, following OPSB reporting requirements, water features were field identified within a 100-foot buffer around the Project Site. This requirement leads to slight differences between the delineated water features noted in this report and the attached wetland delineation report(Appendix C).

Wetlands generally have three essential characteristics: hydrophytic (wetland) vegetation, hydric soils, and wetland hydrology. Based on NWI data, aerial imagery and topographical data, on-site areas were investigated for potential wetland properties. Additional areas were investigated, based on observations made during the site reconnaissance. Data regarding the three essential characteristics was gathered within observed suspect wetland areas to further delineate boundaries.

Upon completion of the review of the three wetland criteria at each area, a wetland determination was made. Under normal circumstances, if one or more of the wetland criteria were not identified, the area was not considered to be a wetland. If all three wetland indicators

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were identified, the area was classified as wetland. Additional observations were made throughout the wetland area to define the wetland/non-wetland boundary. Vegetation, soil and hydrology assessment data from at least one location within the wetland and one upland location outside of the wetland were recorded on a USACE Wetland Determination Form which can be found in Appendix C.

Terracon also made observations of Project Site features that may be considered jurisdictional waterbodies. If a potential jurisdictional waterbody was identified, observations regarding its characteristics and location were recorded.

The majority of the Project Site consisted of agricultural land with limited, interspersed forested areas. Ground photographs, included in Appendix C, provide an indication of the physical characteristics observed during the site visit. Descriptions of the observed areas are listed in the following sections.

5.3.1 Wetland Characteristics

Various plant communities and types of land cover were observed at the Project Site including forested wetlands, emergent wetlands, and upland communities. Forested wetlands were dominated by red maple, sweetgum, and Virginia white grass. Emergent wetlands were dominated by touch-me-nots, yellow nutsedge and spicebush.

5.3.2 Delineated Features

The following wetlands were observed at the Project Site and within the 100-foot buffer during the site reconnaissance. A map of these features is provided as Exhibit 7 in Appendix A. The size of each wetland, classification as palustrine forested (PFO) or palustrine emergent (PEM), and potential jurisdictional status are listed.

Table 3. Wetland features observed on the Project Site and within 100-foot buffer, their expected jurisdictional status, and if impacts are anticipated.

Wetland	Size (acres)	Cowardin Classification	USACE Jurisdictional (Y/N)	Impacts
A	0.55	PFO	Y	N
B	8.97	PFO	Y	N
C	0.07	PFO	Y	N
D	17.97	PFO	Y	N
E	0.46	PFO	Y	N
F	0.36	PFO	Y	N
G	9.25	PEM/PFO	Y	N
H	6.84	PEM/PFO	Y	N
I	0.65	PFO	Y	N

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J	0.66	PFO	Y	N
TOTAL		45.78 acres		

PEM – Palustrine emergent wetland; PFO – Palustrine forested wetland

The above listed wetland features were observed to have a significant nexus connection to other potential WOTUS, thereby likely defining as jurisdictional features to the USACE.

5.3.3 Streams

The following streams were observed at the Project Site and within the 100-foot buffer during the site reconnaissance. The length of each stream, classification as intermittent or ephemeral, and potential jurisdictional status are listed.

Table 4. Stream features observed on the Project Site and within 100-foot buffer and if impacts are anticipated.

Streams	Length (linear feet)	Flow Regime	Average Stream Width at Top of Bank (feet)	Impacts
1 (Flat Run)	1,116	Intermittent	6-8	N
2	2,009	Ephemeral	4-6	N
3	912	Ephemeral	3-5	N
4 (Bell's Run)	2,600	Intermittent	6-8	N
5	904	Intermittent	3-5	N
6	169	Ephemeral	3-5	N
7	502	Ephemeral	3-5	N
8	535	Ephemeral	3-5	N
TOTAL	8,747 linear feet			

The above listed stream features were observed to have a significant nexus to another potential WOUS, White Oak Creek, which likely qualifies these waters as jurisdictional features to the USACE. However, newly issued regulatory guidance may determine the on-site ephemeral streams to be non-jurisdictional to the USACE.

5.3.4 Other Waters

The following ponds were observed at the Project Site and within the 100-foot buffer during the site reconnaissance. The size of each pond, Cowardin Classification (palustrine unconsolidated bottom (PUB) for all on-site features), and potential jurisdictional status are listed.

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Table 5. Pond features observed on the Project Site and within 100-foot buffer, their expected jurisdictional status, and if impacts are anticipated.

Pond	Size (acres)	Cowardin Classification	USACE Jurisdictional (Y/N)	Impacts
1	0.27	PUBH	N	N
2	0.69	PUBH	Y	N
3	0.48	PUBH	N	N
4	0.89	PUBH	N	N
5	0.53	PUBH	N	N
TOTAL	2.86			

PUB – Freshwater pond; unconsolidated bottom; permanently flooded

The ponds within the Project Site boundaries were observed as having significant nexus to other WOUS and will thereby likely be jurisdictional features.

The on-site WOUS boundaries designated by Terracon are preliminary, and only the USACE and OEPA can make final Jurisdictional Determinations. A Preliminary Jurisdictional Determination Request has been submitted to the USACE for final concurrence.

6.0 SUMMARY OF FIELD SURVEYS

A summary of field observations and conclusions concerning jurisdictional status of observed water features and status of protected species is outlined in the following sections.

6.1 Threatened and Endangered Species

A species habitat survey was performed within the Project Site boundaries for species that were deemed to potentially have suitable habitat on the site or be located on the site. Due to the presence of suitable habitat for the Indiana bat and Northern long-eared bat, any tree clearing would likely need to be performed seasonally (from October 1 to March 31). In addition, incidental take of Northern long-eared bats is excepted in this location under the 4(d) rule. The additional species which had potential habitat present at the Project Site are not likely to be adversely affected due to avoidance of impacts to their habitats. No suitable habitat was observed for the Running buffalo clover which resulted in a no effect finding. The Threatened and Endangered Species Survey report has been submitted to USFWS and ODNR. Early coordination documentation with ODNR can be found in Appendix B and Terracon, at the issuance of this report, is awaiting concurrence.

6.2 Potential WOUS/ Wetlands

Ten wetlands totaling 45.78 acres were observed across the Project Site during the site reconnaissance. All on-site wetlands will likely be considered jurisdictional. Eight streams totaling 8,747 linear feet were observed across the Project Site during the site reconnaissance which will also likely be considered jurisdictional. However, newly issued regulatory guidance may determine the on-site ephemeral streams to be non-jurisdictional to the USACE. The Ohio EPA will likely take jurisdiction on these features should the USACE not. Five ponds, totaling 2.86 acres were observed during the site reconnaissance. The ponds on the Project Site appear to be jurisdictional.

6.3 Impacts to WOUS

Based on our understanding and review of the Project design, Terracon does not anticipate impacts to any of the waters on the Project Site or within the 100-foot Project buffer.

7.0 ECOLOGICAL IMPACTS

Terracon performed an ERA to evaluate the Project's potential adverse impact on natural resources. An Ecological Resources Map depicting forested/non-forested land use, water features, and potential erodible soils has been provided as Exhibit 1 in Appendix A. Based on the review of readily available published lists, files, documented resource documents, and field studies, Terracon concluded the following:

- The conversion of the Project Site from disturbed cultivated cropland to commercial solar development should have no significant or adverse impact on wildlife within the project area.
- The Project is expected to result in minimal impacts to migratory birds or Bald eagles due to the short height of proposed Project structures and minimal impacts to forest cover.
- It is Terracon's understanding that the project has been designed to fully avoid impacts to wetlands and other WOUS. As such, impacts are not anticipated. If Project Site plans change and impacts to WOUS cannot be fully avoided, permitting would be required with applicable federal and state agencies.

Suitable habitat for the federally-listed Indiana and Northern long-eared bats (as well as three state listed species) was observed within the interspersed wooded areas on the Project Site. It is Terracon's understanding that current Project design would result in minimal impacts to trees on the Project Site. Any tree clearing would likely need to be performed seasonally (from

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October 1 to March 31) or additional presence/absence studies may be required. All other federal and state-listed species reviewed for this report resulted in a “no effect” finding.

7.1 Post-Construction Site Stabilization

Minimal grading and clearing are anticipated, due to the relatively flat nature of the Project Site and prior clearing and use for agriculture. Open-cut trenching and boring methods will be used to install the underground collection system. As previously noted, direct impacts to wetlands, streams, and ponds will be avoided.

Permanent stabilization of Project Site soils through seeding will occur immediately following the completion of construction. Areas disturbed during construction activities will be seeded with a low-profile, native grass seed mix under the solar array. Select open areas outside of the solar array will be planted with a pollinator-friendly, native seed mix. Invasive and noxious plant species will be managed through mechanical methods (mowing) and application of commercially available herbicides.

The Project will be permanently stabilized when soil disturbing activities have been completed and a uniform, perennial vegetative cover density of at least 70% has been established in all Project Site areas that do not have existing permanent groundcover. All seed, straw, and/or matting used to meet Project stabilization goals will comply with Ohio stormwater standards (ODNR 2006).

8.0 REFERENCES

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APPENDIX A

Legend

Project Site Boundary

Photovoltaic Panel Area

Distribution Lines

0.5-mile Buffer

Delineated Wetlands

Delineated Ponds

Delineated Streams

Eroded Soils

Land Cover Type

Forest - 30.1 ac

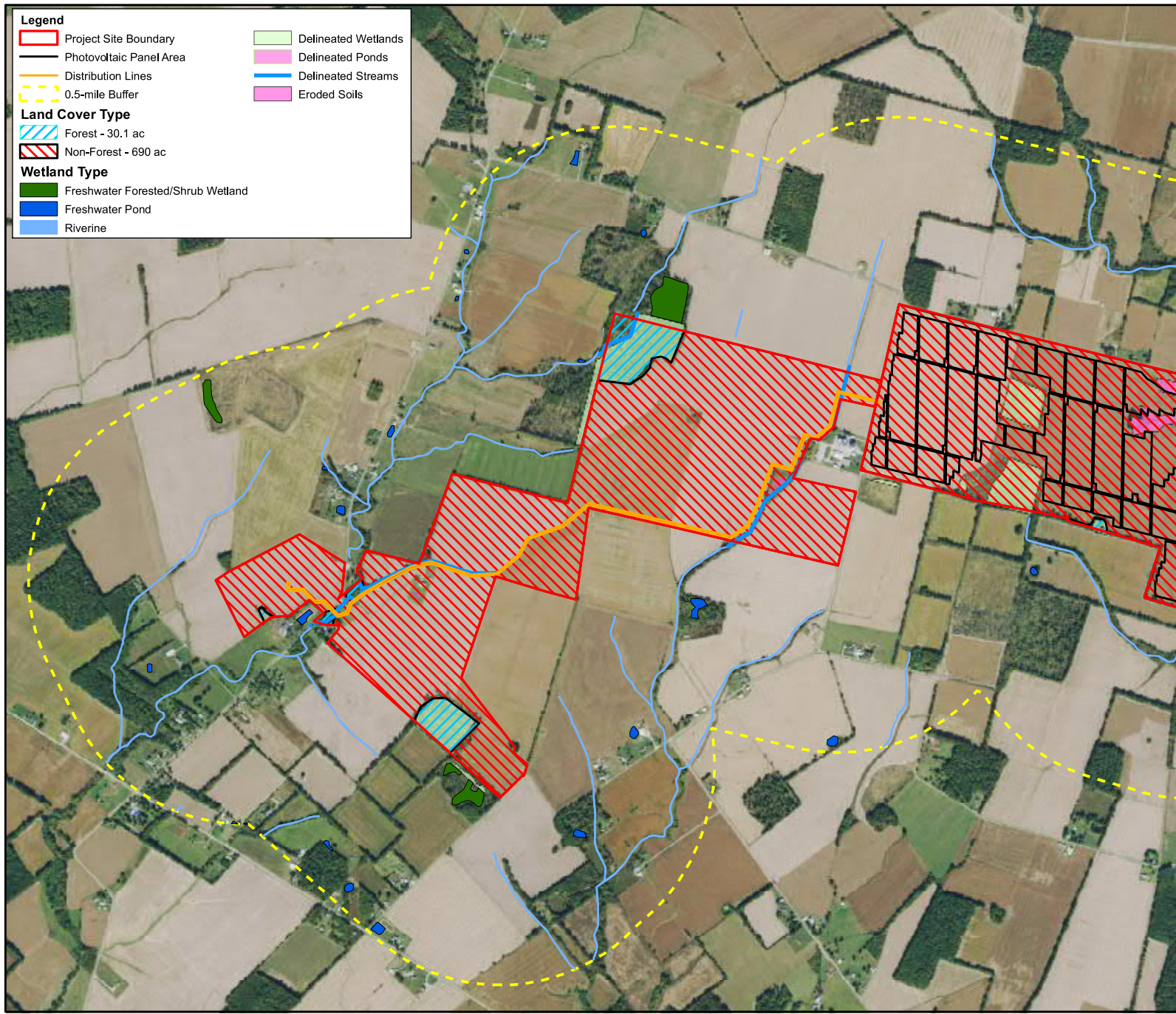
Non-Forest - 690 ac

Wetland Type

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine



N

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New Market Solar Farm

Hecate Energy Highland 4 LLC and

Hecate Energy Highland 2, LLC

Exhibit G: Ecological Report New Market II

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0

1,250

2,500

5,000

Feet

Project No.	N1207163
Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020

Terracon

Consulting Engineers & Scientists

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Cincinnati, Ohio 45226

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Ecological Res

Ecological Resource

New Marke

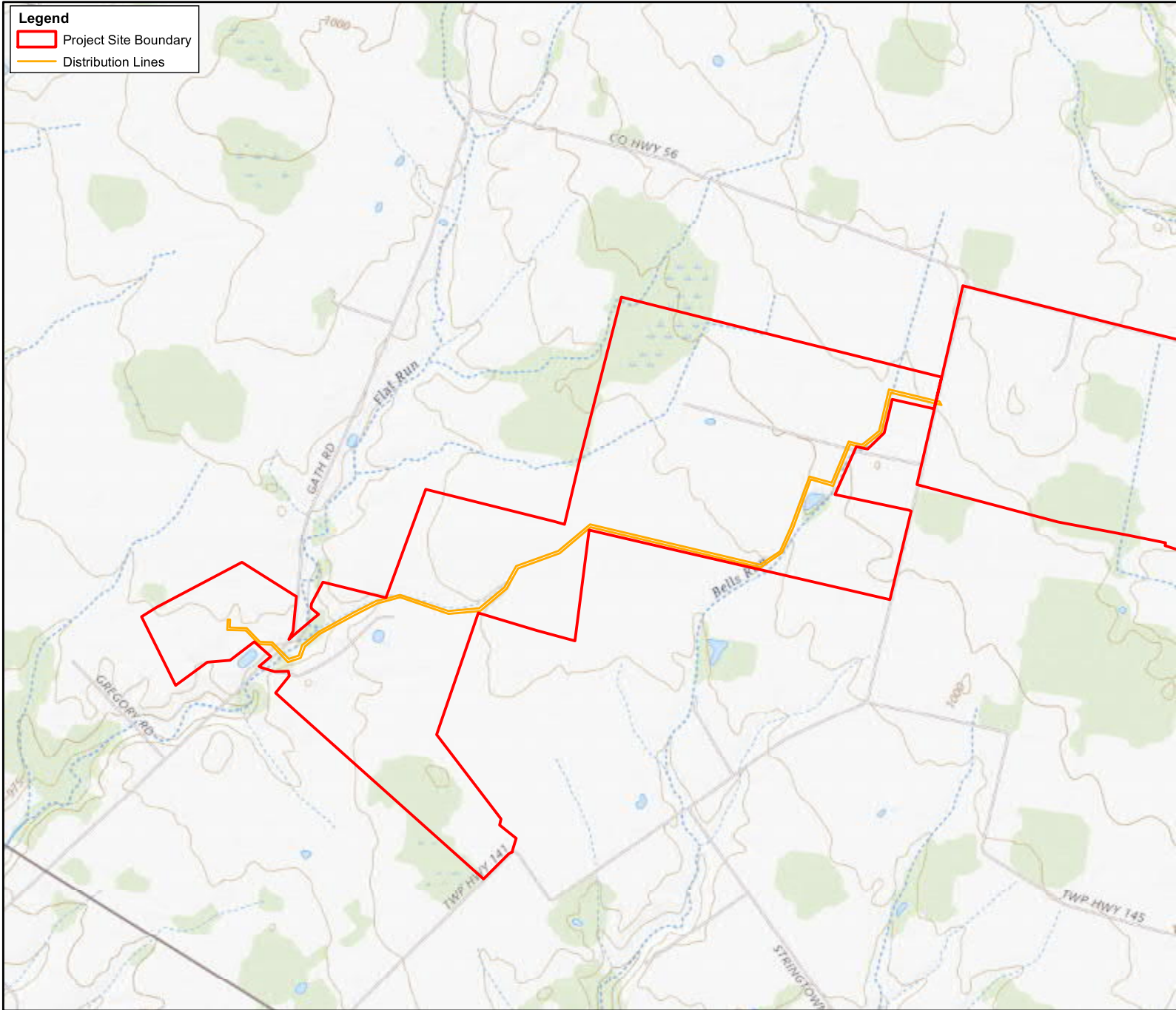
OH 1:

Buford, Highland

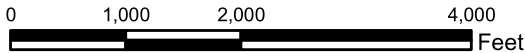
Legend

Project Site Boundary

Distribution Lines



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USGS Topogr
 Ecological Resource
 New Marke
 OH 1:
 Buford, Highland

Legend

Project Site Boundary

Distribution Lines

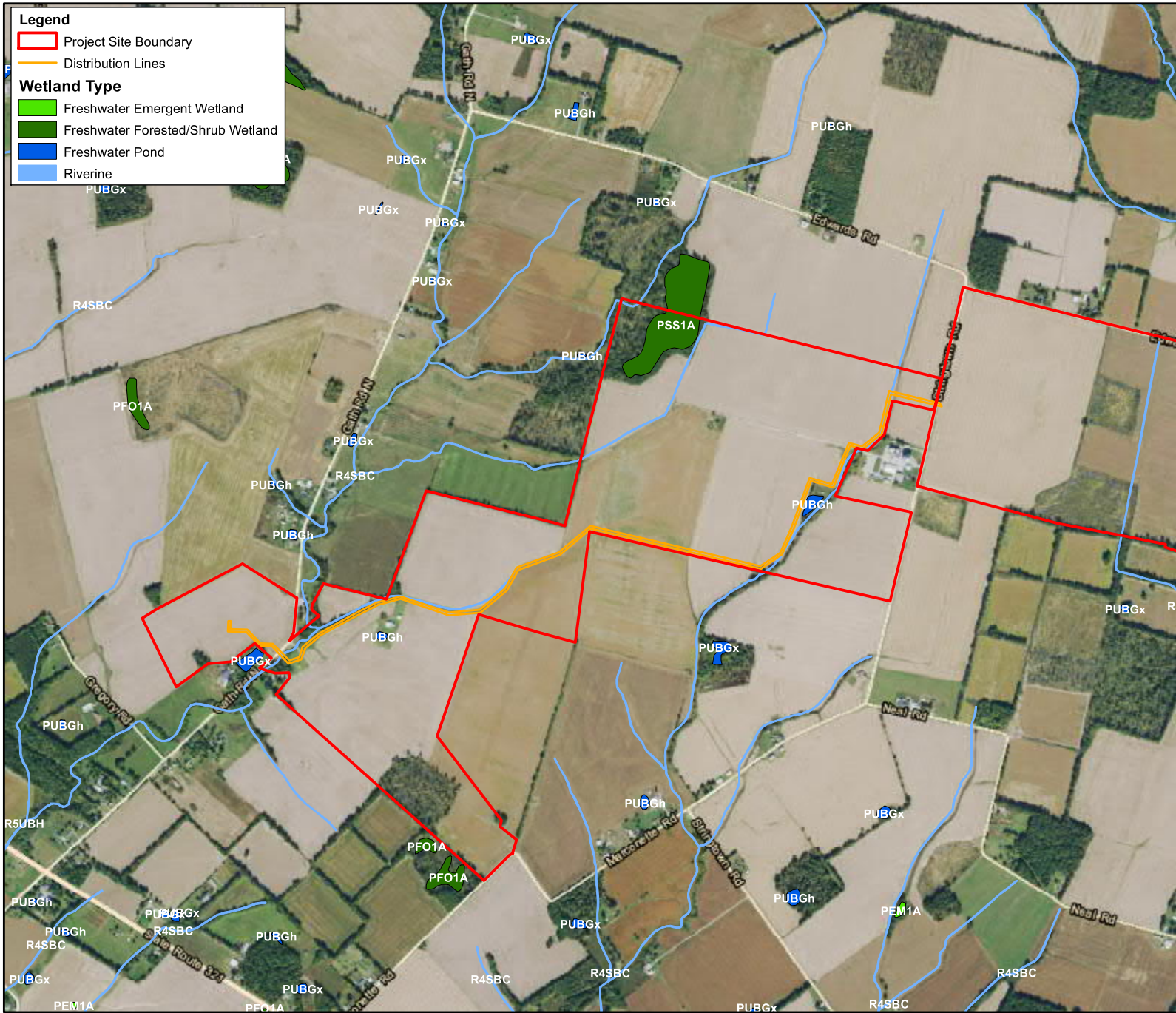
Wetland Type

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine



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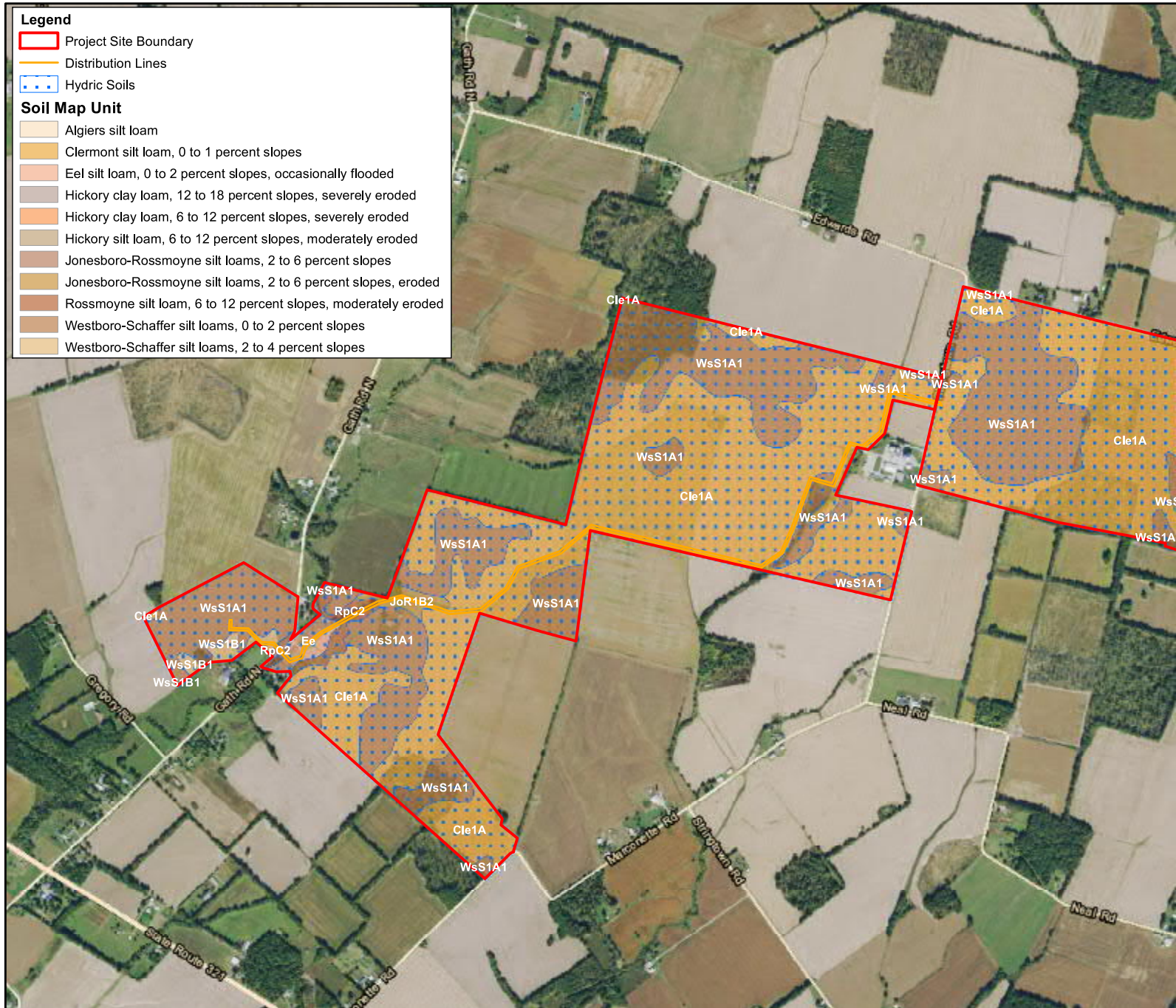
National Wetlands
Ecological Resource
New Market
OH 1:
Buford, Highland

Legend

- Project Site Boundary
- Distribution Lines
- Hydric Soils

Soil Map Unit

- Algiers silt loam
- Clermont silt loam, 0 to 1 percent slopes
- Eel silt loam, 0 to 2 percent slopes, occasionally flooded
- Hickory clay loam, 12 to 18 percent slopes, severely eroded
- Hickory clay loam, 6 to 12 percent slopes, severely eroded
- Hickory silt loam, 6 to 12 percent slopes, moderately eroded
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes, eroded
- Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded
- Westboro-Schaffer silt loams, 0 to 2 percent slopes
- Westboro-Schaffer silt loams, 2 to 4 percent slopes



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0 1,000 2,000 4,000 Feet




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








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SSURGO Soils Map ()
Ecological Resource
New Market
OH 1:
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Legend

-  Project Site Boundary
-  Distribution Lines
-  Eroded Soils

Soil Map Unit

-  Algiers silt loam
-  Clermont silt loam, 0 to 1 percent slopes
-  Eel silt loam, 0 to 2 percent slopes, occasionally flooded
-  Hickory clay loam, 12 to 18 percent slopes, severely eroded
-  Hickory clay loam, 6 to 12 percent slopes, severely eroded
-  Hickory silt loam, 6 to 12 percent slopes, moderately eroded
-  Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes
-  Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes, eroded
-  Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded
-  Westboro-Schaffer silt loams, 0 to 2 percent slopes
-  Westboro-Schaffer silt loams, 2 to 4 percent slopes



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SSURGO Soils Map (E)
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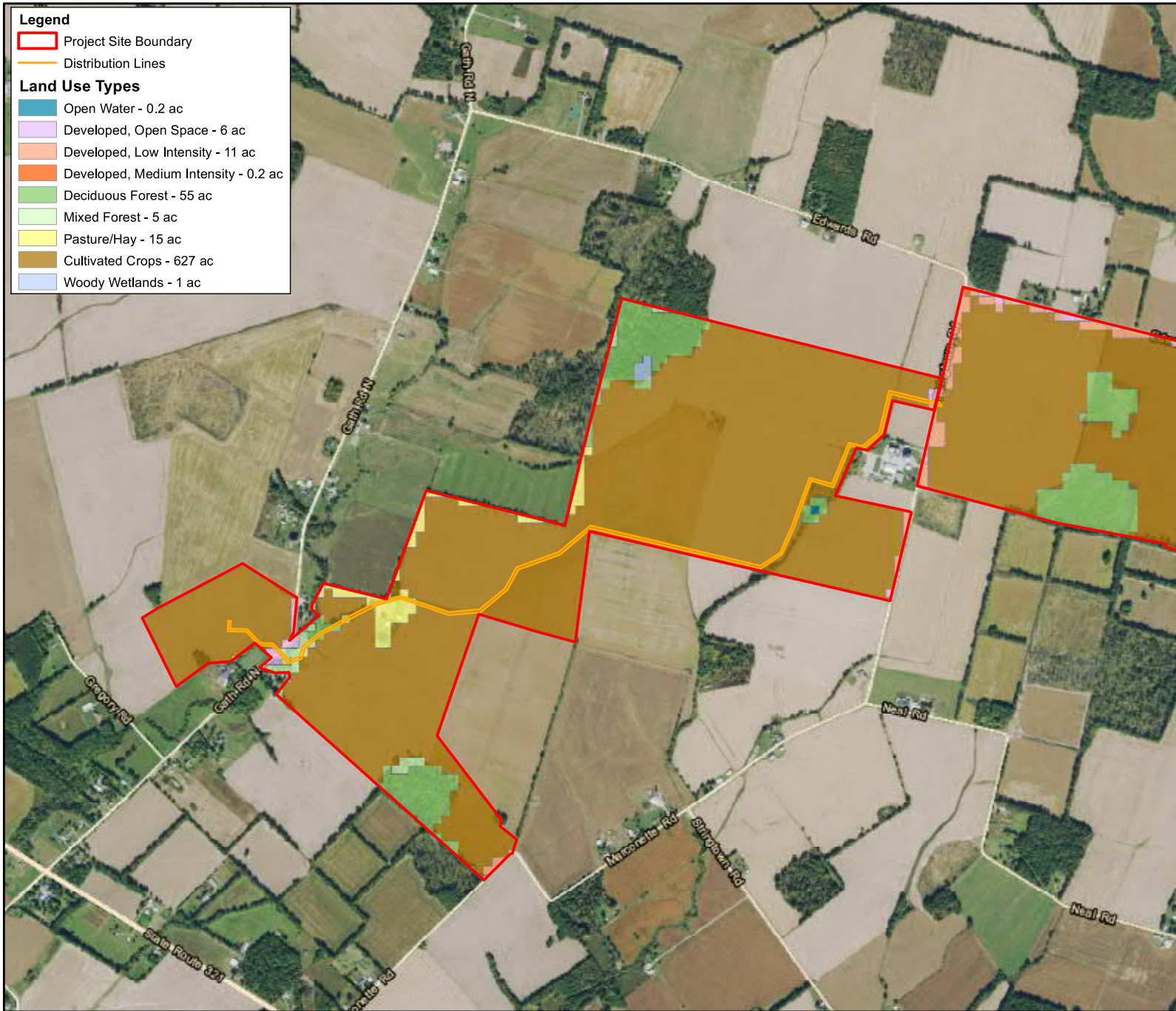
Legend

Project Site Boundary

Distribution Lines

Land Use Types

- Open Water - 0.2 ac
- Developed, Open Space - 6 ac
- Developed, Low Intensity - 11 ac
- Developed, Medium Intensity - 0.2 ac
- Deciduous Forest - 55 ac
- Mixed Forest - 5 ac
- Pasture/Hay - 15 ac
- Cultivated Crops - 627 ac
- Woody Wetlands - 1 ac



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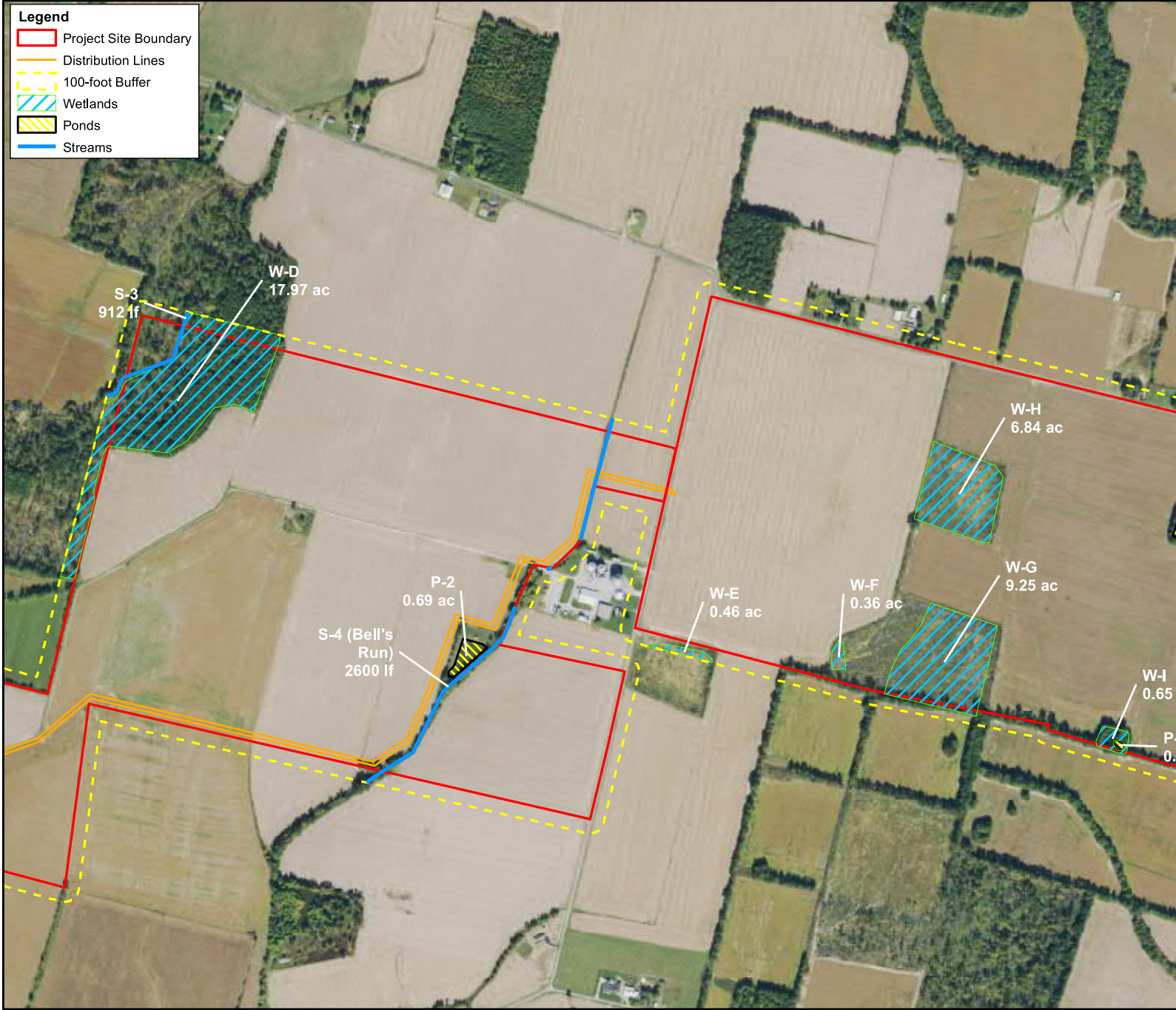
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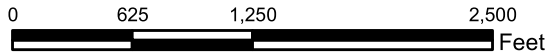
Land Use
Ecological Resource
New Marke
OH 1:
Buford, Highland

Legend

- Project Site Boundary
- Distribution Lines
- 100-foot Buffer
- Wetlands
- Ponds
- Streams



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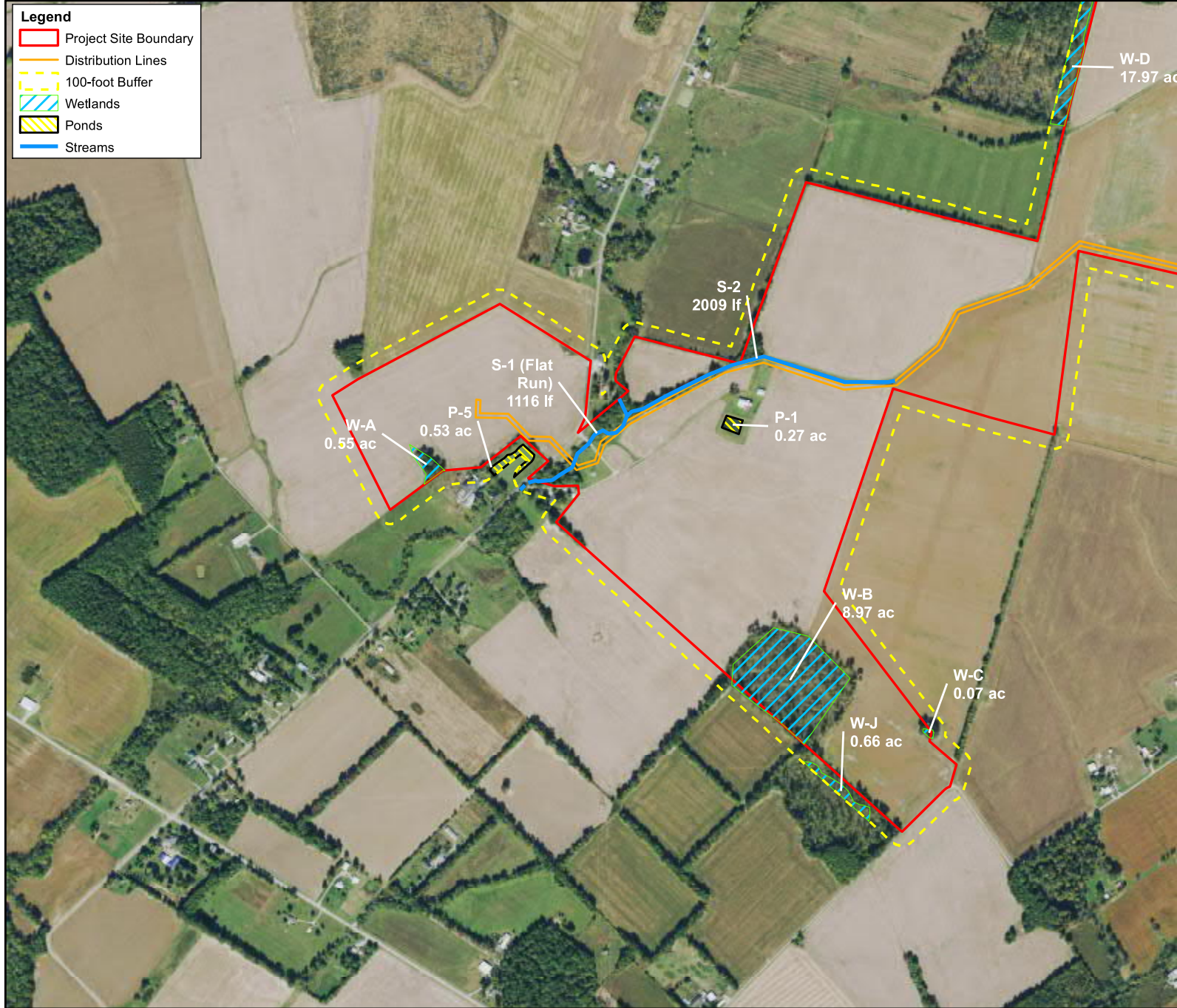
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Delineated Res
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OH 1:
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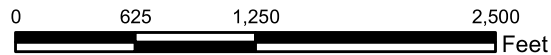
Legend

- Project Site Boundary
- Distribution Lines
- 100-foot Buffer
- Wetlands
- Ponds
- Streams



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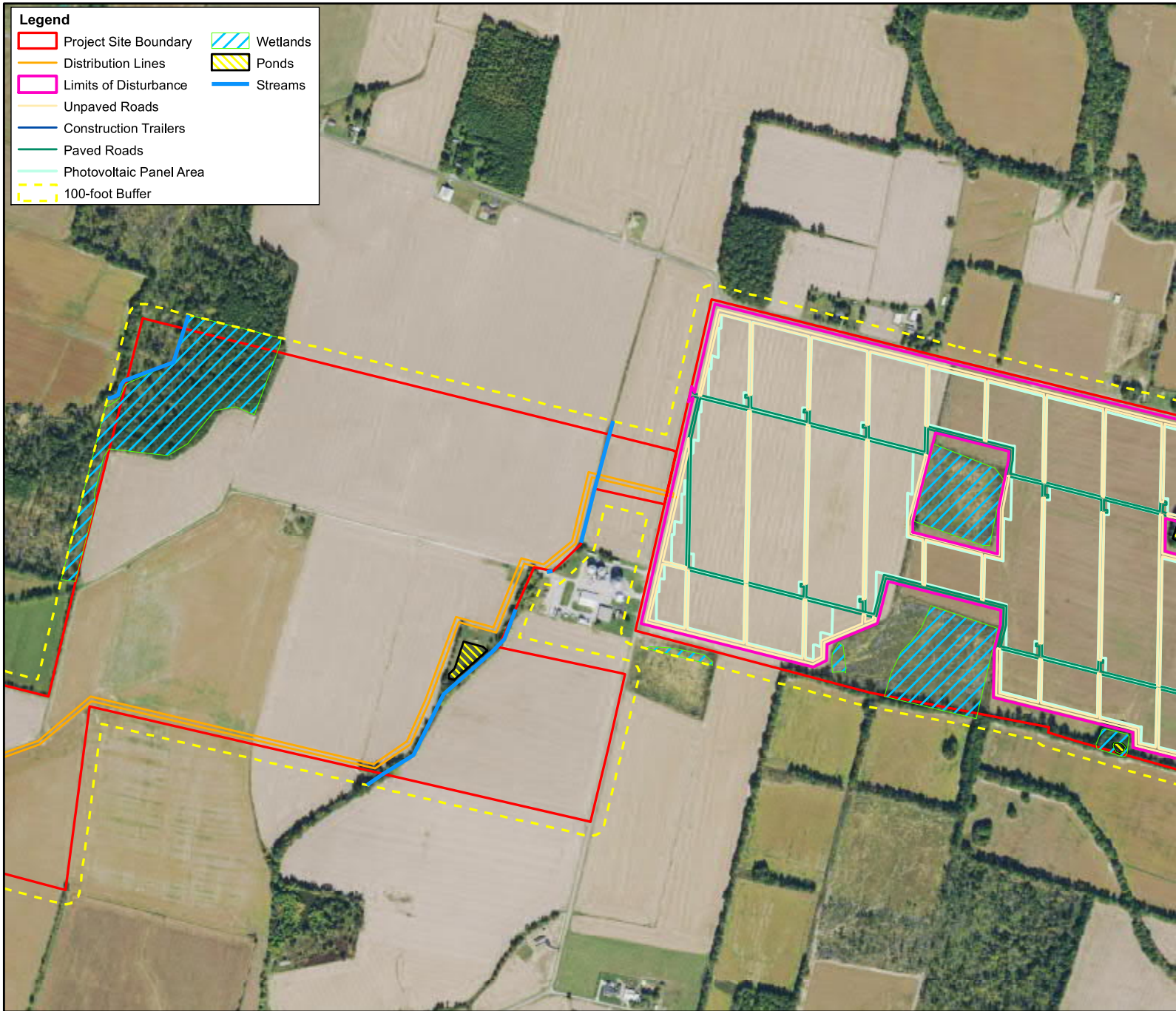
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Date:	8/3/2020

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Delineated Res
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 OH 1
 Buford, Highland

- Legend**
- Project Site Boundary
 - Distribution Lines
 - Limits of Disturbance
 - Unpaved Roads
 - Construction Trailers
 - Paved Roads
 - Photovoltaic Panel Area
 - 100-foot Buffer
 - Wetlands
 - Ponds
 - Streams



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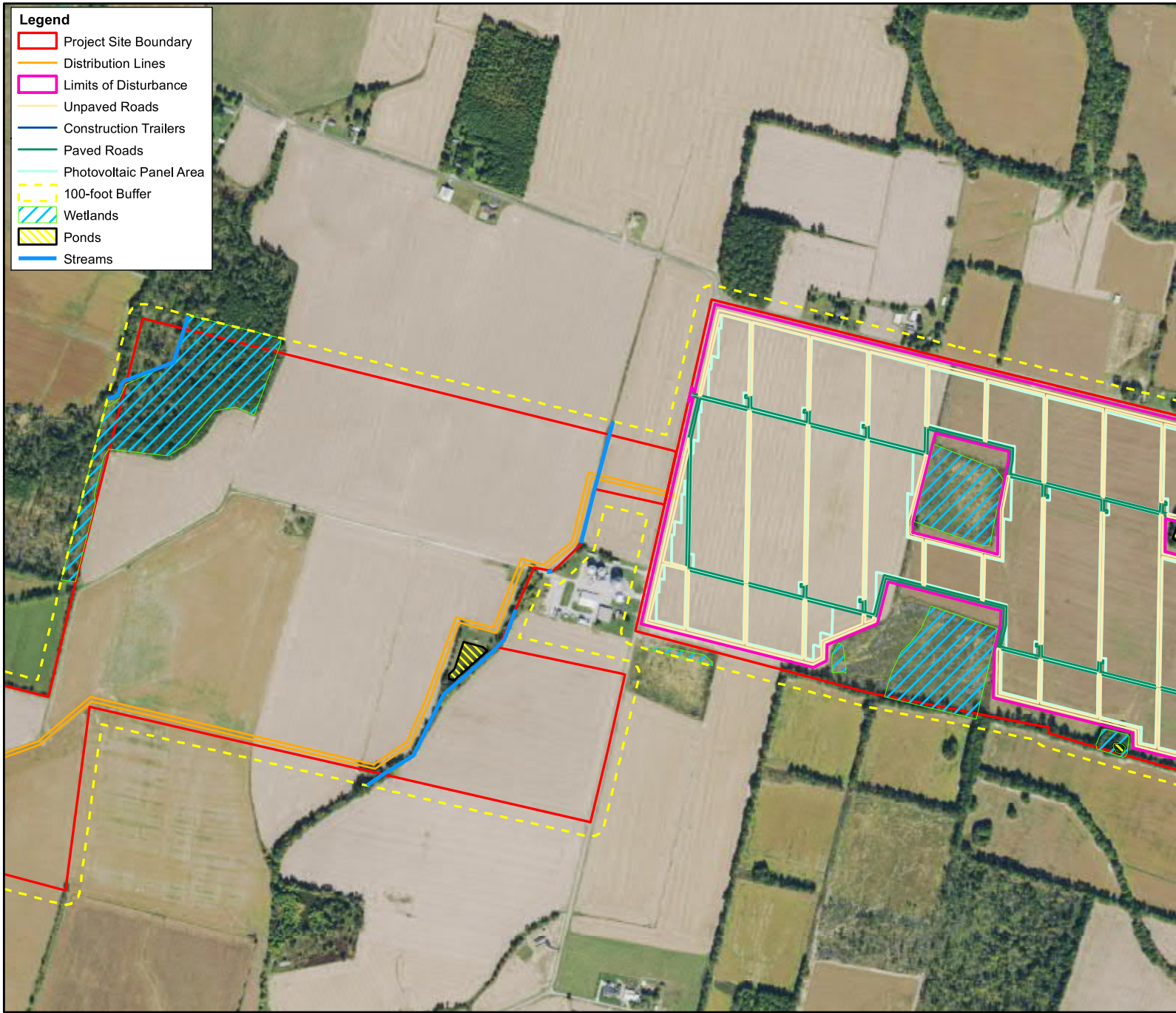
0 625 1,250 2,500 Feet

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Date:	8/3/2020

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Waters Impa
 Ecological Resource
 New Marke
 OH 1:
 Buford, Highland

- Legend**
- Project Site Boundary
 - Distribution Lines
 - Limits of Disturbance
 - Unpaved Roads
 - Construction Trailers
 - Paved Roads
 - Photovoltaic Panel Area
 - 100-foot Buffer
 - Wetlands
 - Ponds
 - Streams



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0 625 1,250 2,500 Feet

A scale bar with markings for 0, 625, 1,250, and 2,500 feet, used to measure distances on the map.

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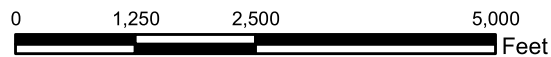
Waters Impa
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 New Marke
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Legend

- Project Site Boundary
- Distribution Lines
- 0.5-mile Buffer



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Wildlife Preserves a
 Ecological Resource
 New Marke
 OH 1:
 Buford, Highland

APPENDIX B



August 6, 2020

Ohio Department of Natural Resources
Division of Natural Areas and Preserves
Ohio Natural Heritage Program
2045 Morse Road, Building F-1
Columbus, OH 43229

**Re: Environmental Review Request
New Market Solar II
Stringtown Road
Buford, Highland County, Ohio**

Dear ODNR Official,

Terracon Consultants, Inc. (Terracon) is requesting an Environmental Review for an approximately proposed 721-acre solar farm development project (i.e., Proposed Highland Solar Farm) located in Buford, Highland County, Ohio. Project details are included in this letter.

Project Description

Project Purpose

The proposed solar farm development is designed to provide more sustainable energy resources and options to an area of Appalachia.

Project Location

The proposed development consists of approximately 721-acres of area predominantly occupied by row-crop agriculture. This area is located east of Buford, Ohio along portions of Stringtown Road and multiple smaller roads. Enclosed is a site location map (including portions of the USGS Sardinia and Sugar Tree Ridge, Ohio Quadrangles) showing the project location for your reference.

Site Description

The majority of the site consists of row-crop agricultural use (soybeans and corn) with small woodlots interspersed. Several streams and ponds are located across the site. A few sparse residences and barns are also located across the site. The site contains multiple streams and forested wetlands. It is Terracon's understanding that the client plans to avoid impacts to all on-site waters and the majority, if not all, on-site trees. The on-site wooded areas and wetlands have a high spatial correlation. Site plans have not been included, as the client is working on those plans to avoid existing structures and waterbodies while still meeting project needs. When a development plan is available, Terracon will be in contact with ODNR to discuss any concerns.

Project Equipment and Approach

Terracon understands that the client intends to perform minimal grading activities across the site in preparation for the installation of solar panel equipment. Terracon understands that best management practices for erosion control, including the use of silt fences and straw bales, will be utilized to minimize impacts to streams and/or other waterbodies.

If you have any questions, please feel free to call me at (513) 612-9175 or email at cebrendel@terracon.com. Thank you for your time and effort.

Sincerely,

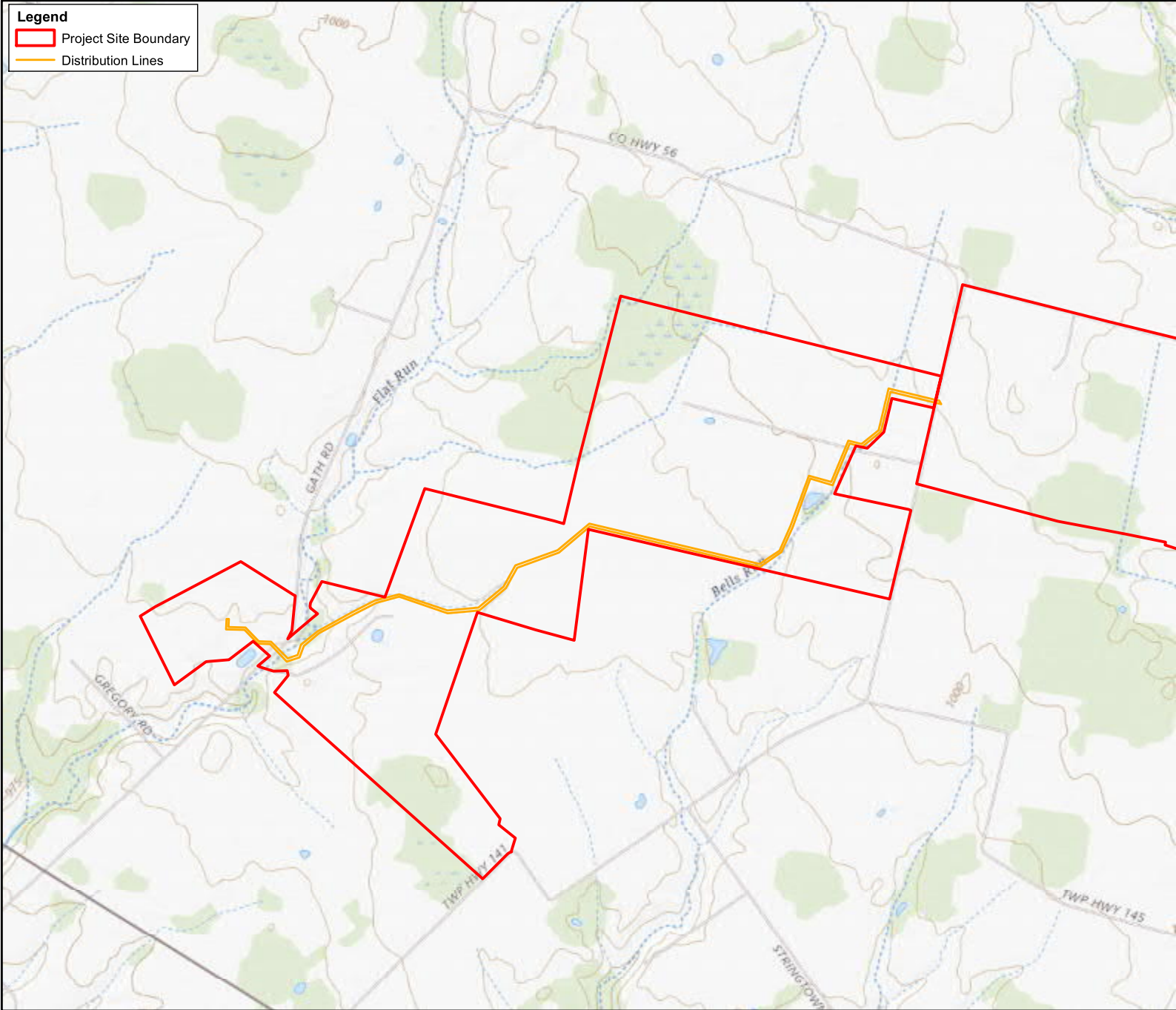
A handwritten signature in cursive script, appearing to read "Cassie Brendel".

Cassie Brendel
Field Scientist

Legend

Project Site Boundary

Distribution Lines



N

Ohio Power Siting Board Application
 New Market Solar Farm
 Hecate Energy Highland 4 LLC and
 Hecate Energy Highland 2, LLC
 Exhibit G: Ecological Report New Market II
 Page 144

0 1,000 2,000 4,000 Feet

Project No.	N1207163
Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020

Terracon
 Consulting Engineers & Scientists

611 Lunken Park Drive
PH: (513) 321-5816

Cincinnati, Ohio 45226
FAX: (513) 321-0294

USGS Topogr

Wetland Deline

New Marke

OH 1:

Buford, Highland

August 6, 2020

U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230-8355

Re: Pre-Development Consultation Request
New Market Solar II
Stringtown Road
Buford, Highland County, Ohio
Terracon Project No. N1207316

Dear USFWS Official:

Terracon Consultants, Inc. (Terracon) is requesting Pre-Development Consultation for an approximately proposed 721-acre solar farm development project (i.e., Proposed Highland Solar Farm) located in Buford, Highland County, Ohio. Project details are included in this letter.

Project Description

Project Purpose

The proposed solar farm development is designed to provide more sustainable energy resources and options to an area of Appalachia.

Project Location

The proposed development consists of approximately 721-acres of area predominantly occupied by row-crop agriculture. This area is located east of Buford, Ohio along portions of Stringtown Road and multiple smaller roads. Enclosed is a site location map (including portions of the USGS Sardinia and Sugar Tree Ridge, Ohio Quadrangles) showing the project location for your reference.

Site Description

The majority of the site consists of row-crop agricultural use (soybeans and corn) with small woodlots interspersed. Several streams and ponds are located across the site. A few sparse residences and barns are also located across the site.

Project Equipment and Approach

Terracon understands that the client intends to perform minimal grading activities across the site in preparation for the installation of solar panel equipment. Terracon understands that best management practices for erosion control, including the use of silt fences and straw bales, will be utilized to minimize impacts to streams and/or other waterbodies.

Pre-Development Consultation Request

Proposed Highland Solar Farm

Buford, Highland County, Ohio ■ Terracon Project: N1177433



If you have any questions, please feel free to call me at (513) 612-9175 or email at cebrendel@terracon.com. Thank you for your time and effort.

Sincerely,

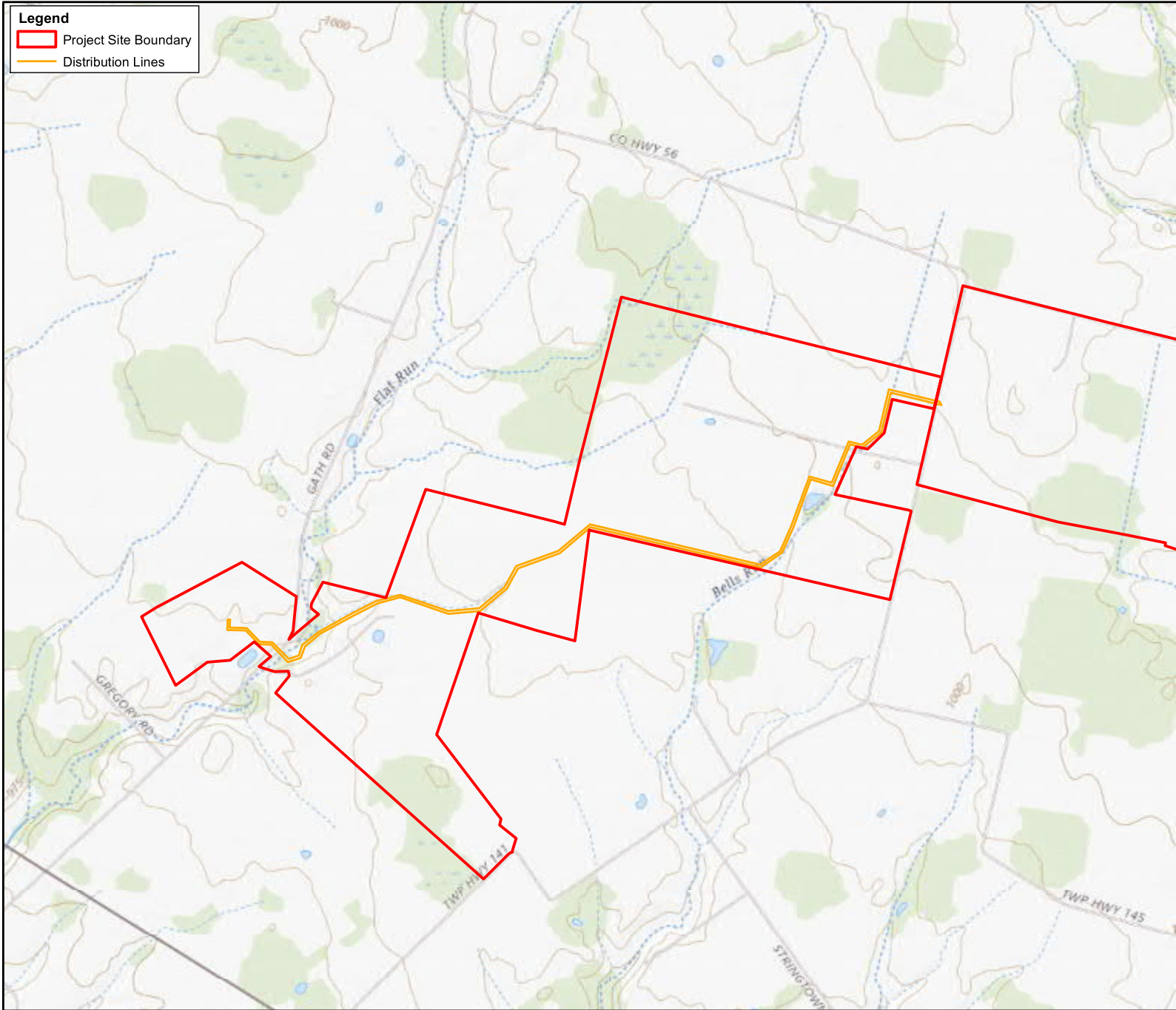
A handwritten signature in black ink, reading "Cassie E. Brendel". The signature is fluid and cursive, with the first and last names being more prominent.

Cassie Brendel
Field Scientist

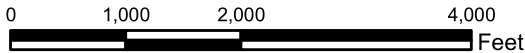
Legend

Project Site Boundary

Distribution Lines



Ohio Power Siting Board Application
 New Market Solar Farm
 Hecate Energy Highland 4 LLC and
 Hecate Energy Highland 2, LLC
 Exhibit G: Ecological Report New Market II
 Page 147



Project No.	N1207163
Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020



611 Lunken Park Drive
 Cincinnati, Ohio 45226
 PH: (513) 321-5816 FAX: (513) 321-0294

USGS Topogr
 Wetland Deline
 New Marke
 OH 1:
 Buford, Highland



DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

REPLY TO
ATTENTION OF

June 12, 2020

Regulatory Division
North Branch
LRH-2020-436-OHR-Bells Run

PRELIMINARY JURISDICTIONAL DETERMINATION

Ms. Patti Shorr
Hecate Energy Highland 2, LLC
621 Randolph Street
Chicago, Illinois 60616

Dear Ms. Shorr:

I refer to your May 12, 2020 report titled *Wetland Delineation Report* (May 12, 2020 report), prepared and submitted on your behalf by Terracon Consultants, Inc., (Terracon). The subject site is on a 225 acre parcel located near Buford, in Highland County, Ohio (39.07802°N, 83.75925°W). On-site waters flow into White Oak Creek, a direct tributary of the Ohio River, a navigable water of the United States (U.S.). This preliminary jurisdictional determination (PJD) request has been assigned the following file number: LRH-2020-436-OHR-Bells Run. Please reference this file number on all future correspondence related to this PJD request.

The U.S. Army Corps of Engineers' (Corps) authority to regulate waters of the U.S. is based, in part, on the definitions and limits of jurisdiction contained in 33 CFR 328, and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires that a Department of the Army (DA) permit be obtained prior to the discharge of dredged or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires that a DA permit be obtained for any work in, on, over or under a navigable water.

Based on the review of the aquatic resources in the May 12, 2020 report, this office has determined that three (3) streams totaling 307 linear feet are located within the PJD boundary, and as described in the enclosed PJD Form. This office has determined that these waters **may** be jurisdictional waters of the U.S. in accordance with the Regulatory Guidance Letter (RGL) for JDs issued by the Corps on October 31, 2016 (RGL No. 16-01). As indicated in the guidance, this PJD is non-binding and cannot be appealed (33 CFR 331.2) and only provides a written indication that waters of the U.S., including wetlands, may be present on-site.

You have declined to exercise the option to obtain an approved JD in this instance and at this time for the aquatic resources within the PJD boundary. For the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that

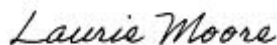
require authorization from this office, the aquatic resources described in the enclosed PJD Form will be evaluated as if they are waters of the U.S.

Enclosed please find two (2) copies of the PJD Form. If you agree with the findings of this PJD and understand your options regarding the same, please sign and date one (1) copy of the form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy via email to kyle.m.moore@usace.army.mil or to the following address:

U.S. Army Corps of Engineers
Huntington District, Regulatory Division
Attn: Mr. Kyle Moore (LRH-2020-436-OHR-Bells Run)
502 8th Street
Huntington, West Virginia 25701

Please be advised if your proposed project is unable to avoid waters of the U.S. you must obtain written authorization from this office prior to the discharge of dredged and/or fill material into these aquatic resources. If you have any questions concerning the above, please contact Mr. Kyle Moore at (513) 825-3444 or by email at kyle.m.moore@usace.army.mil

Sincerely,



Laurie A. Moore
Regulatory Project Manager
North Branch

Enclosures
cc: via email
Ms. Cassie Brendel
Terracon Consultants, Inc.
cassandra.brendel@terracon.com

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: June 12, 2020

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Ms. Patti Shorr Hecate Energy Highland 2, LLC 621 Randolph Street Chicago, Illinois 60616

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: LRH-2020-436-OHR-Bells Run

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Ohio County/parish/borough: Highland City: Buford

Center coordinates of site (lat/long in degree decimal format):

Lat.: 39.07802 Long.: -83.75925

Universal Transverse Mercator: NAD83

Name of nearest waterbody: White Oak Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: June 11, 2020

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Stream 1	39.07897	-83.76933	30 linear feet	Non-wetland	Section 404
Stream 2	39.07193	-83.78647	163 linear feet	Non-wetland	Section 404
Stream 3	39.07193	-83.78647	114 linear feet	Non-wetland	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Exhibit 6 - Wetland Delineation Map.
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____
Wetland Delineation Report dated May 12, 2020
- ☐ Data sheets prepared by the Corps: _____.
- ☐ Corps navigable waters' study: _____.
- ☐ U.S. Geological Survey Hydrologic Atlas: _____.
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Ohio 1:24K - Sardinia.
- ☒ Natural Resources Conservation Service Soil Survey. Citation: In report referenced above.
- ☒ National wetlands inventory map(s). Cite name: In report referenced above.
- ☐ State/local wetland inventory map(s): _____.
- ☒ FEMA/FIRM maps: In report referenced above.
- ☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): In report referenced above.
or ☒ Other (Name & Date): In report referenced above.
- ☐ Previous determination(s). File no. and date of response letter: _____.
- ☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory staff member
completing PJD

Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

APPENDIX C



August 6, 2020

Hecate Energy Highland 2, LLC
621 Randolph Street
Chicago, Illinois 60661

Attn: Ms. Patti Shorr
P: (614) 205-3798
E: PShorr@HecateEnergy.com

Re: Wetland Delineation Report
New Market Solar II Site
Stringtown Road
Buford, Highland County, Ohio
Terracon Project No. N1207316

Dear Ms. Shorr:

Terracon is pleased to submit the wetland delineation report for the above referenced project. Based on the results of the assessment, Terracon observed eight wetlands, eight streams, and four ponds on the project site.

A cover letter addressed to the U.S. Army Corps of Engineers (USACE) has been included with the enclosed report; however, a copy of this report has not been provided to USACE by Terracon. A copy of the wetland delineation report and attached letter should be submitted to USACE for review and concurrence. The USACE can be reached at the following address:

US Army Corps of Engineers – Huntington District
ATTN: Regulatory Branch
502 Eighth Street
Huntington, WV 25701-2070

Terracon appreciates the opportunity to have worked for you on this project. If you have any questions regarding the content of this report, please contact me at (513) 612-9094 or via email at swest@terracon.com.

Sincerely,
TERRACON Consultants, Inc.

Cassie Brendel
Field Scientist

Scott E. West
Group Manager

Wetland Delineation Report

New Market Solar II Site

Stringtown Road

Buford, Highland County, Ohio

Date: August 6, 2020

Terracon Project No. N1207316



Prepared for:

Hecate Energy Highland 2, LLC
Chicago, Illinois

Prepared by:

Terracon Consultants, Inc.
Cincinnati, Ohio

terracon.com

Ohio Power Siting Board Application
New Market Solar Farm
Hecate Energy Highland 4 LLC and
Hecate Energy Highland 2, LLC
Exhibit G: Ecological Report New Market II
Page 155

Terracon

Environmental

Facilities

Geotechnical

Materials



August 6, 2020

US Army Corps of Engineers – Huntington District
ATTN: Regulatory Branch
502 Eighth Street
Huntington, WV 25701-2070

Re: Wetland Delineation Report
New Market Solar II Site
Stringtown Road
Buford, Highland County, Ohio
Terracon Project No. N1207316

Regulatory Branch:

Terracon is pleased to submit the wetland delineation report prepared for Hecate Energy Highland 2, LLC for the above-mentioned project. This assessment describes the observations made during our site visit and other sources of information used to investigate the project site for wetlands and other waterbodies. Based on the results of the assessment, eight wetlands, eight streams, and four ponds are present at the project site. At this time, we are requesting that your office perform a review of the report for the project site and advise our client if a permit will be required for any proposed activities.

If you have any questions concerning this report, please contact Scott West at (513) 612-9094 or by e-mail at swest@terracon.com.

Sincerely,
TERRACON Consultants, Inc.

Cassie Brendel
Field Scientist

Scott E. West
Group Manager

Copy to: Ms. Patti Shorr
Hecate Energy Highland 2, LLC
621 Randolph Street
Chicago, Illinois 60661

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**Wetland Delineation Report
New Market Solar II Site
Stringtown Road
Buford, Highland County, Ohio
Terracon Project No. N1207316
August 6, 2020**

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) was retained by Hecate Energy Highland 2, LLC (client) to perform a wetland delineation to determine if wetlands or other waters under the jurisdiction of the United States Army Corps of Engineers (USACE) or the Ohio Environmental Protection Agency (OEPA) are present at the approximately 721-acre property, hereafter referred to as the project site. The project site is located on the southeast corner of the intersection of Stringtown Road and Edwards Road, near Buford, Highland County, Ohio. The project site location is depicted on Exhibits 1 and 4 in Appendix A.

The purpose of performing this wetland delineation of the project site was to characterize the existing site conditions, observe the project site for suspect waterbodies and wetlands and provide a recommendation regarding whether or not suspect waterbodies (if observed) would be considered jurisdictional with the USACE.

It is important to note that the findings presented in this report represent Terracon's professional opinion, based upon field observations made during the site visit and our experience with current regulatory guidance under the Clean Water Act. In order to verify the delineation boundaries and jurisdictional classifications presented in this report, the USACE must review this report and make a jurisdictional determination.

2.0 SCOPE OF SERVICES

Terracon performed the following scope of work:

- Reviewed United States Geologic Survey (USGS) topographical maps, National Wetlands Inventory (NWI) maps, United States Department of Agriculture (USDA) National Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) soil maps and surveys, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), and aerial photographs to assist with identifying suspect Waters of the US (WOUS) and wetland areas at the project site.
- Mobilized to the project site to conduct the preliminary site visit.
- Prepared a map showing approximate locations of suspect waterbodies or wetland areas observed during the site visit, if any.

- Completed a wetland delineation report that included site characterization information, a discussion of applicable data, and recommendations for the project site.

3.0 PRELIMINARY DATA GATHERING AND ANALYSIS

Prior to performing the delineation, several map and aerial photograph resources were reviewed to assist with identifying potential wetland areas at the project site. Each source of data is described in detail below.

3.1 Topographic Map

The United States Department of the Interior Geologic Survey (USGS) 7.5-Minute Topographic Map of the project site was reviewed to identify drainages or potential wetlands within the project site. The project site appears to be relatively flat, averaging approximately 1,000 feet above sea level (asl). The USGS map indicates the presence of six intermittent streams and five ponds across the project site. A portion of the Buford, Ohio Quadrangle can be seen as Exhibit 1 in Appendix A.

3.2 National Wetlands Inventory Map

The National Wetlands Inventory (NWI) Map of the project site was reviewed to identify potential wetland areas. The map for the project site was published by the U.S. Department of the Interior's Fish and Wildlife Service and depicts probable wetland areas based on stereoscopic analysis of high-altitude aerial photographs and analysis of infrared bands from remotely-sensed imagery. The NWI map depicts six intermittent streams (R4SBC), four ponds, and one emergent wetland (PSSIA) across the project site. The NWI map for the project site is included as Exhibit 2 in Appendix A.

3.3 Soil Survey

Data from the soil survey of Highland County, Ohio was reviewed to identify soil types, including hydric soils. Data for the soil survey was compiled by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS), in 1977. Hydric soils information was gathered from the 'National Hydric Soils List' (USDA Natural Resource Conservation Service, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>). A soil survey map is included as Exhibit 3 in Appendix A.

The following soil types were identified within the project site boundaries on the soil survey map:

- Algiers silt loam (Ag): This soil is defined as somewhat poorly drained, nearly level, and typically located in flood plains. The soil color is typically dark grayish brown. This map unit is classified as hydric.

Wetland Delineation Report

New Market Solar II Site ■ Buford, Ohio

August 5, 2020 ■ Terracon Project: N1207316



- Clermont silt loam, 0 to 1 percent slopes (Cle1A): This soil is defined as somewhat poorly to poorly drained and nearly level. The soil color is typically grayish brown. This map unit is classified as hydric.
- Eel silt loam, 0 to 2 percent slopes, occasionally flooded (Ee): This soil is defined as well drained to very poorly drained and is typically found in flood plains. The soil color ranges from yellowish brown to dark grayish brown. This map unit is classified as hydric.
- Hickory clay loam, 12 to 18 percent slopes, severely eroded (HyD3): This soil is defined as moderately well to well drained and is typically found in narrow bands along streams and at the end of waterways and stream outlets. The soil color ranges from dark grayish-brown with yellowish-brown mottles to dark yellowish brown. This map unit is not classified as hydric.
- Hickory clay loam, 6 to 12 percent slopes, severely eroded (HyC3): This soil is defined as moderately well to well drained and is typically found in narrow bands along streams and at the head of waterways. The soil color ranges from dark grayish-brown with yellowish-brown mottles to dark yellowish brown. This map unit is not classified as hydric.
- Hickory silt loam, 6 to 12 percent slopes, moderately eroded (HkC2): This soil is defined as moderately well to well drained and is typically found in narrow bands along streams and slope breaks. The soil color ranges from dark grayish-brown with yellowish-brown mottles to dark yellowish brown. This map unit is not classified as hydric.
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes (JoR1B1): This soil is defined as moderately well drained, gently sloping to sloping, and is typically found along drainageways. The soil color ranges from dark grayish brown to yellowish-brown. This map unit is not classified as hydric.
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes, eroded (JoR1B2): This soil is defined as moderately well drained, gently sloping to sloping, and is typically found along drainageways. The soil color ranges from dark grayish brown to yellowish-brown. This map unit is not classified as hydric.
- Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded (RpC2): This soil is defined as moderately well drained, sloping, and is typically found along drainageways. The soil color ranges from dark grayish brown to yellowish-brown. This map unit is not classified as hydric.
- Westboro-Schaffer silt loams, 0 to 2 percent slopes (WsS1A1): This soil is defined as somewhat poorly drained, nearly level, and typically found in till plains. The soil color ranges from dark grayish brown to yellowish brown. This map unit is classified as hydric.
- Westboro-Schaffer silt loams, 2 to 4 percent slopes (WsS1B1): This soil is defined as somewhat poorly drained, gently sloping, and is typically found in till plains. The soil color ranges from dark grayish brown to yellowish brown. This map unit is classified as hydric.

3.4 Aerial Photographs

A recent aerial photograph (2019) of the project site was reviewed to determine land use and evaluate vegetative cover. The project site is predominantly depicted as agricultural land, with small pockets of forested land. The aerial photograph is included as Exhibit 4 in Appendix A.

Wetland Delineation Report

New Market Solar II Site ■ Buford, Ohio

August 5, 2020 ■ Terracon Project: N1207316



3.5 FEMA FIRM Data

Terracon reviewed FEMA FIRM data (Panel #s 39015C0175D, effective 09/29/2010; and 39071C0350E, effective 03/03/2011) to identify areas that may have elevated likelihoods of containing WOUS. The FEMA FIRM data indicated that the entirety of the project site is in Zone X, an area of minimal flood hazard. This data is included as Exhibit 5 in Appendix A.

4.0 FIELD TECHNIQUES

Terracon personnel, Michael Perkins, Cassandra Brendel, and Scott West, conducted a reconnaissance of the project site on December 14, 15, 19, and 20, 2017, January 24, July 11, 12, December 5, 13, 2018, and August 8 and 13, 2019 to characterize the existing site conditions and observe for the presence of wetlands and potential jurisdictional waters. Characteristics of jurisdictional waters and wetland areas were assessed utilizing the criteria detailed in sections 4.1 and 4.2 of this report. The evaluation methods generally followed the routine on-site determination method referenced in the 1987 USACE Manual and 2010 Midwest Regional Supplement.

4.1 Wetland Observations

Wetlands generally have three essential characteristics: hydrophytic (wetland) vegetation, hydric soils, and wetland hydrology. Based on NWI data, aerial imagery and topographical data, on-site areas were investigated for potential wetland properties. Additional areas were investigated, based on observations made during the site reconnaissance. Data regarding the three essential characteristics was gathered within observed suspect wetland areas to further delineate boundaries.

4.1.1. Plant Community Assessment

Suspect areas were visually observed to determine the species, when possible, and absolute percentage of ground cover for four stratum of plant community types. Herbs were generally observed within a five-foot radius, shrubs/saplings within a fifteen-foot radius, and trees and vines within a thirty-foot radius of the observation location.

For each species of vegetation observed, their wetland indicator status was evaluated. Indicator status was determined using the NRCS Plants Database. Indicator categories for vegetation are presented below:

- Obligate Wetland (OBL) - occur almost always (estimated probability greater than 99%) under natural conditions in wetlands.

- Facultative Wetland (FACW) - usually occur in wetlands (estimated probability 67% - 99%) but occasionally found in non-wetlands.
- Facultative (FAC) - equally likely to occur in wetlands or non-wetlands (estimated probability 34% - 66%).
- Facultative Upland (FACU) - usually occur in non-wetlands (estimated probability 67% - 99%) but occasionally found in wetlands.
- Obligate Upland (UPL) – rarely occur in wetlands but occur almost always (estimated probability greater than 99%) under natural conditions in non-wetlands.

The percent cover of each stratum was determined, and dominance was evaluated. Dominant species were the most abundant species that accounted for more than 20 percent of the absolute percent coverage of the stratum. The number of dominant species with an indicator status of OBL, FACW, and/or FAC was compared to the total number of dominant species across all strata. Typically, when more than 50 percent of the dominant species had an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation was present.

If the percentage of dominant species with an indicator status of OBL, FACW, and/or FAC was less than 50 percent, prevalence index and morphological adaptations may have been evaluated to confirm if hydrophytic vegetation was present or absent.

4.1.2 Hydric Soils Assessment

After Terracon evaluated wetland vegetation, subsurface soil samples were collected using a soil probe or similar method. The samples were collected to a depth of approximately 15 inches below ground surface and were visually compared to Munsell Soil Color Charts (Munsell, 2009), which aided in the evaluation of hydric soil characteristics. The soil samples were further examined for hydric soil indicators including, but not limited to, histosol, thick dark surface, sandy gleyed matrix, sandy redox, loamy gleyed matrix, redox dark surface, and/or redox depressions. If these or other hydric soil indicators were observed in the subsurface soil sample, the observation location was considered to have hydric soil.

4.1.3 Wetland Hydrology Assessment

Visual indicators of wetland hydrology were evaluated. Examples of primary wetland hydrology indicators include, but are not limited to, surface water, high water table, soil saturation, water marks, sediment deposits, drift deposits, iron deposits, inundation visible on aerial imagery, sparsely vegetated concave surface, and water-stained leaves. If at least one primary or two secondary indicators were observed, the observation location was considered to have wetland hydrology.

4.1.4 Classification of Wetlands

Upon completion of the review of the three wetland criteria at each area, a wetland determination was made. Under normal circumstances, if one or more of the wetland criteria were not identified, the area was not considered to be a wetland. If all three wetland indicators were identified, the area was classified as wetland. Additional observations were made throughout the wetland area to define the wetland/non-wetland boundary. Vegetation, soil and hydrology assessment data from at least one location within the wetland and one upland location outside of the wetland were recorded on a USACE Wetland Determination Form (Data Sheet).

4.2 Other Waters Observations

Terracon also made observations of site features that may be considered a jurisdictional waterbody. If a potential jurisdictional waterbody was identified, observations regarding its characteristics were recorded. Potential jurisdictional waterbodies were evaluated based on the observation of the following characteristics:

- **Flow Characteristics:**
 - Perennial: contains water at all times except during extreme drought.
 - Intermittent: carries water a considerable portion of the time but ceases to flow occasionally or seasonally.
 - Ephemeral: carries water only during and immediately after periods of rainfall or snowmelt.
- **Ordinary High-Water Mark:**
 - The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris or other features influenced by the surrounding area.
- **Bank Shape Descriptions:**
 - Undercut: banks that overhang the stream channel
 - Steep: bank slope of approximately greater than 30 degrees
 - Gradual: bank slope of approximately 30 degrees or less
- **Aquatic Habitat Descriptions:**
 - Pool: deeper portion of a stream where water flows slower than in neighboring, shallower portions, smooth surface, and finer substrate
 - Riffle: shallow area in a stream where water flows swiftly over gravel and rock or other coarse substrate resulting in a rough flow and a turbulent surface
 - Run: section of a stream with a low or high velocity and with little or no turbulence on the surface of the water.

5.0 FIELD OBSERVATIONS RESULTS

On December 14, 15, 19, and 20, 2017, January 24, July 11, and July 12, 2018, August 9, 2019, January 8 and April 22, 2020. Terracon performed field observations at the project site. The project site consisted primarily of forested and agricultural land. Ground photographs, included in Appendix B, provide an indication of the physical characteristics observed during the site visit. Descriptions of the observed areas are listed in the following sections.

5.1 Plant Communities Found at Project Site

5.1.1 Forested Wetlands

The dominant plant species observed in the forested wetland areas were pin oak (*Quercus palustris*), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), swamp white oak (*Quercus bicolor*), sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua*), American elm (*Ulmus americana*), blackgum (*Nyssa sylvatica*), spicebush (*Lindera benzoin*), lurid sedge (*Carex lurida*), softstem bulrush (*Schoenoplectus tabernaemontani*), Allegheny blackberry (*Rubus allegheniensis*), woolgrass (*Scirpus cyperinus*), Virginia rye grass (*Elymus virginicus*), and greenbrier (*Smilax rotundifolia*).

5.1.2 Emergent Wetlands

The dominant plant species observed in the emergent wetland areas were panic grass (*Panicum virgatum*), Gray's sedge (*Carex grayi*), squarrose sedge (*Carex squarrosa*), greater bladder sedge (*Carex intumescens*), touch-me-nots (*Impatiens capensis*), soft rush (*Juncus effusus*), sensitive fern (*Onoclea sensibilis*), white grass (*Leersia virginica*), fox sedge (*Carex vulpinoidea*), square-pod water-primrose (*Ludwigia alternifolia*), green bulrush (*Scirpus atrovirens*), and softstem bulrush.

5.1.3 Forested Uplands

The dominant plant species observed in the forested upland areas were white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), American beech, red maple, pawpaw (*Asimina triloba*), northern red oak (*Quercus rubra*), poison ivy (*Toxicodendron radicans*), greenbrier, Allegheny blackberry, lurid sedge, and multiflora rose (*Rosa multiflora*).

5.1.4 Agricultural Uplands

The dominant plant species observed in the agricultural upland areas were the remnants of corn (*Zea mays*) and soybeans (*Glycine max*) that have been recently harvested.

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New Market Solar II Site ■ Buford, Ohio

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5.2 Wetland Area Descriptions

The following wetlands were observed on site during the site reconnaissance.

Wetland	Size (acres)	Cowardin Classification	Water Sources	USACE Jurisdictional (Y/N)
A	8.82	PFO	Precipitation, Surface Runoff	N
B	0.05	PFO	Precipitation, Surface Runoff	N
C	0.36	PFO	Precipitation, Surface Runoff	N
D	13.6	PFO	Precipitation, Surface Runoff, Stream 1	Y
E	0.55	PFO	Precipitation, Surface Runoff	N
F	6.84	PEM/PFO	Precipitation, Surface Runoff	N
G	8.88	PEM/PFO	Precipitation, Surface Runoff	N
H	0.58	PFO	Precipitation, Surface Runoff, Pond 3	N
TOTAL	39.68 acres			

PEM – Palustrine emergent wetland, PFO – Palustrine forested wetland, PSS – Palustrine scrub-shrub wetland

Terracon considers Wetland D jurisdictional based on its significant nexus to the off-site stream, White Oak Creek. Wetlands A, B, C, E, F, G, and H do not appear to have any significant nexus to on-or-off-site waters; therefor, Terracon considers these wetlands non-jurisdictional. This decision is based on 33 CFR 328.3(b)(1), which includes waters or water features that are not identified in 33 CFR 328.3(a)(1), (2), (3), or (4).

5.3 Streams

The following streams were observed at the project site during the site reconnaissance.

Streams	Length (linear feet)	Flow Regime	Average Stream Width at Top of Bank (feet)
1	600	Intermittent	6-8
2 (Bell's Run)	1,689	Intermittent	7-9
3 (Flat Run)	996	Intermittent	6-8
4	2,000	Intermittent	6-8
5	131	Ephemeral	3-5
6	904	Ephemeral	3-5
7	229	Intermittent	3-5
8	169	Ephemeral	3-5
TOTAL	6,718 linear feet		

Terracon considers Streams 1, 2, 3, 4, and 7 jurisdictional based on their significant nexus and connection as tributaries to the off-site stream, White Oak Creek. Terracon considers Streams 5, 6, and 8 non-jurisdictional based on their status as ephemeral. This decision is based on 33 CFR

Wetland Delineation Report

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328.3(b)(3), which states that ephemeral features include ephemeral streams, swales, gullies, rills, and pools.

5.4 Other Waters

Other waters (ponds) were observed at the project site during the site reconnaissance:

Pond	Size (acres)	Cowardin Classification	WATER SOURCES	USACE JURISDICTIONAL (Y/N)
1	0.27	PUBH	Precipitation, Surface Runoff	N
2	0.26	PUBH	Precipitation, Surface Runoff	N
3	0.11	PUBH	Precipitation, Surface Runoff	N
4	0.69	PUBH	Precipitation, Surface Runoff, Stream 2	Y
TOTAL	1.33 acres			

Terracon considers Pond 4 jurisdictional based on its significant nexus to Stream 2 (Bell's Run). Ponds 1, 2, and 3 do not appear to have significant nexus to on or off-site streams; therefore, Terracon considers these ponds non-jurisdictional.

6.0 SUMMARY AND CONCLUSIONS OF FIELD OBSERVATIONS

A wetland delineation was conducted at an approximately 721-acre site located near Buford, Ohio on December 14, 15, 19, and 20, 2017, January 24, July 11, and July 12, 2018, August 9, 2019, January 8 and April 22, 2020. A review of the project site was conducted utilizing readily available information including, but not limited to, topographical, aerial, soils, floodplain, and wetland data. In addition, a preliminary site visit was performed to characterize the existing site conditions and observe the project site for suspect waterbodies and wetlands (if any). A summary of field observations and conclusions concerning jurisdictional status is outlined in the following sections.

6.1 Wetlands

Eight (8) wetlands, totaling 39.68 acres, were observed across the project site during the site reconnaissance. Terracon considers the on-site wetlands jurisdictional based on their significant nexus to the off-site water, White Oak Creek.

6.2 Streams

Eight (8) streams, totaling 6,718 lf, were observed on site during the site reconnaissance. Terracon considers Streams 1, 2, 3, 4, and 7 jurisdictional based on their significant nexus and connection as tributaries to the off-site stream, White Oak Creek. Terracon considers Streams 5,

Wetland Delineation Report

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6, and 8 non-jurisdictional based on their status as ephemeral. This decision is based on 33 CFR 328.3(b)(3), which states that ephemeral features include ephemeral streams, swales, gullies, rills, and pools.

6.3 Other Waters

Four (4) ponds, totaling 1.33 acres, were observed on site during the site reconnaissance. Terracon considers Pond 4 jurisdictional based on its significant nexus to Stream 2 (Bell's Run). Ponds 1, 2, and 3 do not appear to have significant nexus to on or off-site streams; therefore, Terracon considers these ponds non-jurisdictional.

7.0 RECOMMENDATIONS

According to our preliminary site investigation, potential jurisdictional waters are present on the project site. However, for all on-site areas, only the USACE can make the final determination on the jurisdictional status of waterbodies, and on the need for permit processing and compensatory mitigation. In addition, it should be noted that the State of Ohio has an isolated wetlands program, which includes isolated ponds, and any impacts to on-site waters may have to be processed through the OEPA's 401 program.

Again, Terracon recommends a copy of this report be submitted to the USACE for their final determination of the findings of this delineation on the site. The USACE can be reached at the following address:

US Army Corps of Engineers – Huntington District
ATTN: Regulatory Branch
502 Eighth Street
Huntington, WV 25701-2070

8.0 GENERAL COMMENTS

The wetland delineation was performed in accordance with generally accepted practices of this profession undertaken in similar studies at the same time and in the same geographical area. A wetland delineation, such as the one performed at this site, is of limited scope, is noninvasive, and cannot eliminate the potential that wetlands or waterbodies are present at the site beyond what is identified by the limited scope of this preliminary assessment. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. No biological assessment can wholly eliminate uncertainty regarding the potential for concerns in connection with a project. The limitations of this preliminary assessment should be recognized.

Wetland Delineation Report

New Market Solar II Site ■ Buford, Ohio

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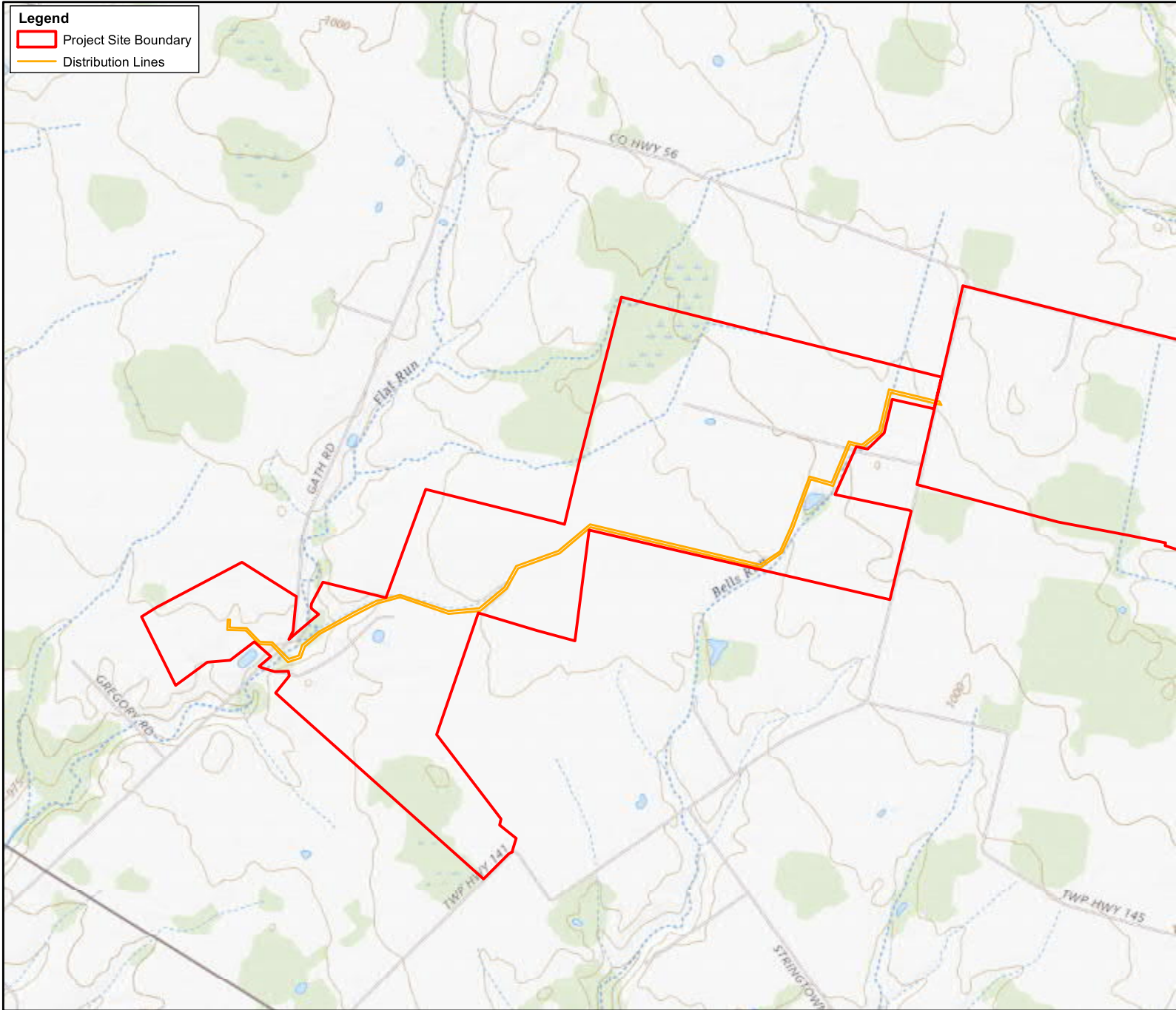
This report has been prepared in accordance with generally accepted scientific and engineering evaluation practices. This report is for the exclusive use of the client for the project being discussed. No warranties, either expressed or implied, are intended or made.

APPENDIX A – EXHIBITS

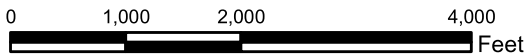
Legend

Project Site Boundary

Distribution Lines



Ohio Power Siting Board Application
 New Market Solar Farm
 Hecate Energy Highland 4 LLC and
 Hecate Energy Highland 2, LLC
 Exhibit G: Ecological Report New Market II
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Project No.	N1207163
Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020



611 Lunken Park Drive
 Cincinnati, Ohio 45226
 PH: (513) 321-5816 FAX: (513) 321-0294

USGS Topogr
 Wetland Deline
 New Marke
 OH 1:
 Buford, Highland

Legend

Project Site Boundary

Distribution Lines

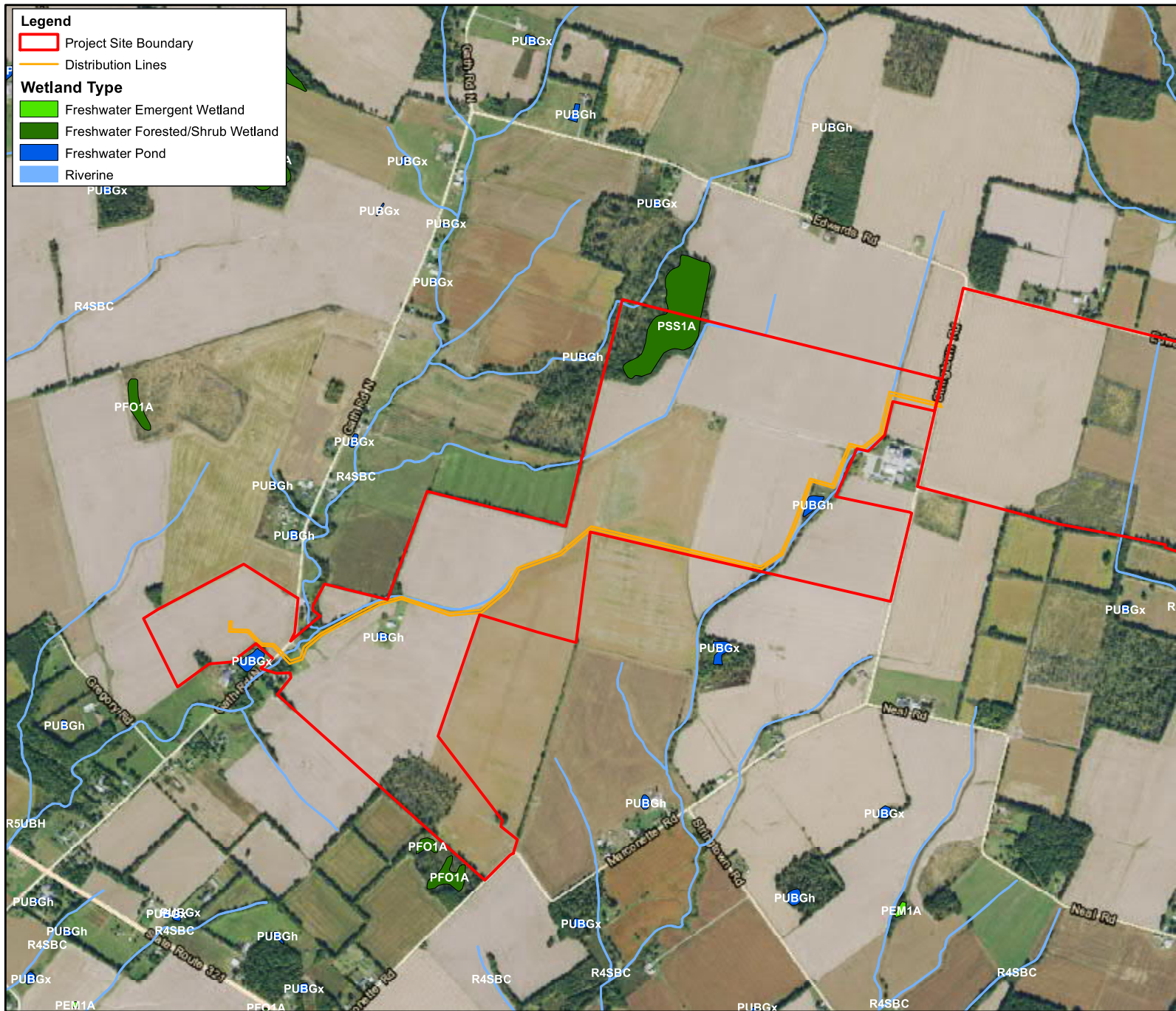
Wetland Type

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine



Ohio Power Siting Board Application
New Market Solar Farm
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Hecate Energy Highland 2, LLC
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0 1,000 2,000 4,000 Feet

Project No.	N1207163
Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020

Terracon
Consulting Engineers & Scientists

611 Lunken Park Drive Cincinnati, Ohio 45226
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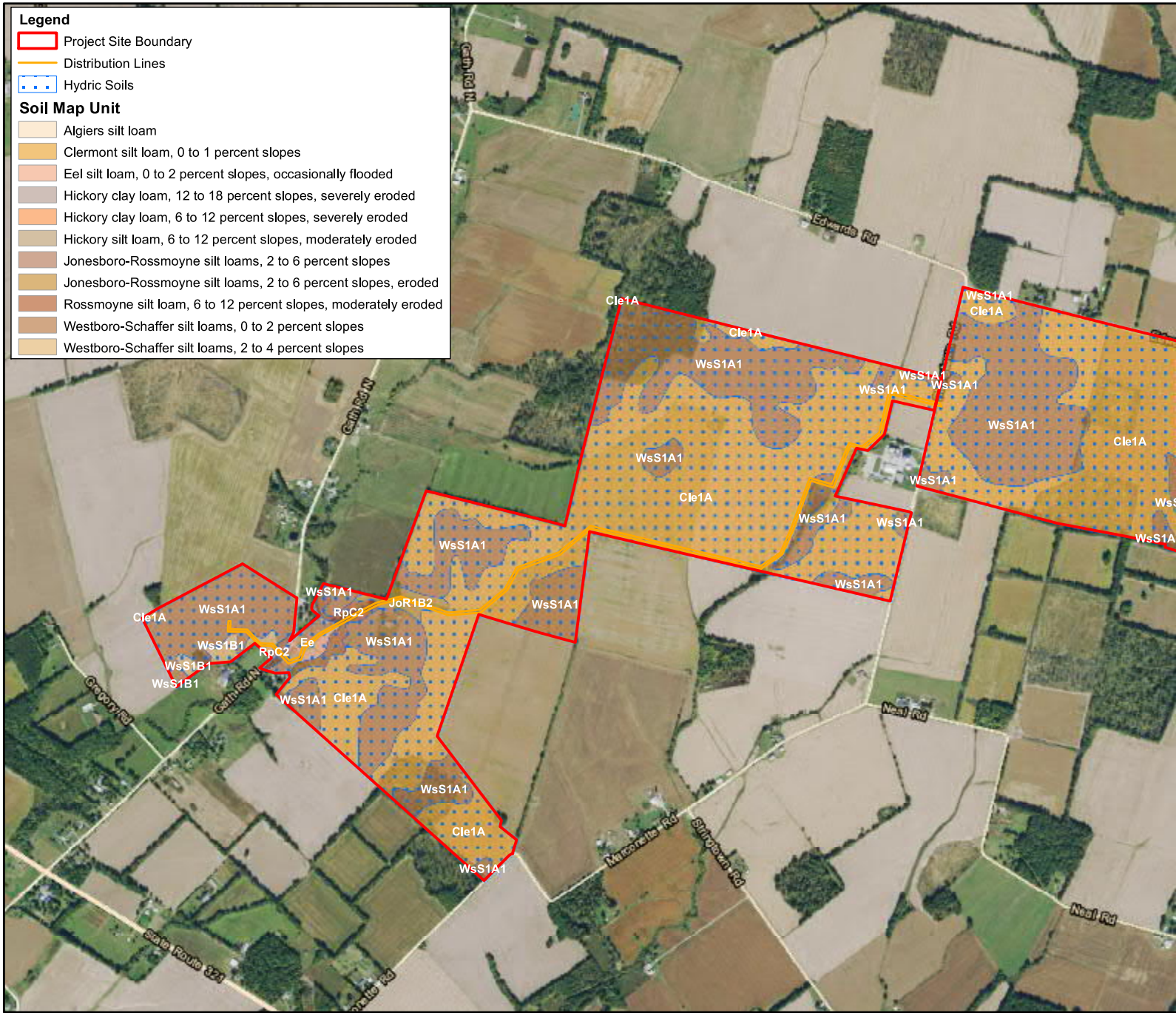
National Wetlands
Wetland Delineation
New Market II
OH 11
Buford, Highland

Legend

- Project Site Boundary
- Distribution Lines
- Hydric Soils

Soil Map Unit

- Algiers silt loam
- Clermont silt loam, 0 to 1 percent slopes
- Eel silt loam, 0 to 2 percent slopes, occasionally flooded
- Hickory clay loam, 12 to 18 percent slopes, severely eroded
- Hickory clay loam, 6 to 12 percent slopes, severely eroded
- Hickory silt loam, 6 to 12 percent slopes, moderately eroded
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes
- Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes, eroded
- Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded
- Westboro-Schaffer silt loams, 0 to 2 percent slopes
- Westboro-Schaffer silt loams, 2 to 4 percent slopes



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0 1,000 2,000 4,000 Feet


Project No.	N1207163
Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020

Terracon Consulting Engineers & Scientists	
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PH: (513) 321-5816	FAX: (513) 321-0294

USDA NRCS SSU
Wetland Delineation
New Market
OH 1
Buford, Highland



Legend

-  Project Site Boundary
 Distribution Lines

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A horizontal number line with tick marks at 0, 1,000, 2,000, and 4,000. The word "Feet" is written at the right end of the line.



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Drawn By:	MDP
Approved By:	SEW
Date:	8/3/2020

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Aerial Imagery
Wetland Delineation
New Market
OH 13
Buford, Highland

Legend

-  Project Site Boundary
-  Distribution Lines
-  FIRM Panels

Flood Hazard Zones**Zone Type**

-  1% Annual Chance Flood Hazard
-  Regulatory Floodway
-  Special Floodway
-  Area of Undetermined Flood Hazard
-  0.2% Annual Chance Flood Hazard
-  Future Conditions 1% Annual Chance Flood Hazard
-  Area with Reduced Risk Due to Levee

PANEL
39015C0175D
eff. 9/29/2010

PANEL
39071C0350E
eff. 3/3/2011



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0 1,000 2,000 4,000 Feet

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FAX: (513) 321-0294

FEMA Flood Insurance

Wetland Delineation

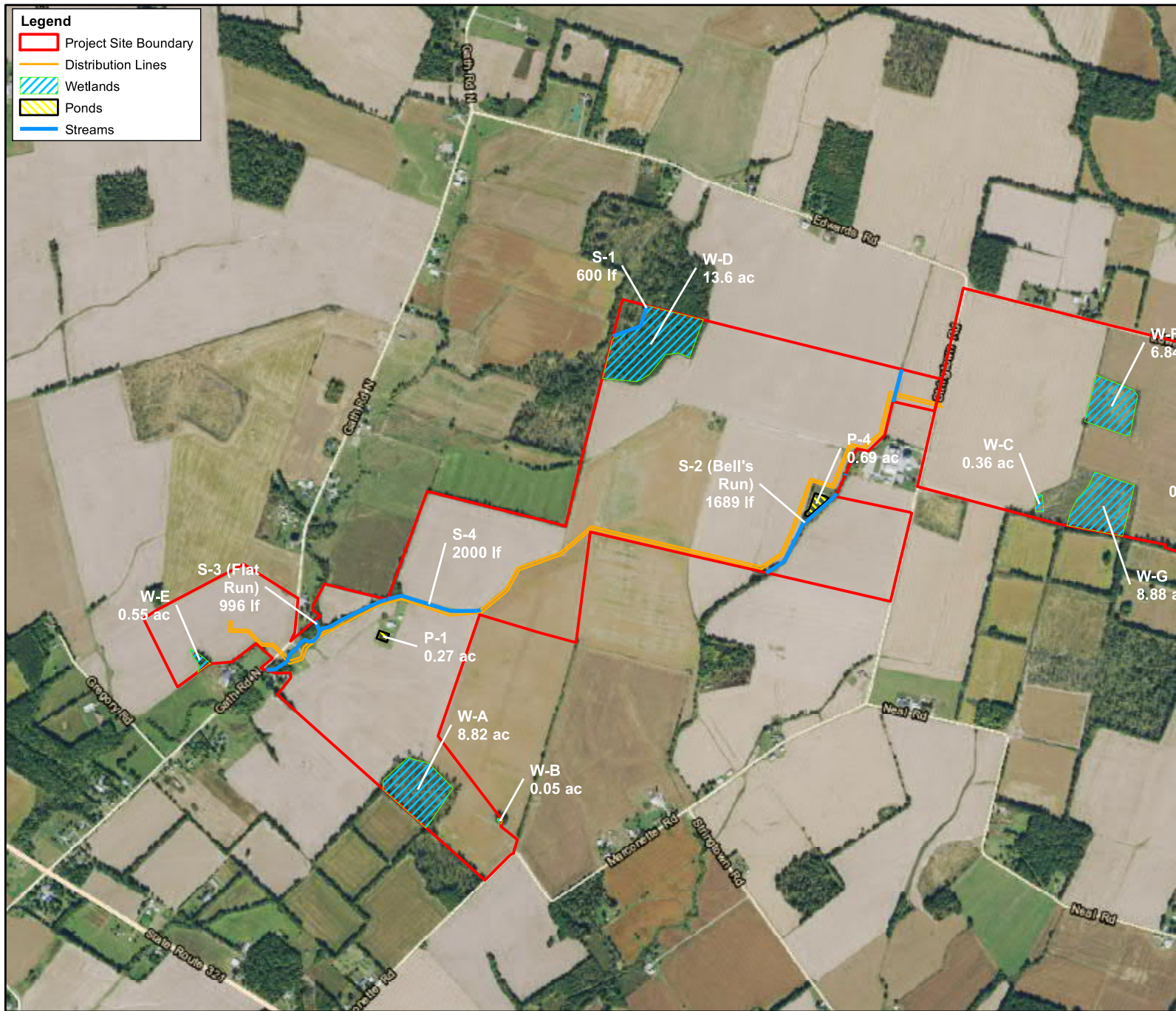
New Market

OH 1

Buford, Highland

Legend

- Project Site Boundary
- Distribution Lines
- Wetlands
- Ponds
- Streams



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0 1,000 2,000 4,000 Feet

Project No.	N1207163
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Date:	8/3/2020

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PH: (513) 321-5816 FAX: (513) 321-0294

Wetland Delineation
Wetland Delineation
New Market II
OH 12
Buford, Highland

APPENDIX B – GROUND PHOTOGRAPHS

Photographic Documentation

Client: Hecate Energy Highland 3 LLC

Project Number: N1207163

Location: Highland County, Ohio

Photographer: C. Brendel, M. Perkins

Photograph No. 1

Date: January 2018

Direction: North

Description:

General view of agricultural land on site.



Photograph No. 2

Date: December 2017

Direction: South

Description:

Bell's Run



Photographic Documentation

Client: Hecate Energy Highland 3 LLC

Project Number: N1207163

Location: Highland County, Ohio

Photographer: C. Brendel, M. Perkins

Photograph No. 3

Date: December 2017

Direction: Northeast

Description:

General view of a typical
ephemeral stream on site.



Photograph No. 4

Date: December 2017

Direction: Northwest

Description:

Flat Run



Photographic Documentation

Client: Hecate Energy LLC
Location: Highland County, Ohio

Project Number: N1177433
Photographer: M. Perkins, S. West

Photograph No. 5

Date: December 2017

Direction: West

Description:
General view of a
forested wetland found
on site.



Photograph No. 6

Date: December 2017

Direction: Northeast

Description:
Stream 1



APPENDIX C – DATA SHEETS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Highland Solar City/County: Buford/Highland Sampling Date: 07/11/2018
 Applicant/Owner: Hecate Energy LLC State: OH Sampling Point: UP
 Investigator(s): M. Perkins, C. Brendel Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: _____ Long: _____ Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: NA

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Observations also typical to WBU1:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B)
1. <u>Sassafras albidum</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Liriodendron tulipifera</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Quercus alba</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	
4. <u>Fagus grandifolia</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	
5. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>105</u> x 4 = <u>420</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>165</u> (A) <u>660</u> (B) Prevalence Index = B/A = <u>4.00</u>
<u>85</u> =Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Asimina triloba</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
<u>30</u> =Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Rosa rubiginosa</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Podophyllum peltatum</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>50</u> =Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
_____ =Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-5	10YR 4/3	100					Loamy/Clayey	
5-13	7.5YR 5/1	60	7.5YR 5/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------

Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required: check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Highland Solar City/County: Buford/Highland Sampling Date: 12/14/2017
 Applicant/Owner: Hecate Energy LLC State: OH Sampling Point: WF/A
 Investigator(s): M. Perkins, C. Brendel Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: 39.075526 Long: -83.763171 Datum: NAD83
 Soil Map Unit Name: Clermont silt loam, 0 to 1 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

VEGETATION – Use scientific names of plants.

<p>Tree Stratum (Plot size: _____)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">Absolute % Cover</th> <th style="width: 15%;">Dominant Species?</th> <th style="width: 30%;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Quercus palustris</u></td><td style="text-align: center;">40</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACW</td></tr> <tr><td>2. <u>Acer rubrum</u></td><td style="text-align: center;">20</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FAC</td></tr> <tr><td>3. <u>Ulmus rubra</u></td><td style="text-align: center;">20</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FAC</td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">80 = Total Cover</td><td></td><td></td></tr> </tbody> </table> <p>Sapling/Shrub Stratum (Plot size: _____)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">Absolute % Cover</th> <th style="width: 15%;">Dominant Species?</th> <th style="width: 30%;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Lindera benzoin</u></td><td style="text-align: center;">40</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACW</td></tr> <tr><td>2. <u>Fagus grandifolia</u></td><td style="text-align: center;">10</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACU</td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">50 = Total Cover</td><td></td><td></td></tr> </tbody> </table> <p>Herb Stratum (Plot size: _____)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">Absolute % Cover</th> <th style="width: 15%;">Dominant Species?</th> <th style="width: 30%;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Carex lurida</u></td><td style="text-align: center;">40</td><td style="text-align: center;">Yes</td><td style="text-align: center;">OBL</td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td></tr> <tr><td>9. _____</td><td></td><td></td><td></td></tr> <tr><td>10. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">40 = Total Cover</td><td></td><td></td></tr> </tbody> </table> <p>Woody Vine Stratum (Plot size: _____)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">Absolute % Cover</th> <th style="width: 15%;">Dominant Species?</th> <th style="width: 30%;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">= Total Cover</td><td></td><td></td></tr> </tbody> </table>		Absolute % Cover	Dominant Species?	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Indicator Status	1. _____				2. _____				= Total Cover				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>6</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)</p> <p>Prevalence Index worksheet:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>170</u> (A)</td> <td><u>360</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.12</u></td> </tr> </tbody> </table> <p>Hydrophytic Vegetation Indicators:</p> <p>____ 1 - Rapid Test for Hydrophytic Vegetation</p> <p><u>X</u> 2 - Dominance Test is >50%</p> <p><u>X</u> 3 - Prevalence Index is ≤3.0¹</p> <p>____ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p>____ Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <p>Hydrophytic Vegetation Present? Yes <u>X</u> No _____</p>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>170</u> (A)	<u>360</u> (B)	Prevalence Index = B/A = <u>2.12</u>	
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SOIL

Sampling Point: WF/A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-4	10YR 4/3	100					Loamy/Clayey	
4-12	7.5YR 5/1	60	7.5YR 5/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐
Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required: check all that apply)

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

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
(includes capillary fringe)			

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Highland Solar City/County: Buford/Highland Sampling Date: 12/14/2017
 Applicant/Owner: Hecate Energy LLC State: OH Sampling Point: Up
 Investigator(s): M. Perkins, C. Brendel Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: 39.075493 Long: -83.762763 Datum: NAD83
 Soil Map Unit Name: Clermont silt loam, 0 to 1 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
1. <u>Carya ovata</u>	60	Yes	FACU	
2. <u>Acer rubrum</u>	20	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
		80 =Total Cover		Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>140</u> x 4 = <u>560</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>180</u> (A) <u>680</u> (B) Prevalence Index = B/A = <u>3.78</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Fagus grandifolia</u>	30	Yes	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
		30 =Total Cover		
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rosa multiflora</u>	50	Yes	FACU	
2. <u>Toxicodendron radicans</u>	20	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
		70 =Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
		_____ =Total Cover		

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

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-4	10YR 4/3	100					Loamy/Clayey	
4-12	7.5YR 5/1	60	7.5YR 5/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
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Indicators for Problematic Hydric Soils³:

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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____

 Hydric Soil Present? Yes ☒ No ☐
Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required: check all that apply)

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

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
(includes capillary fringe)			

 Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Highland Solar City/County: Buford/Highland Sampling Date: 12/14/2017
 Applicant/Owner: Hecate Energy LLC State: OH Sampling Point: WG/H
 Investigator(s): M. Perkins, C. Brendel Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: 39.079645 Long: -83.780417 Datum: NAD83
 Soil Map Unit Name: Westboro-Schaffer silt loams, 0 to 2 percent slopes NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Observations consistent with WGWet2: 39.082588, -83.778048	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)
1. <u>Quercus palustris</u>	30	Yes	FACW	
2. <u>Acer rubrum</u>	30	Yes	FAC	
3. <u>Liquidambar styraciflua</u>	30	Yes	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ 90 =Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>70</u> x 1 = <u>70</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>230</u> (A) <u>480</u> (B) Prevalence Index = B/A = <u>2.09</u>
Sapling/Shrub Stratum (Plot size: _____) 1. <u>Lindera benzoin</u> 40 Yes FACW 2. <u>Fagus grandifolia</u> 30 Yes FACU 3. _____ 4. _____ 5. _____ _____ 70 =Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Carex lurida</u> 70 Yes OBL 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ 70 =Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ =Total Cover				
Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

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

SOIL

Sampling Point: WG/H**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-4	10YR 4/3	100					Loamy/Clayey	
4-12	7.5YR 5/1	60	7.5YR 5/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐
Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required: check all that apply)

<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
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Secondary Indicators (minimum of two required)

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<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

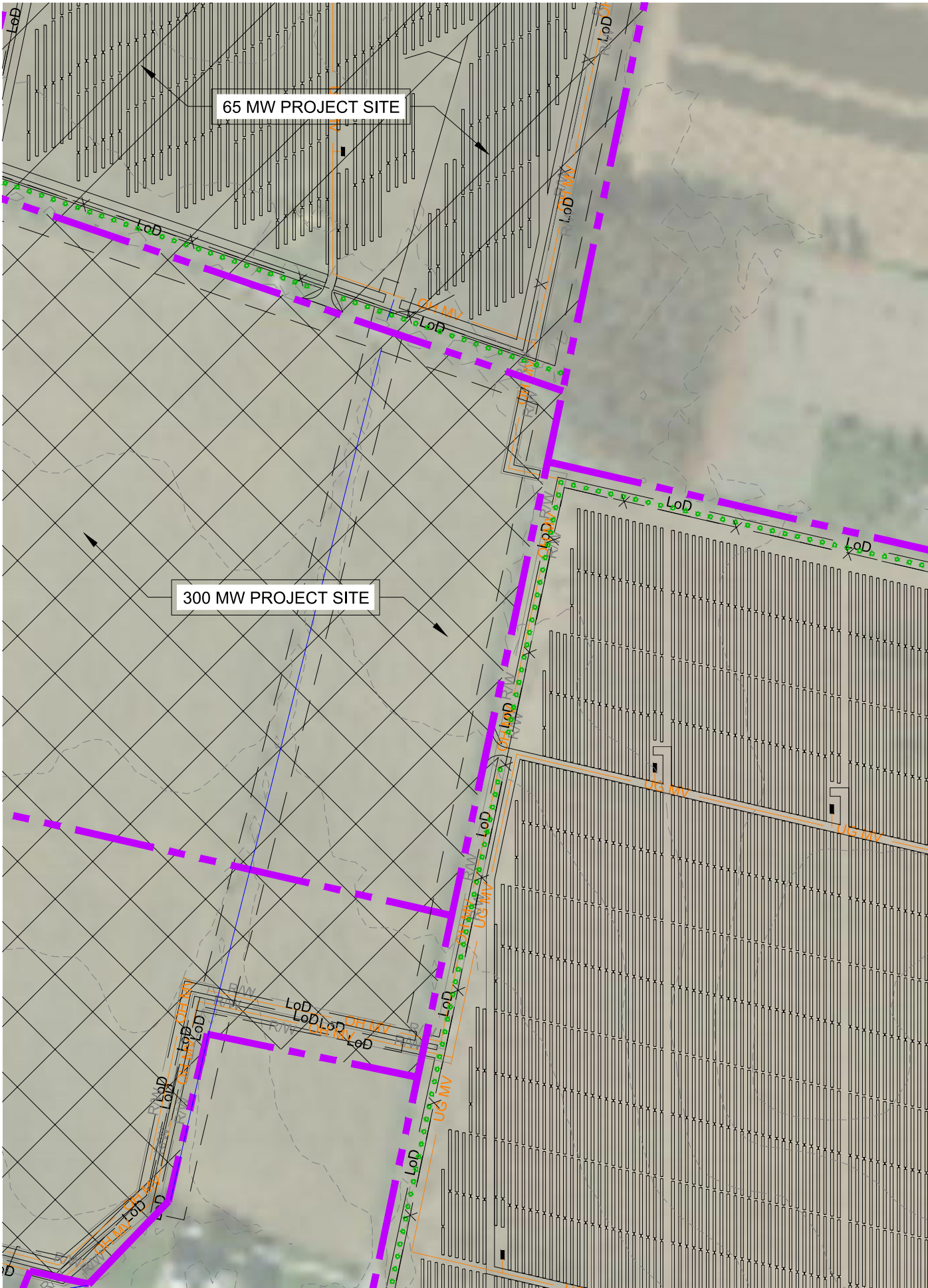
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
(includes capillary fringe)			

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

APPENDIX D



65 MW PROJECT SITE

300 MW PROJECT SITE

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

9/2/2020 5:10:28 PM

in

Case No(s). 20-1288-EL-BGN

Summary: Exhibit Application Exhibit G (Part 2) electronically filed by Ms. Karen A. Winters on behalf of Hecate Energy Highland 4 LLC