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**Revised Wetland Delineation Report
text and figure,
submitted December 2021**



**WETLAND AND STREAM DELINEATION REPORT
BROOKSIDE SOLAR PROJECT**

**Towns of Chateaugay and Burke,
Franklin County, New York**

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December 2021

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1.0 INTRODUCTION

1.1 Project Description and Purpose

Brookside Solar, LLC (Brookside Solar), a subsidiary of The AES Corporation (AES), proposes the construction of an approximately 100-megawatt (MW) photovoltaic (PV) solar energy generation facility (Facility) called the Brookside Solar Project (Project) in the Towns of Burke and Chateaugay, Franklin County, New York. The Project will be developed on approximately 1,280 acres of leased, private land owned by a number of participating landowners (Project Area) (see Figure 1). The Project Area consists of 31 parcels located approximately 1.5 miles west of the Town of Chateaugay. Brookside Solar contracted with TRC to delineate the boundaries of wetlands and aquatic features within this Project Area.

1.2 Report Purpose

TRC conducted a wetland and stream delineation of the Project Area on behalf of Brookside Solar on June 8 to June 17, October 6, December 14, 2020, and May 24 and November 10, 2021. This report describes the wetlands and surface waters identified within the Project Area (including rivers, streams, ponds, and lakes), regardless of jurisdictional status.

Delineation efforts included the following tasks:

1. A desktop review of existing, publicly available federal and state agency resources;
2. A field delineation of all aquatic features within the Survey Area using a handheld Global Positioning System (GPS) with reported sub-meter accuracy; and,
3. Documentation of the delineated aquatic features, wetlands, and surface waters for each resource based on hydrology, vegetation, and hydric soils data collected in the field.

Conclusions proposed herein provide information necessary to support a permit application to the United States Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC).

2.0 REGULATORY AUTHORITY

2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act (CWA), the USACE asserts jurisdiction over Waters of the United States (WOTUS). WOTUS are defined as wetlands, streams, and other aquatic resources under the regulatory authority of Title 33 Code of Federal Regulations (CFR) Part 328 and the United States Environmental Protection Agency (EPA) per Title 40 CFR Part 230.3(s). Wetlands are defined as *“those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions”* (EPA, 2001).

On June 22, 2020, the Navigable Waters Protection Rule took effect, replacing the prior Clean Water Rule established in 2015. The Navigable Waters Protection Rule (NWPR) outlined categories of waters considered jurisdictional, as well as those considered non-jurisdictional. However, On August 30, 2021, the U.S. District Court for the District of Arizona issued an order vacating and remanding the NWPR, nationwide.

In accordance with a September 2, 2021 directive from the Acting Assistant Secretary of the Army for Civil Works, the USACE has resumed conducting approved jurisdictional determinations (AJDs) nationwide, consistent with the pre-2015 WOTUS regulatory regime. The pre-2015 regulatory regime is the 1986 WOTUS regulation, as informed by previously-issued 2003 SWANCC and 2008 Rapanos guidance documents resulting from US Supreme Court decisions.

Summary of Key Points:

The USACE (and Environmental Protection Agency (EPA)) will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

2.2 New York State Department of Environmental Conservation

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the Environmental Conservation Law [ECL]) gives the NYSDEC jurisdiction over state-protected wetlands and adjacent areas, typically extending 100 feet from the wetland perimeter. To implement this Act, regulations were promulgated by the State under 6 NYCRR Parts 663 and 664. Part 664 designates wetlands into four class ratings, with Class I being the highest or best quality wetland and Class IV being the lowest. Wetlands regulated by the State are those 12.4 acres (5 hectares) in size or larger, as well as those smaller than 12.4 acres, deemed to be of “unusual local importance.” The Freshwater Wetlands Act requires the NYSDEC to map all state-protected wetlands. This allows landowners and other interested parties a means of determining where state jurisdictional wetlands exist, although the maps are legally only approximations—thus the need for on-site delineations. Under Part 663, approval under an Article 24 permit is required from the NYSDEC prior to most disturbances to a state-protected wetland or its protected adjacent area, including the removal of vegetation.

Article 15 of the ECL (Protection of Waters), and its implementing regulations under 6 NYCRR Part 608, provides the NYSDEC with regulatory jurisdiction over activities disturbing the bed or

banks of protected streams, including small lakes and ponds with a surface area of 10 acres or less, located within the course of a protected stream. This law and regulation also provide NYSDEC jurisdiction over navigable waters of the State, including contiguous marshes, estuaries, tidal marshes and wetlands that are inundated at mean high water level or tide. A protected stream is defined in the ECL as any stream, or particular portion of a stream, that has been assigned by the NYSDEC any of the following classifications or standards: AA, A, B, C(T), or C(TS) (6 NYCRR Part 701). State water quality classifications of unprotected watercourses include Class C and Class D streams. The classifications are defined below.

- A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes, primary and secondary contact recreation, and fishing.
- The best usages of Class B waters are primary and secondary contact recreation and fishing.
- The best usage of Class C waters is fishing. Streams designated (T) indicate that they support trout, while those designated (TS) support trout spawning.
- Waters with a classification of D are generally suitable for fishing and non-contact recreation.

It should be noted, per 6 NYCRR Chapter X, Subchapter B, “*All streams or other bodies of water which are not shown on the reference maps herein shall be assigned to Class D, as set forth in Part 701, supra, except that any continuous flowing natural stream which is not shown on the reference maps shall have the same classification and assigned standards as the waters to which it is directly tributary.*”

3.0 PROJECT AREA CHARACTERISTICS

3.1 Resources

The following publicly available resources were used in the investigation, delineation, and report preparation:

- United States Geological Survey (USGS) Burke New York 7.5-minute quadrangle and Chateaugay New York 7.5-minute quadrangle;
- United States Department of Agriculture (USDA) Ecoregion Maps;
- USGS National Hydrography Dataset;
- USGS Hydrologic Unit Maps;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 3613940010B.

- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping;
- NYSDEC Environmental Resource Mapper (ERM);
- NYSDEC Freshwater Wetlands Mapping;
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey; and
- Recent aerial imagery.

3.2 Vegetation and Ecological Communities

The Project Area resides in the Adirondack-New England Mixed Forest—Coniferous Forest—Alpine Meadow Province, within the Eastern Great Lakes Lowlands Level III Ecoregion (83) and the Upper St. Lawrence Valley (83e) (Bailey 1995; Bryce et al. 2010). Ecoregions are ecosystems of regional extent. The USDA identifies ecoregions by ecosystem characteristics into the following classifications:

- Domains: the largest ecosystem, which are groups of related climates and are differentiated based on precipitation and temperature.
- Divisions: represent the climates within domains and are differentiated based on precipitation levels and patterns, as well as temperature.
- Provinces: Subdivisions of divisions, which are differentiated based on vegetation or other natural land covers.
- Sections: Subdivisions of provinces based on terrain features, sections are the finest level of detail described for each subregion.
- Mountainous Areas: Mountainous regions that exhibit different ecological zones based on elevation.

Recent aerial orthoimagery of the Project Area and surrounding vicinity, obtained from Google Earth (V7.3.3.7786) (9/8/2014), indicates that the Project Area consists primarily of agricultural fields with some undeveloped natural meadows and wooded areas. Several farm buildings and/or rural residences are located along the center boundary of the Project Area on Route 11, along the southern boundary on Malone-Chateaugay Road, and in the northeastern corner on Stuart Road. Land within the surrounding areas is also primarily used for agricultural production, interspersed with forested and shrub areas. Several state-regulated streams are mapped through the Project Area. A state-regulated wetland complex is mapped approximately 0.25 miles south of the Project Area (see Section 3.4, below). The Town of Burke and Town of Chateaugay, both containing residential and commercial developments, are located adjacent to the west and east of the Project Area, respectively.

The following ecological communities, as defined by *Ecological Communities of New York State* (Edinger et al., 2014), were identified within the Project Area at the time of the delineation:

- Beech-maple mesic forest
- Common reed marsh
- Cropland/field crops
- Cropland/row crops
- Deep emergent marsh
- Ditch/artificial intermittent stream
- Farm pond/artificial pond
- Hemlock-hardwood swamp
- Hemlock-northern hardwood forest
- Intermittent stream
- Maple-basswood rich mesic forest
- Mowed lawn
- Mowed roadside/pathway
- Pastureland
- Red maple-hardwood swamp
- Rocky headwater stream
- Shallow emergent marsh
- Shrub swamp
- Spring
- Successional northern hardwoods
- Successional old field
- Successional shrubland

3.3 Hydrology

3.3.1 Hydrologic Mapping

The USGS has divided and sub-divided the country into hydrologic units based primarily on drainage basins and watershed boundaries. The main hydrologic unit levels are regions, sub-regions, basins, sub-basins, watersheds, and sub-watersheds. The hydrologic units are nested within each other, from the largest geographic area (regions) to the smallest geographic area (sub-watersheds). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to twelve digits based on the six levels of classification in the hydrologic unit system. In addition to the hydrologic unit codes, each hydrologic unit is assigned a name corresponding to the unit's principal hydrologic feature, or to a cultural or political feature within the unit.

The region hydrologic unit level contains either the drainage area of a major river or the combined drainage areas of a series of rivers. Regions receive a two-digit code. The following hydrologic

unit levels are designated by the addition of another two digits with each level. Each sub-region includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin or basins, or a group of streams forming a coastal drainage area. The Project Area is located within the Chateaugay English sub-basin (HUC 04150308), with the majority of parcels located in the Allen Brook—Chateaugay River sub-watershed (HUC 041503080204) and portions of the easternmost parcels located within the Bailey Brook—Chateaugay River sub-watershed (HUC 041506080104) (USEPA 2017).

The NYSDEC also classifies watersheds more generally within the State of New York. Unlike mapping efforts outlined by the USGS above, the NYSDEC uses the definitions of watersheds and drainage basins interchangeably. New York's waters (e.g., lakes, rivers, wetlands, and streams) fall within one of seventeen major drainage basins. The NYSDEC defines these drainage basins or watersheds as an area of land that drains water into a specific body of water within or adjacent to New York State and includes networks of rivers, streams, lakes, and the surrounding lands. The NYSDEC-classified watersheds are separated by high elevation geographic features (e.g., mountains, hills, and ridges). Each major drainage basin corresponds to one or more USGS sub-basins (USGS HUC 8-digit codes). The Project Area is located within the St. Lawrence River watershed (NYSDEC 2014b). This drainage basin includes 5,600 square miles of land area and includes 11,371 miles of freshwater rivers and streams and 85,723 acres of lakes, ponds, and reservoirs.

The NYSDEC-mapped river and stream, Chateaugay River and Allen Brook, are located near the Project Area. At its closest point, the Chateaugay River runs approximately 30 feet to the northeast of the easternmost parcel of the Project Area north of Route 11. The Chateaugay River continues to the southeast and connects to the Lower Chateaugay Lake about 6.75 miles southeast of the Project Area. Allen Brook cuts through the southwest corner of the most southwest parcel of the Project Area. It continues to the south-southeast until ending about 0.70 miles south of the Project Area. The Chateaugay River and Allen Brook connect about 1.80 miles north of the northernmost parcel of the Project Area.

3.3.2 Hydrologic Character

The predominant surface waterbodies within and adjacent to the Project Area are unnamed tributaries to Chateaugay River within the eastern parcels of the Project Area and unnamed tributaries to Allen Brook within the western parcels of the Project Area. The Chateaugay River is located approximately 30 feet from the northwest corner of the Project Area and is classified as a NYSDEC Class C(T) stream. The tributaries of the Chateaugay River are classified as NYSDEC Class C(T) and Class D waterways (NYSDEC 2008). The unnamed tributaries to Allen Brook are also classified as NYSDEC Class C(T) and Class D waterways. These tributaries are located through the western and central portions of the Project Area and continue from the northern parcels south across Route 11 and into the southern parcels. Three of the tributaries extend beyond the Project Area to the south (NYSDEC 2008).

According to climate data from the Town of Malone, located approximately 9.5 miles southwest of the Project Area, this region receives an average of 38.86 inches of precipitation annually (U.S. Climate Data 2020). In general, water drains from the Project Area to the west towards the St. Lawrence River, in some areas draining north/northwest. Hydrologic conditions were normal during the delineation, with 1.19 inches of precipitation logged in Malone during the delineation effort and 0.87 inches recorded during the preceding week.

3.3.3 FEMA Flood Zone Mapping

FEMA maintains materials developed to support flood hazard mapping for the National Flood Insurance Program (NFIP). The Project Area partially falls into FEAM FIRM panel 3613940010B (effective 2/19/1986). The Project Area does not fall within a FEMA-mapped 100-year flood hazard area (Figure 3; FEMA 2020).

3.4 Federal and State Mapped Wetlands and Streams

The USFWS is the principal federal agency tasked with providing information to the public on the status and trends of wetlands on a national scale. The USFWS NWI is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). NWI mapping data is offered to promote the understanding, conservation, and restoration of wetlands. Note, unlike NYSDEC wetland maps, NWI wetland maps do not denote federal jurisdiction with their mapped boundaries. NWI wetlands are used as a reference guide by TRC wetland scientists to conduct a more informed site survey in the demarcation or delineation of wetlands and streams, which could be subject to federal jurisdiction.

Review of the NWI mapping during the preliminary desktop analysis indicated numerous wetland areas are mapped within the Project Area boundaries (Figure 3). Within the Project Area parcels, these included five freshwater emergent (PEM) wetlands, measuring 1.64, 1.58, 0.69, 0.41, and 1.27 acres, two freshwater scrub-shrub (PSS) wetlands, measuring 2.23 and 0.61 acres, two freshwater forested (PFO) wetlands, measuring 3.30 and 3.06 acres, and five freshwater ponds (PUB) mapped entirely within the Project Area boundaries, measuring 0.11, 0.13, 0.12, 0.22, and 0.22 acres in size. Additionally, portions of one PFO wetland, measuring 12.93 acres, and one PSS wetland, measuring 2.23 acres, area are mapped as partially within these parcels (Figure 3; USFWS 2020).

Zero state-regulated wetlands are mapped by the NYSDEC as overlapping the Project Area (Figure 3; NYSDEC 2014a). Only one NYSDEC wetland is mapped within one mile of the Project Area (Figure 3; NYSDEC 2014a). Wetland CG-6 is a 26-acre Class 3 wetland located 0.40 miles to the south of the southeastern Project Area parcels (Figure 3). The associated state-regulated check zone is mapped about 100 feet from the Project Area boundary. This state-protected wetland borders a DEC Class D tributary of Allen Brook, which itself flows northwest, ultimately

intersecting the Project Area approximately 5,800 feet downstream. Within the Project Area, Allen Brook is bordered in places by TRC-delineated wetlands W-JJB-2 and W-WCR-7.

There are also numerous riverine wetland systems mapped within the Project Area. Each of the waterways mapped within the Project Area are mapped as perennial features by both the NWI and USGS National Hydrography Dataset (NHD) (USFWS 2020; USGS 2018). Four unnamed waterways and the named waterway, Allen Brook, are found throughout the Project Area. Three streams, two unnamed and the Allen Brook, are found in the southwestern portion of the Project Area, and all converge off site. Allen Brook is a Class C(T) stream. The other two unnamed streams are Class C and Class D streams (Figure 3; NYSDEC 2014a). All three of these streams continue south and cross Route 11 into the southern portion of the Project Area. Two unnamed streams, One Class C and one Class D stream, enter the Project Area from the north and continue south into the central parcels and extend to the southeastern parcels. These two unnamed streams extend north off site and connect into one stream and continue to move northwest to converge with the other unnamed streams and Allen Brook (Figure 3; NYSDEC 2014a). One unnamed waterway enters the Project Area east of East Road and drains off site as a Class C stream. Two unnamed waterways are found in the eastern portion of the Project Area as Class D and Class C streams. Both waterways extend off-site and connect north of the site (Figure 3). These waterways continue north and connect about 1.80 miles away to the Chateaugay River, a perennial Class C stream (NYSDEC 2014a).

While these resources provide general information about the location, size, and quality of wetlands and waterways, field verification is required to confirm the presence or absence and the extent of aquatic features within the Project Area. During field surveys, TRC scientists delineated additional unmapped wetlands and waterways. These results are discussed in detail in Section 5.0.

Table 1. NYSDEC-Mapped Streams within the Project Area

NYSDEC Stream Name and Regulatory ID Number	NYS Major Drainage Basin	USGS Sub-basin HUC 8 and Name	NYSDEC Classification ¹ and Standard ²	Cumulative Linear Feet within the Project Area
Unnamed Tributary 910-24	St. Lawrence River	04150308-- Chateaugay- English	Class C(T)	6,599.0
Unnamed Tributary 910-25	St. Lawrence River	04150308-- Chateaugay- English	Class D	6,084.0

NYSDEC Stream Name and Regulatory ID Number	NYS Major Drainage Basin	USGS Sub-basin HUC 8 and Name	NYSDEC Classification ¹ and Standard ²	Cumulative Linear Feet within the Project Area
Unnamed Tributary to Allen Brook 910-25	St. Lawrence River	04150308-- Chateaugay- English	Class D	8,704.6
Unnamed Tributary to Allen Brook 910-24	St. Lawrence River	04150308-- Chateaugay- English	Class C(T)	6,843.2

¹A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes, primary and secondary contact recreation, and fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. The best usage of Class C waters is fishing. Waters with a classification of D are generally suitable for fishing and non-contact recreation.

² Streams designated (T) indicate that they support trout, while those designated (TS) support trout spawning.

3.5 Topography and Soil Characteristics

3.5.1 Topography

The Project Area is mostly flat to slightly steep, ranging from about 700 – 1050 feet above mean sea level (AMSL) with the highest point located in the southeastern corner. In general, topography slopes down from south to north, towards the split between Chateaugay River and Allen Brook.

3.5.2 Site Soils

The USDA NRCS Web Soil Survey is an online resource mapping tool that provides soil data and information for the United States. This information is produced by the National Cooperative Soil Survey (NCSS), in partnership with federal, regional, state, and local agencies and private entities and institutions.

A total of 33 soil map units were identified within the Survey Area. Soil map units represent a type of soil, a combination of soils, or miscellaneous land types. Soil map units are usually named for the predominant soil series or land types within the map unit. Due to limitations imposed by the small scale of the soil survey mapping, it is not uncommon to identify wetlands within areas not mapped as hydric soil, while areas mapped as hydric often do not support wetlands. This concept is emphasized by the NRCS:

“Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.”

Soil drainage in the Project Area is variable, with approximately 43.9 percent of mapped soils classified as somewhat poorly drained, 26.0 percent mapped as moderately well drained, 21.9 percent mapped as poorly drained, 5.8 percent mapped as very poorly drained, 5.2 percent classified as well drained, and 0.6 percent mapped as excessively drained. The majority of soils within the Project Area (82.35 percent) are classified as farmland of statewide important, with approximately 17.27 percent mapped as not prime farmland. Minor amounts of soils mapped within the Project Area (0.39 percent) are mapped as prime farmland (USDA NRCS 2019). The 33 soil map units identified within the Project Area by the NRCS are outlined in Table 2. Refer to Figure 2 for graphically depicted soil map units of the Project Area.

Table 2. Mapped Soils within the Survey Area

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Survey Area	Percent of Survey Area
Bea	Brayton stony loam, 0 to 3 percent slopes	0-3	Somewhat poorly drained	10	257.0	17.6
Beb	Brayton stony loam, 3 to 8 percent slopes	3-8	Somewhat poorly drained	10	319.5	21.8
Bfb	Brayton very stony loam, 0 to 8 percent slopes	0-8	Somewhat poorly drained	10	49.8	3.4
Caa	Colton and Constable gravelly loamy sands, 0 to 3 percent slopes	0-3	Excessively drained	0	3.8	0.3
Cab	Colton and Constable gravelly loamy sands, 3 to 8 percent slopes	3-8	Well drained	0	35.7	2.4
Cbb	Colton and Constable cobbly loamy sands, 3 to 8 percent slopes	3-8	Well drained	0	10.2	0.7
Ccc	Colton and Constable gravelly and cobbly loamy sands, 8 to 15 percent slopes	8-15	Well drained	0	10.0	0.7

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Survey Area	Percent of Survey Area
Ccd	Colton and Constable gravelly and cobbly loamy sands, 15 to 25 percent slopes	15-25	Well drained	0	4.6	0.3
Daa	Duane gravelly sandy loam, 0 to 3 percent slopes	0-3	Moderately well drained	0	16.3	1.1
Eaa	Empeyville very fine sandy loam, 0 to 3 percent slopes	0-3	Moderately well drained	3	11.6	0.8
Eab	Empeyville very fine sandy loam, 3 to 8 percent slopes, stony	3-8	Moderately well drained	3	82.1	5.6
Eac	Empeyville very fine sandy loam, 8 to 15 percent slopes, stony	8-15	Moderately well drained	3	13.3	0.9
Ecd	Empeyville very fine sandy loam, 15 to 25 percent slopes, stony	15-25	Moderately well drained	3	5.5	0.4
Edc	Empeyville very fine sandy loam, 8 to 25 percent slopes, very stony	8-25	Moderately well drained	3	3.1	0.2
Mea	Moira stony loam, 0 to 3 percent slopes	0-3	Moderately well drained	0	11.8	0.8
Meb	Moira stony loam, 3 to 8 percent slopes	3-8	Moderately well drained	0	193.7	13.2
Mec	Moira stony loam, 8 to 15 percent slopes	8-15	Moderately well drained	0	40.4	2.8
Mha	Muck, shallow	-	Very poorly drained	100	3.6	0.2
Qu	Quarries	-	-	0	0.4	0.0
Saa	Saco and Sloan soils, 0 to 2 percent slopes	0-2	Very poorly drained	90	13.8	0.9

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Survey Area	Percent of Survey Area
Sea	Scarboro fine sandy loam, 0 to 3 percent slopes	0-3	Very poorly drained	85	19.2	1.3
Sga	Scarboro loam, neutral variant, over till or clay, 0 to 3 percent slopes	0-3	Very poorly drained	90	0.2	0.0
Sma	Runeberg soils, 0 to 5 percent slopes	0-5	Poorly drained	96	119.8	8.2
Sna	Runeberg soils, 0 to 5 percent slopes, very stony	0-5	Poorly drained	96	61.5	4.2
Tca	Tughill and Dannemora stony very fine sandy loams, 0 to 3 percent slopes	0-3	Very poorly drained	90	2.2	0.2
Tda	Tughill and Dannemora very stony very fine sandy loams, 0 to 3 percent slopes	0-3	Very poorly drained	90	3.9	0.3
W	Water	-	-		0.5	0.0
Wca	Walpole sandy loam, 0 to 6 percent slopes	0-6	Poorly drained	85	17.8	1.2
Wma	Westbury and Dannemora stony very fine sandy loams, 0 to 3 percent slopes	0-3	Somewhat poorly drained	40	16.2	1.1
Wmb	Westbury and Dannemora stony very fine sandy loams, 3 to 8 percent slopes	3-8	Poorly drained	45	121.7	8.3

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Survey Area	Percent of Survey Area
Wqb	Worth very sandy loam, 3 to 8 percent slopes, stony	3-8	Well drained	0	4.5	0.3
Wsd	Worth very fine sandy loam, 8 to 25 percent slopes, very stony	8-25	Well drained	0	0.7	0.1
Wte	Worth very fine sandy loam, 25 to 60 percent slopes, very stony	25-60	Well drained	0	9.9	0.7

Hydric Soil

The Web Soil Survey of the Survey Area was consulted prior to conducting the delineation to determine the extent of soils meeting hydric criteria as defined by the NRCS. The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) (1987 Manual) defines a hydric soil as “a soil that in its undrained condition, is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.”

Soil map units are composed of one or more components or soil types, each of which can be rated as hydric or non-hydric. A map unit’s hydric rating is based on the percentage of hydric soil components that make up the map unit. Thus, map units with a greater proportion of hydric components have a greater hydric soil rating. Map units with relatively high hydric soil ratings are more likely to correspond with potential wetland areas. Of the 33 soil map units mapped within the Project Area, 11 identified as having a relatively high proportion (33 percent or greater) of hydric components (Figure 2; USDA NRCS 2019). Although a soil map unit will be given a general hydric soil rating on the Web Soil Survey, this rating is for reference only and does not supersede site-specific conditions documented in the field that constitute hydric soil presence in located wetlands.

4.0 DELINEATION METHODOLOGY

Prior to initiating field investigations, TRC conducted a desktop review of publicly available data to determine the potential presence of federal and state mapped wetlands and streams within the Project Area alongside other potential environmental constraints, which could impact the Project. TRC wetland scientists subsequently performed field investigations to identify aquatic features within the Project Area. Delineations for wetlands and streams were performed in accordance with criteria set forth in the 1987 *Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) (Manual) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (USACE 2012) (Supplement). Data was collected from a sample plot in each delineated wetland. Depending on the size of the delineated area and any change in cover type, multiple sample plots of the delineated wetland may have been taken. Delineation data was recorded on USACE Routine Wetland Determination Forms (Appendix C). The boundaries of wetlands were demarcated with pink survey ribbon labeled “wetland delineation” and located with a GPS unit with reported sub-meter accuracy.

4.1 Hydrology

The presence of wetland hydrology is determined based on primary and secondary indicators established by the USACE. The 1987 Manual defines the presence of wetland hydrology when at least one primary indicator or two secondary indicators are identified. Hydrology is present if one or more primary indicator is present; however, if primary indicators are absent, two or more secondary indicators are required to determine the presence of wetland hydrology. If other probable wetland hydrology evidence was found on-site, then such characteristics were subsequently documented on the USACE Routine Wetland Determination Form. Wetland hydrology indicators are grouped into 18 primary and 11 secondary indicators as presented in the Supplement.

Wetland hydrology may influence the characteristics of vegetation and soils due to anaerobic and reducing conditions (Environmental Laboratory 1987). This influence is dependent on the frequency and duration of soil inundation or saturation which, in turn, is dependent on a variety of factors including topography, soil stratigraphy, and soil permeability, in conjunction with precipitation, runoff, and stormwater and groundwater influence.

4.2 Vegetation

Hydrophytic vegetation is defined in the 1987 Manual as:

“...the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.”

Plants are categorized according to their occurrence in wetlands. Scientific names and wetland indicator statuses for vegetation are those listed in *The National Wetland Plant List: 2018 Wetland Ratings* (USACE 2018) (NWPL). Due to regional differences in wetland vegetation, among other characteristics, the USACE divided the United States into regions to improve the accuracy and efficiency of wetland delineations. The indicator statuses specific to the “Northcentral and Northeast Region,” as defined by the USACE, apply to the Project Area. The official short definitions for wetland indicator statuses are as follows:

- Obligate Wetland (OBL): Almost always occur in wetlands.
- Facultative Wetland (FACW): Usually occur in wetlands but may occur in non-wetlands.
- Facultative (FAC): Occur in wetlands and non-wetlands.
- Facultative Upland (FACU): Usually occur in non-wetlands but may occur in wetlands.
- Upland (UPL): Almost never occur in wetlands.

For species with no indicator status in the Project Area’s region, the indicator status assigned to the species in the nearest adjacent region is applied. Plants that are not included on the NWPL within the Project Area’s region, nor an adjacent region, are given no indicator status, and are not included in dominance calculations. Plants that are not listed in any region on the NWPL are considered as UPL on USACE Routine Wetland Determination Forms.

Vegetation in both upland and wetland communities was characterized using areal methods for instituting plot measurement. In accordance with USACE methodology, a plot radius of 30 feet around the soil sample location was applied to tree species and vines, a 15-foot radius for saplings/shrubs, and a 5-foot radius was utilized for herbaceous plants. After the measurement of percent coverage was determined for each species, an application of the 50/20 rule of dominance determination was utilized to determine hydrophytic dominance at sample plots. In using the 50/20 rule, the plants that comprise each stratum are ranked from highest to lowest in percent cover. The species that cumulatively equal or exceed 50 percent of the total percent cover for each stratum are dominant species, and any additional species that individually provides 20 percent or more percent cover are also considered dominant species of its respective strata. The total cover for each stratum, and subsequently the plot as a whole, could exceed 100 percent due to vegetation overlap.

It should be noted that wetland boundary results of this approach may differ meaningfully from the approach outlined within the *New York State Freshwater Wetland Delineation Manual* (Browne et al. 1995). The difference is described within this report if needed to address NYSDEC Article 24 jurisdiction. Though not common, two wetland boundaries, a state and a federal boundary, may arise from subtle differences in the definition of vegetative strata, sampling

technique, and wetland indicators between the USACE and the NYSDEC. See Section 5.0 for more detail.

Cover types are also assigned to each wetland. The delineated resources were classified in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC 2013). Field biologists assign cover types to wetlands based on this classification standard and utilize this document. TRC biologists also used the definitions for perennial and intermittent streams found in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC 2013) when classifying delineated streams. Ephemeral streams have flowing water primarily from rainfall runoff and are above the water table.

4.3 Soils

Hydric soil indicators were determined utilizing the Supplement with added provision from the *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.2* (USDA NRCS 2018). Soil characteristics were documented, including color, texture, layer depth, presence of organic layers, and evidence of redoximorphic features, which may include indicators such as reduction, oxidation, gleyed matrices, manganese features. Soil test pits were dug using a spade shovel to a depth of approximately 20 inches. If refusal of a soil sample to 20 inches occurred due to the presence of hardpan layer, rock, or hard fill materials, this occurrence was documented. Soil color was described using the *Munsell Soil Color Book* (Munsell Color 2015). Texture was determined using the USDA feel method (Thien 1979).

Hydric soil indicators applicable to the Project Area were determined using the *Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin* (USDA NRCS 2006) (MLRA Handbook). Per the MLRA Handbook, the Project Area is within Major Land Resource Area 144A (New England and Eastern New York Upland, Southern Part) of Land Resource Region (LRR) R (Northeastern Forage and Forest Region). Hydric soil indicators that do not apply to this MLRA were not considered.

4.4 Streams

Streams and other non-wetland aquatic features (e.g., lakes and ponds, if any) within the Project Area were identified by the presence of standing surface water or confined flow, and, with the exception of some ephemeral streams, a bed and bank containing an ordinary high water mark (OHWM) (33 CFR 328.3). The OHWM is formed by the fluctuations of water, and where not established and available by public record, is determined by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other characteristics of the surrounding areas.

The streams were delineated from bank to bank with blue flagging and points of the delineated boundaries were located with a handheld GPS unit set for sub-meter accuracy. In streams less than 6 feet wide, sub-meter GPS point capture and post-processing (differential correction) may yield imprecise stream bank measurements due to the narrow nature of the stream. In these circumstances, centerline delineations are applied to maintain accurate representation of stream sinuosity for planning and impact calculation purposes. Stream attributes including width, bank height, and water depth are measured and documented on TRC Stream Inventory Data Forms (Appendix C).

Streams are identified as to their flow regime of perennial, intermittent or ephemeral. Perennial streams tend to flow throughout the year, except during severe drought conditions. They can flow below the water table and receive groundwater sources from springs or groundwater seepages on slopes. Intermittent streams flow only during certain times of year from alternating springs, snow melt, or from seasonal precipitation runoff. Ephemeral streams flow sporadically and are entirely dependent on precipitation from storm events or periodic snow melts. They tend to flow above the water table and are often found as drainage features adjacent to or within the headwaters of a more major stream system. Identification in the field was based on characteristics including degree of channel formation, volume of flow, landscape setting, position relative to groundwater table, and presence/absence of aquatic fauna.

5.0 RESULTS

5.1 General Overview

The Project Area contains primarily agricultural fields. Upland forests within the Project Area included sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), eastern hemlock (*Tsuga canadensis*) and eastern hop-hornbeam (*Ostrya virginiana*).

Weather conditions were normal for the season during the delineation effort, with the region receiving 1.19 inches of precipitation from June 8 through June 17, receiving a total of 0.87 inches of precipitation in the preceding week, and no precipitation during the May 2021 delineation or the November 2021 delineation (U.S. Climate Data 2020).

During the course of the field study from June 8 to June 17, October 6, December 14, 2020, and May 24th and November 10, 2021, TRC delineated 38 wetlands and 25 waterways (Figure 4). Approximately 5.71 percent (73.15 acres) of the 1,280-acre leased Project Area was identified as wetland. Tables 3 and 4 below detail the wetlands and streams delineated in the Project Area. Representative photographs taken of each delineated wetland and stream community within the Project Area are provided in Appendix B. Completed USACE Routine Wetland Determination Forms are provided in Appendix C. TRC Stream Delineation Forms are provided in Appendix D.

Two features, (SW-WCR-1 and SW-JJB-18), are farm ponds delineated as surface waterbodies and are not included in Table 4.

A USACE site visit was conducted in November 2021. The USACE site visit concluded with one isolated wetland needing to be increased (W-JJB-1, from 0.05 acres to 0.80 acres). This feature was not originally included in the ORES Jurisdictional Determination from the July 2021 WDR. This was a minor change that has very little impact between the July to December 2021 WDRs.

5.2 Delineated Wetlands

Palustrine Emergent Wetlands (PEM) – Twenty-five wetlands delineated within the Project Area contained characteristics representative of an emergent wetland community. Emergent wetland communities are dominated by herbaceous vegetation, comprising woody or non-woody plants that are generally less than 3.28 feet tall (Federal Geographic Data Committee 2013).

Emergent wetlands delineated within the Project Area were typically dominated by reed canary grass (*Phalaris arundinacea*), narrowleaf cattail (*Typha angustifolia*), white meadowsweet (*Spiraea alba*), common fox sedge (*Carex vulpinoidea*), lamp rush (*Juncus effusus*), single-vein sweet flag (*Acorus calamus*), and sensitive fern (*Onoclea sensibilis*). Primary hydrology indicators typically recorded within these wetlands included high water table (A2) and saturation (A3). Secondary indicators of hydrology typically observed within these wetlands included saturation visible in aerial imagery (C9), geomorphic position (D2), and a positive FAC-neutral test (D5).

Emergent wetlands within the Project Area commonly contained clay loam, silty clay loam, and clay soils. Soils typically demonstrated redox dark surface (F6) and/or depleted matrix (F3) indicators (Appendix C).

Palustrine Scrub-shrub Wetlands (PSS) – Ten wetlands delineated within the Project Area contained characteristics representative of a scrub-shrub wetland community. These wetlands are dominated by woody shrubs typically less than 20 feet tall (Federal Geographic Data Committee 2013).

Scrub-shrub wetlands observed within the Project Area were dominated by speckled alder (*Alnus incana*), gray willow (*Salix bebbiana*), nannyberry (*Viburnum lentago*), and black willow (*Salix nigra*). Primary hydrology indicators recorded within these wetlands included saturation (A3). Common secondary hydrology indicators observed include geomorphic position (D2), a positive FAC-neutral test (D5), and saturation visible in aerial imagery (C9). Clay loam and slit loam soils were typically recorded within these wetlands. Soils demonstrated depleted matrix (F3) and/or redox dark surface (F6) hydric indicators.

Palustrine Forested Wetlands (PFO) – Nine wetlands identified within the Project Area were recorded as containing a forested wetland community. Forested wetlands are dominated by woody vegetation that typically has a diameter at breast height (DBH) of at least three inches, with an understory of shrub and herbaceous species (Federal Geographic Data Committee 2013).

Dominant vegetation in the forested wetlands observed within the Project Area typically included green ash (*Fraxinus pennsylvanica*), black willow (*Salix nigra*), and black spruce in the tree stratum, and gray dogwood and Morrow's honeysuckle within the shrub stratum. Forested wetlands within the Project Area were typically recorded as having saturation (A4) and / or high water table (A2) primary hydrology indicators, and microtopographic relief (D4) and a positive FAC-neutral test (D5) secondary indicators. Silty clay soils were typical within these wetlands, with redox dark surface (F6) and / or a depleted matrix (F3) hydric soil indicators.

Palustrine Unconsolidated Bottom Wetlands (PUB) – One wetland delineated within the Project Area was observed to contain characteristics representative of unconsolidated bottom wetland communities. These communities include wetland and deep-water habitats with at least 25 percent cover of particles smaller than stone, and a vegetative cover of less than 30 percent. Because these are bodies of standing water, evidence of hydrology is decisively present (Federal Geographic Data Committee 2013).

Although unconsolidated bottom wetlands are not typically heavily vegetated, dominant PUB vegetation observed in the Project Area included narrowleaf cattail, devil's pitchfork (*Bidens frondosa*) and black willow. Primary hydrology indicators included surface water (A1), high water table (A2), and inundation visible in aerial imagery (B7). Secondary hydrology indicators included geomorphic position (D2) and a positive FAC-neutral test (D5). A clear soil profile was unobtainable due to inundation, soils were assumed to be hydric.

Table 3. Delineated Wetlands within the Survey Area

Wetland Field Designation	Cover Type Classification ¹ and Acreage				Total Wetland Acreage within Survey Area	Stream(s) Present Within Wetland	Linear Feet of Stream(s) Within Wetland	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB					
W-JJB-1	0.80	-	-	-	0.80	-	-	44.9296	-74.1345
W-JJB-2	5.46	4.18	-	-	9.64	S-JJB-2	616	44.9234	-74.1380
W-JJB-3	0.33	-	-	-	0.33	-	-	44.9274	-74.1374
W-JJB-4	3.02	-	-	-	3.02	-	-	44.9306	-74.1305
W-JJB-5	-	2.66	-	-	2.66	-	-	44.9273	-74.1271
W-JJB-6	-	-	-	0.15	0.15	-	-	44.9247	-74.1259
W-JJB-7	-	0.24	-	-	0.24	-	-	44.9288	-74.1251
W-JJB-8	-	0.2	1.25	-	1.45	-	-	44.9270	-74.1241
W-JJB-9	0.04	-	-	-	0.04	-	-	44.9360	-74.1285
W-JJB-10	4.98	-	-	-	4.98	S-JJB-4 S-WCR-2	97 437	44.9334	-74.1253
W-JJB-11	-	0.17	-	-	0.17	S-JJB-6	156	44.9180	-74.1313
W-JJB-12	1.01	-	-	-	1.01	S-JJB-9	161	44.9157	-74.1353

Wetland Field Designation	Cover Type Classification ¹ and Acreage				Total Wetland Acreage within Survey Area	Stream(s) Present Within Wetland	Linear Feet of Stream(s) Within Wetland	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB					
W-JJB-13	0.25	-	-	-	0.25	-	-	44.9171	-74.1353
W-JJB-14	2.45	10.16	-	-	12.61	S-JJB-11 S-JJB-13 S-JJB-14 S-JJB-2	1000 15 1451 564	44.9198	-74.1357
W-JJB-15	0.26	-	-	-	0.26	S-JJB-12	30	44.9170	-74.1332
W-JJB-16	0.26	-	-	-	0.26	-	-	44.9167	-74.1216
W-JJB-17	5.96	-	-	-	5.96	-	-	44.9177	-74.1168
W-JJB-18	0.06	-	-	-	0.06	-	-	44.9202	-74.1156
W-JJB-19	0.28	-	-	-	0.28	-	-	44.9225	-74.1134
W-JJB-20	0.19	-	-	-	0.19	S-JJB-17	29	44.9200	-74.1056
W-JJB-21	0.61	-	-	-	0.61	-	-	44.9195	-74.1051
W-JJB-22	0.56	-	-	-	0.56	-	-	44.9214	-74.1349
W-JJB-23	-	1.71	-	-	1.71	S-JJB-16	26	44.9226	-74.1248
W-NSD-1	1.55	-	-	-	1.55	-	-	44.9209	-74.1012

Wetland Field Designation	Cover Type Classification ¹ and Acreage				Total Wetland Acreage within Survey Area	Stream(s) Present Within Wetland	Linear Feet of Stream(s) Within Wetland	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB					
W-NSD-2	0.14	-	0.22	-	0.36	-	-	44.9202	-74.1025
W-NSD-3	4.23	-	-	-	4.23	-	-	44.9234	-74.1286
W-NSD-4	0.13	-	-	-	0.13	-	-	44.9250	-74.1294
W-NSD-5	0.91	-	-	-	0.91	-	-	44.9353	-74.1314
W-NSD-6	-	0.12	-	-	0.12	-	-	44.9156	-74.1343
W-WCR-1	-	-	2.60	-	2.60	S-NSD-1 S-WCR-2	38 876	44.9372	-74.1321
W-WCR-2	-	-	1.67	-	1.67	-	-	44.9249	-74.1378
W-WCR-3	-	-	0.63	-	0.63	S-WCR-1	473	44.9356	-74.1381
W-WCR-4	4.33	1.25	3.08	-	8.66	-	-	44.9251	-74.1101
W-WCR-5	3.73	-	0.5	-	4.23	-	-	44.9245	-74.1161
W-WCR-6	0.21	-	-	-	0.21	-	-	44.9271	-74.1178
W-WCR-7	-	-	0.47	-	0.47	S-BBP-1	201	44.9126	-74.1383
W-RDS-2	-	-	0.11	-	0.11	S-WCR-6	82	44.9273	-74.1084
W-RDS-3	-	0.70	-	-	0.70	S-WCR-6	345	44.9282	-74.1090
Total Wetland Acreage Delineated:					73.15	Total Linear Feet	6,597		

5.3 Delineated Streams

A total of 25 stream reaches were delineated within the Project Area (Table 4). Stream characterization is dependent on their usual level of flow regime. Perennial streams tend to flow throughout the year, except during severe drought conditions. They can flow below the water table and receive groundwater sources from springs or groundwater seepages on slopes. Intermittent streams flow only during certain times of year from alternating springs, snow melt, or from seasonal precipitation runoff. Ephemeral streams flow sporadically and are entirely dependent on precipitation from storm events or periodic snow melts. They tend to flow above the water table and are often found as drainage features adjacent to or within the headwaters of a more major stream system.

Within the Project Area, seven streams were recorded as perennial, four were observed to be ephemeral streams, and 14 were observed to have intermittent flow regimes. Stream substrates on site typically include silt and clay, and in some cases cobble or gravel. The majority of streams were recorded with a gentle (<2 percent) gradient, with one stream, S-NSD-1, observed to have a moderate (4-6 percent) gradient. The majority of streams had a depth of 0-6 inches. Average width at the ordinary high water mark ranged from 2-6 feet for the majority of the features.

Table 4. Delineated Streams within the Project Area

Stream Field Designation	Flow Regime Classification	Linear Feet within Project Area	NYSDEC Classification	Associated Buffer	Waterbody ID Number (WIN)	Stream Order ³	Latitude of Centroid	Longitude of Centroid
S-BBP-1	Intermittent	228.05	-	-	SL(C)-21	1	44.9126	-74.1383
S-BBP-3	Perennial	103.19	Class C(T)	50'	SL(C)-21	1	44.9125	-74.1379
S-JJB-1	Perennial	5470.67	Class D	-	SL(C)-21	1,2	44.9221	-74.1324
S-JJB-2	Perennial	2780.06	Class C(T)	50'	SL(C)-21	1,2,3	44.9161	-74.1378
S-JJB-4	Intermittent	257.95	-	-	-	1	44.9344	-74.1268
S-JJB-5	Intermittent	636.44	-	-	-	1	44.9192	-74.1315
S-JJB-6	Intermittent	247.66	-	-	-	1	44.9181	-74.1311
S-JJB-7	Intermittent	53.05	-	-	-	1	44.9198	-74.1281
S-JJB-8	Intermittent	127.24	-	-	-	1	44.9194	-74.1271
S-JJB-9	Intermittent	264.57	-	-	-	1	44.9153	-74.1350
S-JJB-11	Perennial	1234.90	Class C(T)	50'	SL(C)-21	1	44.9194	-74.1363
S-JJB-12	Perennial	500.76	Class C(T)	50'	-	1	44.9178	-74.1335
S-JJB-13	Perennial	85.09	-	-	-	1	44.9183	-74.1363
S-JJB-14	Perennial	1535.43	Class C(T)	50'	SL(C)-21	1,2	44.9200	-74.1364

Stream Field Designation	Flow Regime Classification	Linear Feet within Project Area	NYSDEC Classification	Associated Buffer	Waterbody ID Number (WIN)	Stream Order ³	Latitude of Centroid	Longitude of Centroid
S-JJB-16	Intermittent	909.13	-	-	SL(C)-21	1	44.9214	-74.1237
S-JJB-17	Intermittent	1636.11	-	-	-	1	44.9196	-74.1089
S-NSD-1	Intermittent	398.7	-	-	-	1	44.9367	-74.1318
S-WCR-1	Ephemeral	1466.56	Class D	-	SL(C)-21	1	44.9346	-74.1360
S-WCR-2	Intermittent	3110.04	Class C(T)	50'	SL(C)-21	1,2	44.9351	-74.1276
S-WCR-4	Ephemeral	1764.44	-	-	SL(C)-21	1	44.9289	-74.1157
S-WCR-6	Ephemeral	1,927.7	-	-	-	1	44.9303	-74.1107
S-WCR-7	Intermittent	131.82	-	-	-	1	44.9183	-74.1229
S-WCR-8	Ephemeral	770.00	-	-	-	1	44.9156	-74.1291
S-WCR-9	Intermittent	625.39	-	-	-	1	44.9192	-74.1297
S-WCR-10	Intermittent	373.33	-	-	-	1	44.9222	-74.1269
Total Stream Length Delineated (ft):		29,244.69						

6.0 CONCLUSIONS

TRC delineated a total of 38 wetlands within the Project Area during the field study conducted from June 8 through June 17, October 6, December 14, 2020, and May 24th, 2021. In total, these features comprise 73.15 acres of wetland area within Project Area boundaries. Of these wetlands, there were nine with PFO characteristics (10.53 acres), ten wetlands with PSS characteristics (20.69 acres), 25 with PEM characteristics (41.78 acres), and one with PUB characteristics (0.15 acres).

TRC also identified 25 streams within the Project Area, totaling 29,244.69 linear feet. These include seven perennial streams, 14 intermittent streams, and four ephemeral streams.

Final determination of the jurisdictional status of the wetlands and streams identified in the Project Area must be made upon completion of a detailed review by the USACE and NYSDEC.

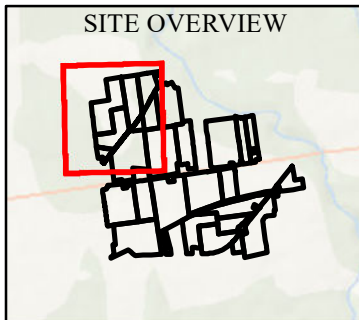
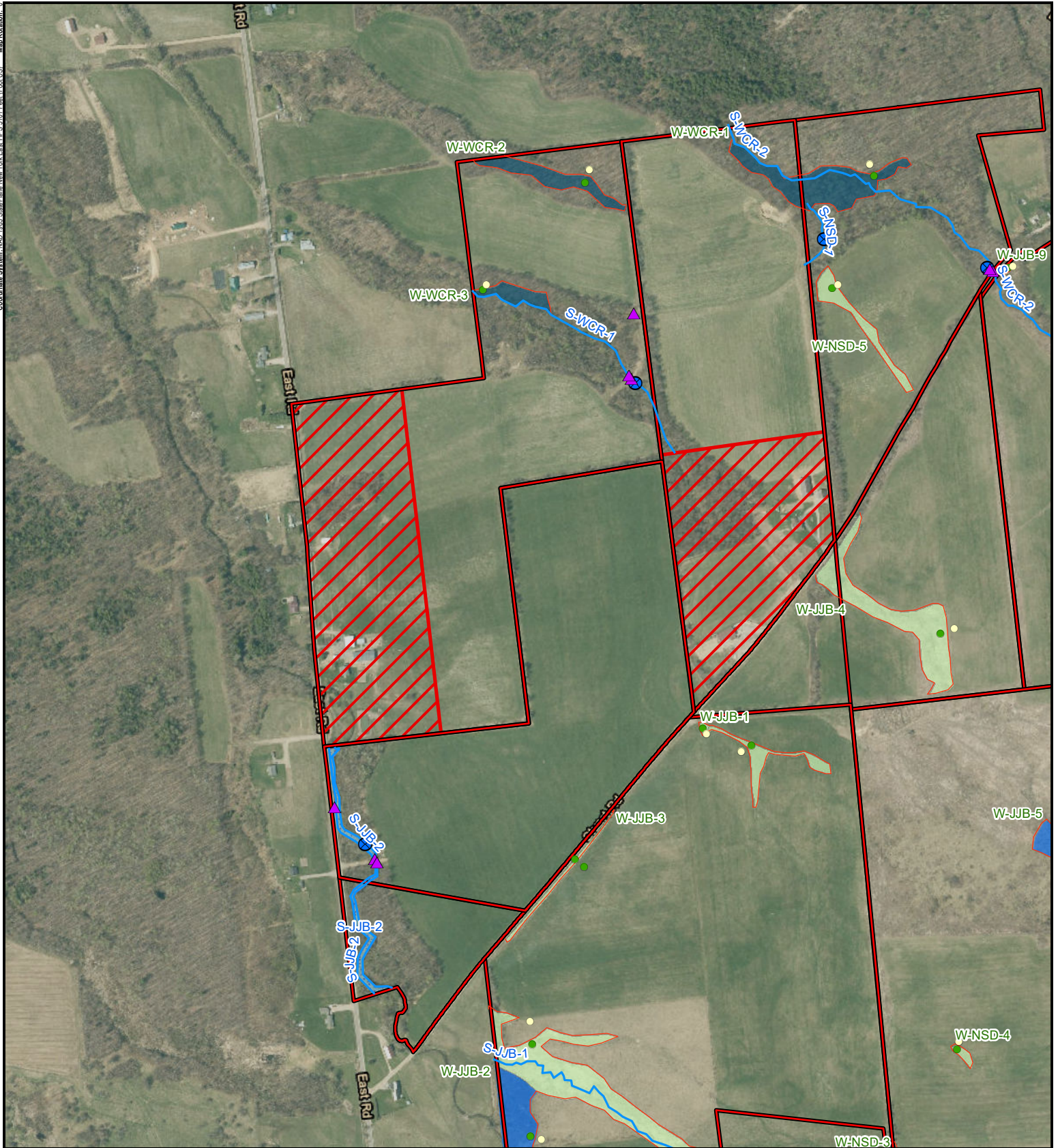
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APPENDIX A

Figures



LEGEND

PROJECT PARCELS	DELINEATED WETLAND BOUNDARY LINE
NON-LEASE AREA	DELINEATED STREAM LINE
USACE WETLAND PLOT	DELINEATED SURFACE WATER
USACE UPLAND PLOT	DELINEATED PEM WETLAND
CULVERT	DELINEATED PSS WETLAND
STREAM PLOT	DELINEATED PFO WETLAND

1. BASEMAP IMAGERY FROM ESRI
"WORLD IMAGERY" MAP SERVICE
2. ALL RESOURCES SHOWN AS DELINEATED BY TRC.

1:8,000 1" = 667'

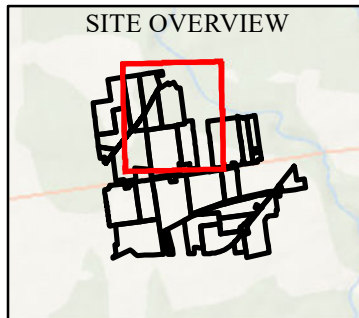
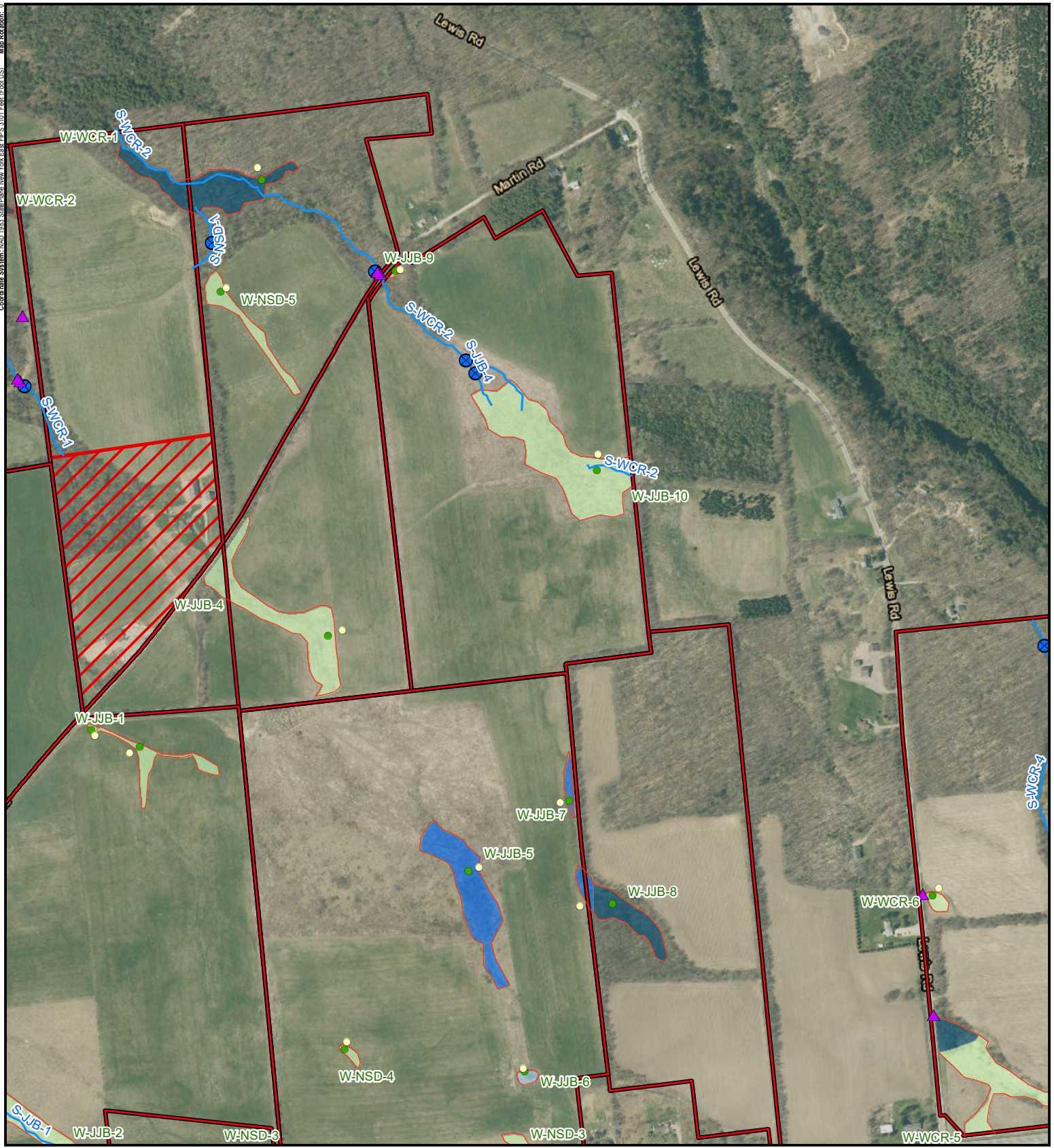
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PROJECT: **BROOKSIDE SOLAR LLC**
TOWNS OF BURKE AND CHATEAUGAY
FRANKLIN COUNTY, NY

TITLE: **DELINEATED RESOURCES BY TYPE**

DRAWN BY: D. BARLEY	PROJECT NO.: 373210
CHECKED BY: A. KAILAS	FIGURE 4 SHEET 1 OF 7
APPROVED BY: H. EFFLER	
DATE: NOVEMBER 2021	

215 GREENFIELD PKWY, STE 102 LIVERPOOL, NY 13088	



LEGEND

PROJECT PARCELS	DELINEATED WETLAND BOUNDARY LINE
NON-LEASE AREA	DELINEATED STREAM LINE
USACE WETLAND PLOT	DELINEATED PEM WETLAND
USACE UPLAND PLOT	DELINEATED PSS WETLAND
CULVERT	DELINEATED PFO WETLAND
STREAM PLOT	DELINEATED PUB WETLAND

1. BASEMAP IMAGERY FROM ESRI
"WORLD IMAGERY" MAP SERVICE
2. ALL RESOURCES SHOWN AS DELINEATED BY TRC.

1:8,000 1" = 667'

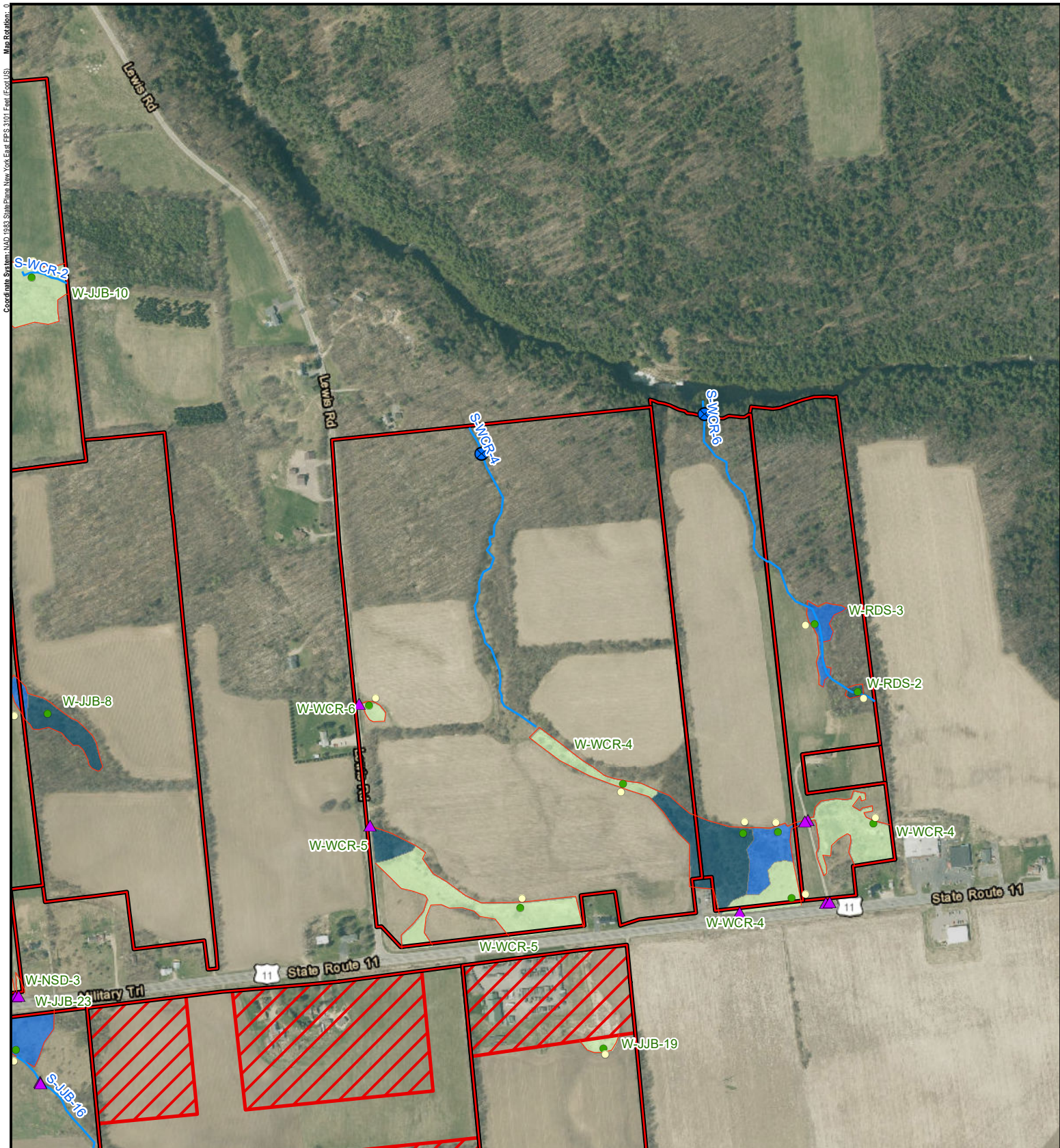
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PROJECT: **BROOKSIDE SOLAR LLC**
TOWNS OF BURKE AND CHATEAUGAY
FRANKLIN COUNTY, NY

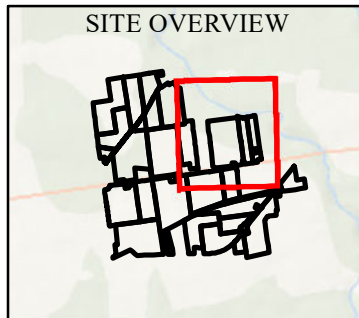
TITLE: **DELINEATED RESOURCES BY TYPE**

DRAWN BY: D. BARLEY	PROJECT NO.: 373210
CHECKED BY: A. KAILAS	FIGURE 4 SHEET 2 OF 7
APPROVED BY: H. EFFLER	
DATE: NOVEMBER 2021	

 TRC 215 GREENFIELD PKWY, STE 102 LIVERPOOL, NY 13088	 aes
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Coordinates System: NAD 1983 StatePlane New York East FIPS 3101 Feet (FootUS) Map Rotation: 0



LEGEND

PROJECT PARCELS	DELINEATED WETLAND BOUNDARY LINE
NON-LEASE AREA	DELINEATED STREAM LINE
USACE WETLAND PLOT	DELINEATED PEM WETLAND
USACE UPLAND PLOT	DELINEATED PSS WETLAND
CULVERT	DELINEATED PFO WETLAND
STREAM PLOT	

1. BASEMAP IMAGERY FROM ESRI
"WORLD IMAGERY" MAP SERVICE
2. ALL RESOURCES SHOWN AS DELINEATED BY TRC.

1:8,000 1" = 667'

0 250 500 Feet

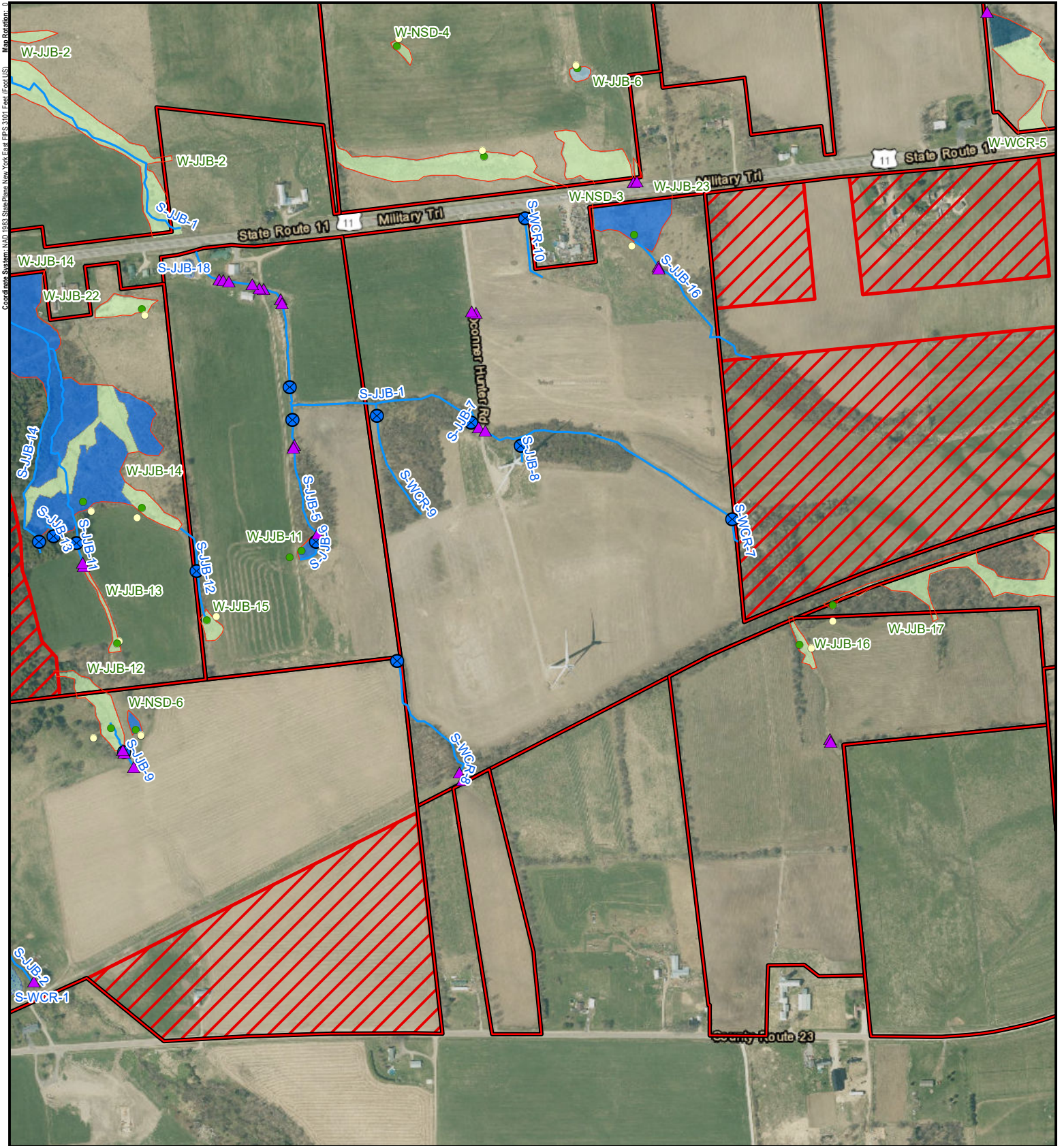
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PROJECT: **BROOKSIDE SOLAR LLC**
TOWNS OF BURKE AND CHATEAUGAY
FRANKLIN COUNTY, NY

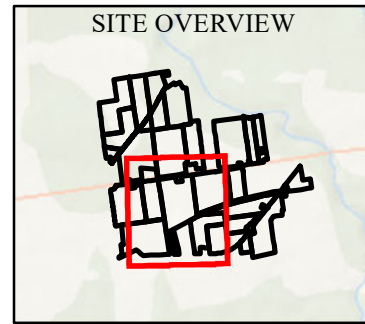
TITLE: **DELINEATED RESOURCES BY TYPE**

DRAWN BY: D. BARLEY	PROJECT NO.: 373210
CHECKED BY: A. KAILAS	FIGURE 4 SHEET 3 OF 7
APPROVED BY: H. EFFLER	
DATE: NOVEMBER 2021	

 TRC 215 GREENFIELD PKWY, STE 102 LIVERPOOL, NY 13088	 aes
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Map Resolution: 10 Feet
 Coordinates System: NAD 1983 StatePlane New York East FIPS 3101 Feet (FootUS)



LEGEND

PROJECT PARCELS	DELINEATED WETLAND BOUNDARY LINE
NON-LEASE AREA	DELINEATED STREAM LINE
USACE WETLAND PLOT	DELINEATED SURFACE WATER
USACE UPLAND PLOT	DELINEATED PEM WETLAND
CULVERT	DELINEATED PSS WETLAND
STREAM PLOT	DELINEATED PFO WETLAND
	DELINEATED PUB WETLAND

1. BASEMAP IMAGERY FROM ESRI
 "WORLD IMAGERY" MAP SERVICE
 2. ALL RESOURCES SHOWN AS DELINEATED BY TRC.

1:8,000 1" = 667'

0 250 500 Feet

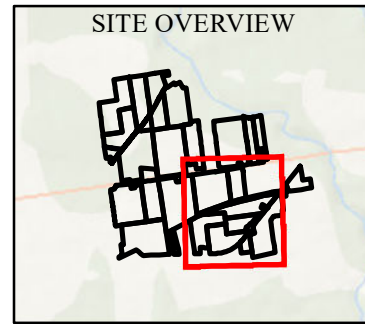
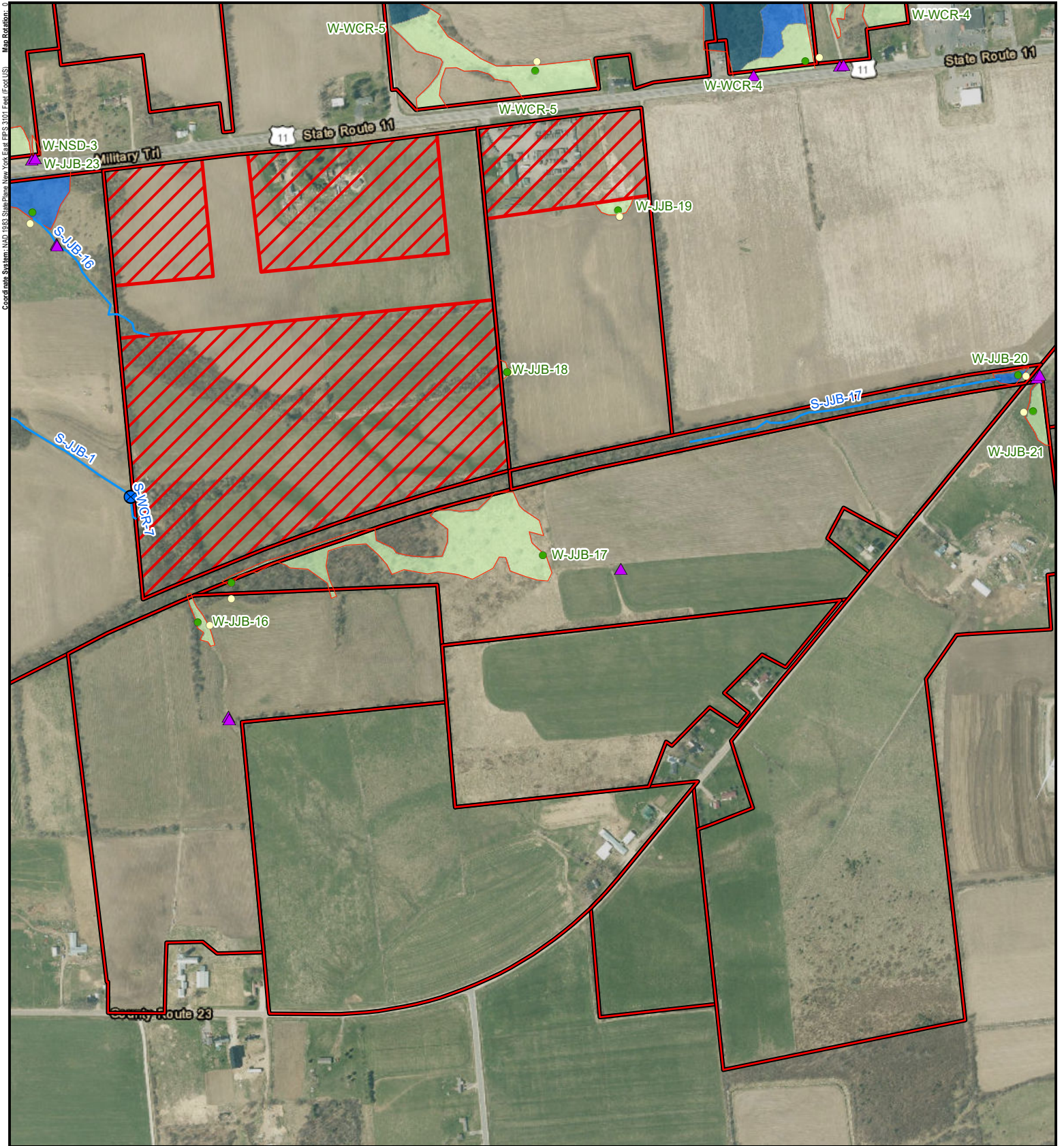
PROJECT: **BROOKSIDE SOLAR LLC**
TOWNS OF BURKE AND CHATEAUGAY
FRANKLIN COUNTY, NY

TITLE: **DELINEATED RESOURCES BY TYPE**

DRAWN BY: D. BARLEY	PROJECT NO.: 373210
CHECKED BY: A. KAILAS	FIGURE 4 SHEET 5 OF 7
APPROVED BY: H. EFFLER	
DATE: NOVEMBER 2021	

TRC
 215 GREENFIELD PKWY, STE 102
 LIVERPOOL, NY 13088

aes



LEGEND

PROJECT PARCELS	DELINEATED WETLAND BOUNDARY LINE
NON-LEASE AREA	DELINEATED STREAM LINE
USACE WETLAND PLOT	DELINEATED PEM WETLAND
USACE UPLAND PLOT	DELINEATED PSS WETLAND
CULVERT	DELINEATED PFO WETLAND
STREAM PLOT	

1. BASEMAP IMAGERY FROM ESRI
"WORLD IMAGERY" MAP SERVICE
2. ALL RESOURCES SHOWN AS DELINEATED BY TRC.

1:8,000 1" = 667'

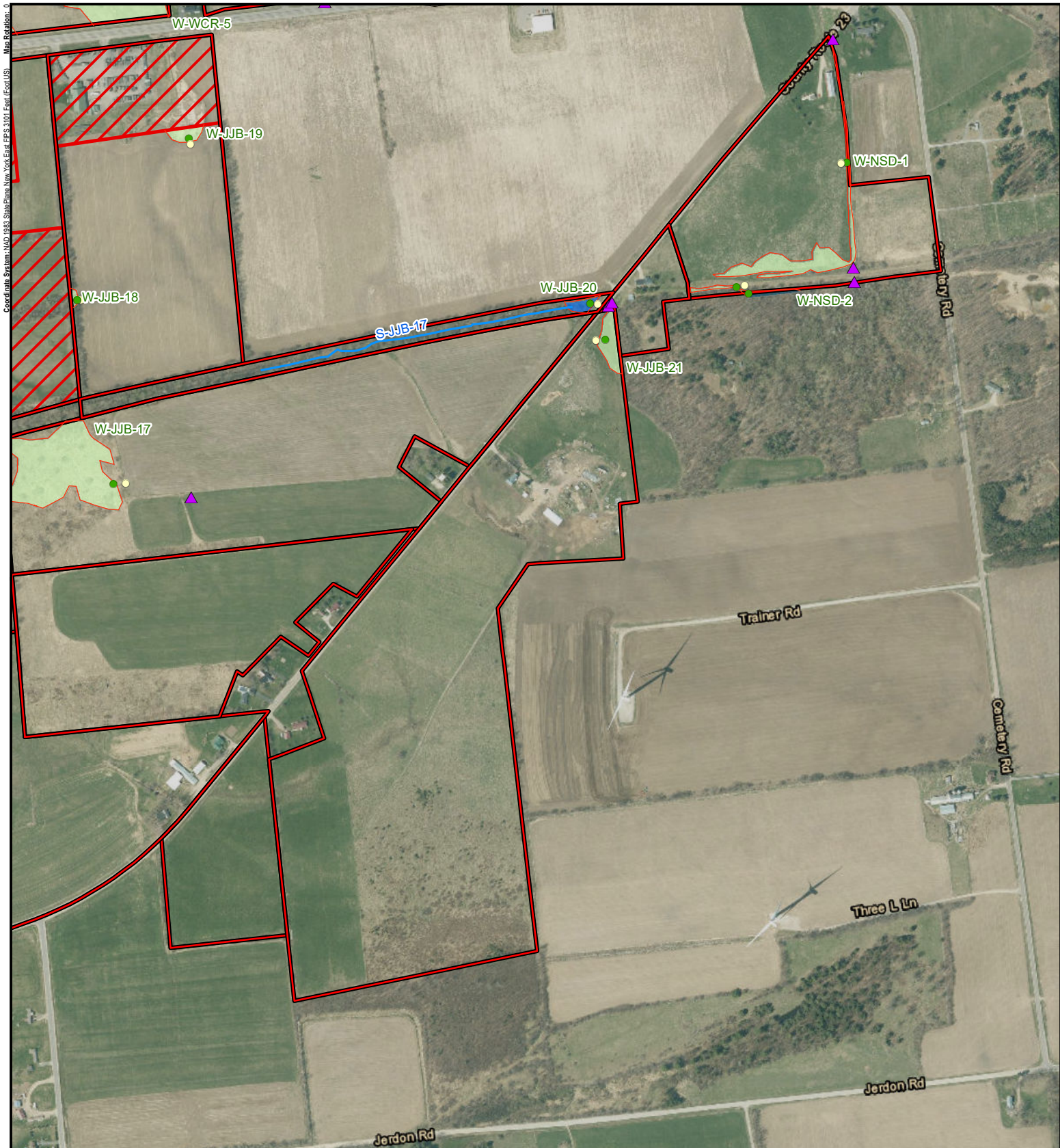
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PROJECT: **BROOKSIDE SOLAR LLC**
TOWNS OF BURKE AND CHATEAUGAY
FRANKLIN COUNTY, NY

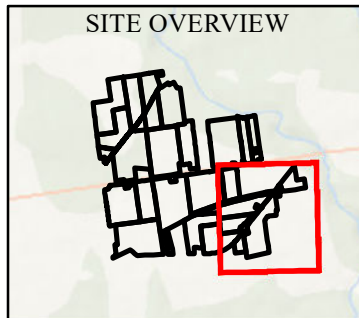
TITLE: **DELINEATED RESOURCES BY TYPE**

DRAWN BY: D. BARLEY	PROJECT NO.: 373210
CHECKED BY: A. KAILAS	FIGURE 4 SHEET 6 OF 7
APPROVED BY: H. EFFLER	
DATE: NOVEMBER 2021	

215 GREENFIELD PKWY, STE 102 LIVERPOOL, NY 13088	



Map Resolution: 0
Coordinates System: NAD 1983 StatePlane New York East FIPS 5101 Feet (FootUS)



LEGEND

PROJECT PARCELS	DELINEATED WETLAND BOUNDARY LINE
NON-LEASE AREA	DELINEATED STREAM LINE
USACE WETLAND PLOT	DELINEATED PEM WETLAND
USACE UPLAND PLOT	DELINEATED PSS WETLAND
CULVERT	DELINEATED PFO WETLAND

1. BASEMAP IMAGERY FROM ESRI
"WORLD IMAGERY" MAP SERVICE
2. ALL RESOURCES SHOWN AS DELINEATED BY TRC.

1:8,000 1" = 667'

0 250 500 Feet

PROJECT: **BROOKSIDE SOLAR LLC**
TOWNS OF BURKE AND CHATEAUGAY
FRANKLIN COUNTY, NY

TITLE: **DELINEATED RESOURCES BY TYPE**

DRAWN BY: D. BARLEY	PROJECT NO.: 373210
CHECKED BY: A. KAILAS	
APPROVED BY: H. EFFLER	
DATE: NOVEMBER 2021	

FIGURE 4
SHEET 7 OF 7

 TRC 215 GREENFIELD PKWY, STE 102 LIVERPOOL, NY 13088	
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APPENDIX B

Photograph Log

APPENDIX C

Data Forms