



**BROOKSIDE SOLAR, LLC**

**Matter No. 21-00917**

**900-2.14 Exhibit 13**

**Water Resources and Aquatic Ecology**

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## Acronym List

AES	The AES Corporation, Inc.
bgs	below ground surface
BMPs	best management practices
CWA	Clean Water Act
eNOI	electronic Notice of Intent
ECL	Environmental Conservation Law
EM	Environmental Monitor
EPC	Engineering, Procurement, and Construction
FEMA	Federal Emergency Management Agency
FOIL	Freedom of Information Law
HDD	horizontal directional drilling
HUC	Hydrologic Unit Code
LOD	limit of disturbance
mg/L	milligrams per liter
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDPS	New York State Department of Public Service
ORES	Office of Renewable Energy Siting
PJD	Preliminary Jurisdictional Determination
SPC	Spill Prevention, Containment, and Control
SPDES	State Pollutant Discharge Elimination System
SPT	Standard Penetration Test
SSA	sole source aquifers
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USCs	Uniform Standards and Conditions
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency

USGS	United States Geological Survey
WOTUS	Water of the United States
WQC	Water Quality Certification

## Glossary Terms

<b>Applicant</b>	Brookside Solar, LLC, a subsidiary of The AES Corporation, Inc. (AES), the entity seeking a siting permit for the Facility from the Office of Renewable Energy Siting (ORES) under Section 94-c of the New York State Executive Law.
<b>Facility</b>	The proposed components to be constructed for the collection and distribution of energy for the Brookside Solar Project, which includes solar arrays, inverters, electric collection lines, and the collection substation.
<b>Facility Site</b>	The parcels encompassing Facility components, which totals 1,471 acres in the Towns of Burke and Chateaugay, Franklin County, New York (Figure 2-1).
<b>Study Area</b>	In accordance with the Section 94-c Regulations, the Study Area for the Facility includes a radius of five miles around the Facility Site boundary, unless otherwise noted for a specific resource study or Exhibit. The 5-mile Study Area encompasses 69,963 acres, inclusive of the 1,471-acre Facility Site.
<b>Wetland Survey Area</b>	The 1,286 acres of leased area within the 1,471-acre Facility Site where wetland and stream delineations were conducted.
<b>Towns</b>	Towns of Burke and Chateaugay, Franklin County, New York.

## **Exhibit 13: Water Resources and Aquatic Ecology**

This Exhibit provides information required in accordance with the requirements in Section 900-2.14 of the Section 94-c Regulations.

### **13(a) Groundwater**

#### ***(1) Hydrologic Character***

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the average representative depth to the water table within the Facility Site is about 23.5 inches below ground surface (bgs) and the depth to restrictive layer ranges from about 0 to 7 feet bgs (Figure 13-4). This data was obtained from the USDA NRCS Web Soil Survey tool, which lists depth to restrictive layers and water table by soil map unit for a given area of interest. In addition, findings of the geotechnical investigations onsite indicate groundwater was not observed at the time of the investigation; however, groundwater conditions may vary by season and due to weather conditions. Therefore, temporary dewatering may be required during construction if perched water, groundwater, or seepage is encountered. Based on the findings of the Geotechnical Engineering Report included as Appendix 10-1, 42 Standard Penetration Test (SPT) borings within solar array areas and three SPT borings within the substation areas encountered bedrock at depths from about 24 to 30 feet bgs throughout the Facility Site. More information on the geology within the Facility Site can be found in Exhibit 10 (Geology, Seismology and Soils). Conditions encountered during subsurface investigations are generalized below in Table 13-1.

**Table 13-1. Generalized Geotechnical Review Results**

Description	Approximate Depth to Bottom of Stratum (feet)	Material Description	Relative Density/ Consistency
Stratum 1	0 to 0.5	Topsoil, soft clay matlock	Soft
Stratum 2	0.5 to 2	Silty clay, moderate stiff clay without free water	Moderately Stiff
Stratum 3	2 to 3.5	Silty sand	Medium dense
Stratum 4	3.5 to 7	Silty sand	Medium dense
Stratum 5	7 to 15	Silty sand	Very stiff

Source: Draft Geotechnical Report, AES – Brookside Solar Project, ANS Geo, Inc., 2021

**(2) Private Well Survey Results and Groundwater Aquifers and Groundwater Recharge Areas**

The information presented in this section outlines the locations of mapped and identified groundwater sources through a review conducted by the Applicant. As described below in Section 13(a)(3), the construction and operation of the Facility will be in compliance with the Uniform Standards and Conditions (USCs) under Section 94-c.

To collect information on private wells adjacent to the Facility Site and in accordance with the Section 94-c Regulations, well survey questionnaires were mailed to landowners of tax parcels within 1,000 feet of the Facility Site boundaries. Included in the survey were questions about the size, yield, depth, and quality of water obtained from well(s) on the property, location in relation to any buildings on the property, whether any type of water treatment system had ever been installed at the property, and whether any issues had ever occurred with wells identified on the property. The letter also contained a phone number to reach a TRC consultant if the recipient had any questions, along with a stamped self-addressed envelope to facilitate returns to TRC on behalf of the Applicant.

At the time of filing, TRC received 59 responses to the survey questionnaire (see Appendix 13-2). In addition to the survey questionnaire, 3 wells were identified by the parcel location using the GIS solar web viewer. Of the 59 surveys received, 27 respondents indicated the presence of wells on their property. A total of 33 wells were accounted for by these 27 respondents and the



3 wells identified by parcel location, of which 30 wells are considered active, 3 wells are considered inactive, and 2 wells have dried up during their reported lifetime use. A total of 22 survey responses indicated no wells on the property. There are 6 wells that will require pre and post construction water testing due to their proximity to horizontal directional drilling (HDD), pier or post instillation points, or collection lines or roads as identified in 900-2.14. Of the 6 wells that require testing, 5 wells (Parcel ID numbers: 59.-3-3, 60.-1-9.100, 60.-3-4, 73.-3-2, and 74.-1-5.100) are located outside of the Facility Site and 1 well (Parcel ID number: 74.-1-4) is located within the Facility Site. Depths of wells were reported between 10 feet and 200 feet with the average being approximately 120 feet. Respondents who identified wells located on their parcel indicated the water quality to be good. A copy of the well survey questionnaire sent to landowners is included in Appendix 13-2.

### ***Unconsolidated Aquifers***

The United States Geological Survey (USGS) has completed hydrogeologic mapping in cooperation with New York State (NYS) and local agencies. The distribution and hydrogeologic characteristics of the unconsolidated aquifers are presented at the 1:250,000 scale in a series of five maps that were published in 1988 in cooperation with the New York State Department of Environmental Conservation (NYSDEC). According to this map set, no unconsolidated aquifers are present within the Facility Site. Additional hydrogeologic maps have been published for NYS in cooperation with the NYSDEC, the New York State Department of Health (NYSDOH), and various local agencies; however, these 1:24,000 scale maps are not available for the Facility Site.

### ***Sole Source Aquifers***

The Facility Site is not located within any sole source aquifers (SSA). SSAs are defined by the United States Environmental Protection Agency (USEPA) as aquifers that supply at least 50 percent of the drinking water for their service areas; there are no reasonable alternative drinking sources should these aquifers become contaminated. The nearest SSA is approximately 102 miles southwest of the Facility Site, near Watertown, New York, and crosses parts of Jefferson, Lewis, and Oswego Counties. This aquifer is identified as the Northern Tug Hill Glacial SSA, Federal Register ID 71 FR 64524 (USEPA, n.d.). No impacts to SSAs are expected as a result of the Facility's construction or operation.

### **Primary Aquifers**

The Facility Site does not overlap any NYSDEC-listed primary aquifers. The closest primary aquifer is the Clifton Park Aquifer, located approximately 140 miles south of the Facility Site's southern limit in Saratoga County, New York (NYSDEC, n.d.). Primary aquifers are defined by the USGS and the NYSDEC as “*highly productive aquifers presently utilized as sources of water supply by major municipal water supply systems*” (NYSDEC, 1990).

### **Principal Aquifers**

The Facility Site overlaps a principal aquifer in the southeast corner of the Facility Site. Principal aquifers are defined and mapped by NYSDEC and USGS. As opposed to primary aquifers, principal aquifers, per the NYSDEC, are aquifers known to be highly productive or whose geology suggests abundant potential water supply, but which are not intensively used as sources of water supply by major municipal systems at the present time. The USGS defines a principal aquifer as “a regional extensive aquifer or aquifer system that has the potential to be used as a source of potable water” (USGS, 2003). According to the *Principal Aquifers of the United States* (USGS, 2003), the Facility Site overlaps a USGS-listed principal aquifer. The Facility Site overlaps with a single principal aquifer that is listed by both NYSDEC and USGS.

No impacts are anticipated to this aquifer, as appropriate erosion prevention and sedimentation control measures will be implemented during construction and operation which includes a spill prevention and control plan. As a result, the proposed Facility is not anticipated to have direct effects on subsurface waters. For further discussion on sedimentation control measures, see Appendix 13-3.

### **Groundwater Aquifers and Recharge Areas**

Groundwater aquifers and groundwater wells are mapped in Figure 13-1, along with any existing, active water supply intakes located within 100 feet of collection lines and access roads or within 200 feet of post-driving locations. Additionally, groundwater flow direction and wellhead and aquifer protections zones are shown within a 500-foot radius of the proposed Facility Site (and within a 1,000-foot radius of blasting locations, as applicable). The data on groundwater aquifers and recharge areas was obtained through the NYSDEC Division of Water Resources, Bureau of Water Management. Specific information pertaining to local mapped groundwater

aquifers has been described in the above sections. Information regarding groundwater wells has been described below.

The nearest USGS groundwater monitoring sites, local numbers F-854 and F-60 (USGS 445511074103902 and USGS 445511074103902), are both located 1.85 miles west of the Facility Site in Burke Center. According to data collected at these USGS groundwater sites, the average annual depth to the New York and New England Sandstone Aquifer's water level is approximately 3.45 feet bgs, with seasonal variation of 1.21 feet to 6.31 feet bgs.

To identify the locations of existing public water wells and data on wells within the five-mile Study Area, a Freedom of Information Law (FOIL) (Public Officers Law, Article 6 Sections 84-90) request was sent to the NYSDEC on July 21, 2021. This request was for any information pertaining to groundwater wells (including location construction logs, depth, and descriptions of encountered bedrock) within the Study Area (Appendix 13-1). A response, including well completion reports for wells within the Study Area, was received from the NYSDEC on August 16, 2021. The response indicated that there are two wells within the five-mile Study Area. Both wells are located within the Facility Site and can be seen on Figure 13-1. Based on the well completion reports that were provided, the average depth of these wells was approximately 94.0 feet and the average depth to groundwater was approximately 28.0 feet. The average depth to bedrock was approximately 72.5 feet.

The NYSDEC's Water Well Program Information Search Wizard and the NYSDEC Water Wells KMZ was consulted to obtain well information. The results of the search concluded that there are no water wells located within 1,000 feet of the Facility Site (NYSDEC, 2021). The location of groundwater wells is shown in Figure 13-1. A copy of the well survey questionnaire sent to landowners is included in Appendix 13-2.

### ***(3) Impacts on Groundwater Quality and Quantity***

No permanent impacts to aquifers (primary, principal, or SSA) or groundwater are anticipated as a result of the construction and operation of the Facility. As with construction projects of this type, the potential for minor and temporary impacts to groundwater will be avoided and minimized through the implementation of best management practices (BMPs), including measures proposed in the Stormwater Pollution Prevention Plan (SWPPP) provided as Appendix 13-3.

While temporary impacts to groundwater could potentially occur through the introduction of pollutants from inadvertent discharges of petroleum or other chemicals used during the construction, operation, or maintenance phases of the Facility, such as discharges from unanticipated mechanical failures in equipment onsite, or through spills during the refueling of equipment, impacts to groundwater, are not anticipated due to the implementation of required avoidance, minimization, and mitigation measures, which will be strictly adhered to. These measures will be outlined in the Facility's Spill Prevention, Containment, and Control (SPC) Plan that will be completed and submitted as a Compliance Filing prior to the construction and operation of the Facility as well as the BMPs described throughout the Application and the SWPPP (Appendix 13-3).

Certain construction activities have the potential to result in direct and/or indirect impact to surface waters. These activities include the installation of haul roads, installation of collection lines, and the development of temporary staging areas and workspaces around the solar arrays. Impacts related to the construction of haul road and collection line crossings will be minimized to the maximum extent practicable using four existing (one is protected, S-JJB-2 is State and USACE jurisdictional) and two new stream crossings (both crossing un-protected streams) at narrow locations where feasible. In addition, the SWPPP will avoid or minimize impacts to the maximum extent practicable.

The Facility will only add a small area of impervious surface, 19.3 acres (5.8 percent of the fenced area or 3.0 percent of the limit of disturbance [LOD]), to the landscape through the placement of inverter pads, haul roads, and the collection substation. These impervious areas will be distributed throughout the Facility Site and will have, at most, a negligible effect on groundwater recharge for the local region. The construction of these impervious surfaces is typical of construction projects throughout NYS with methods approved by the NYSDEC. Pervious land cover (various grasses) will be situated beneath the solar arrays and within the overall majority of the Facility Site, which will allow for continued infiltration of stormwater runoff as occurs under existing site conditions. In areas of the site currently used for agricultural purposes, the proposed vegetated ground cover beneath the arrays will allow for greater infiltration than areas regularly disturbed by agricultural practices.

Minimal water use is expected during construction. The Applicant will work in consultation with the selected Engineering, Procurement, and Construction (EPC) Contractor to identify sources and locations for water necessary for construction activities. Concrete mixing trucks will have designated washout areas as shown in the typical presented on Sheet PV-C.03.01 of Appendix

5-1 (Design Drawings). In accordance with the USCs under Section 94-c, concrete washouts for the Facility will be located and installed to minimize impacts to water resources and will be sited least 100 feet from any wetland, waterbody, or stream, and will be located outside wetland adjacent areas, to the maximum extent practicable. Additionally, waste concrete or wash water will be disposed of at least 100 feet from any wetland, waterbody, or stream. Concrete batch plants are not expected to be required for the Facility.

Proposed haul roads are impervious and designed to distribute runoff as sheet flow to roadside buffers where it will infiltrate the groundwater. It is presumed that groundwater may be encountered in poorly drained soils, areas with a characteristic shallow water table, areas which contain seasonally perched groundwater, or areas where semi-impervious layers of substrata do not permit groundwater to permeate deeply within the soil profile (i.e., aquitards and aquicludes). Furthermore, the ponding of surface waters and the pooling of water due to significant precipitation events could occur in open excavation areas or depressions during construction of the Facility.

Although no impacts to drinking water are anticipated as a result of Facility construction or operation, the Applicant will ensure that no pier or post driving will occur within 200 feet of any identified active water supply. In accordance with the Section 900-6.4(n)(2) of the USCs, the Applicant will engage a qualified third party to conduct pre- and post-construction water quality testing on lands for which the Applicant has been granted access. Testing will occur within specified distances from disturbances as follows:

- Collection lines or haul roads within 100 feet of an existing, active water supply well or water supply intake;
- Pier or post installation points within 200 feet of an existing, active water supply well or water supply intake not requiring blasting; and
- At the location of any horizontal directional drilling (HDD) operation within 500 feet of an existing, active water supply well or water supply intake: and
- At the location of any blasting operation within 1,000 feet of an existing, active water supply well or water supply intake. Blasting is not anticipated.

If the results of the pre-construction testing indicate that federal and state standards for potable water are met (10 New York Codes, Rules and Regulations [NYCRR] Part 75, Appendix 75-c), but post-construction testing fails to meet those standards, the Applicant will work in

consultation with the affected landowner(s) to construct a new well or otherwise reach a solution for the concern. Any newly constructed well shall be at least 100 feet from collection lines and haul roads, and at least 200 feet from all other Facility components.

Plans for notification and complaint resolution during construction of the Facility for owners/operators of public and private wells within a one-mile radius of the Facility Site will be detailed in the Complaint Management Plan, which will be included in the pre-construction filings of this Application as specified under Section 900-10.2 of the Section 94-c Regulations. In the unlikely event a local resident believes that their well water has been adversely impacted by the Facility construction or operation, they may file a formal complaint that the Applicant will respond to using the Complaint Management Plan. If, as a result of Facility construction, an active potable water well no longer meets federal or state potable water testing standards, the Applicant will work with the well owner to reach an agreeable resolution.

### **13(b) Surface Water**

#### **(1) *Surface Water Map***

The locations of surface waters within the Wetland Survey Area, which includes areas within 100 feet of areas to be disturbed by construction, are mapped in Figures 13-2 and 13-3. Figure 13-2 displays map features mapped in publicly available data from the NYSDEC, USGS, National Wetlands Inventory (NWI); while waterbody data collected during onsite wetland and waterbody delineations conducted in June, October, and December of 2020 as well as May of 2021 is shown in Figure 13-3.

#### **(2) *Surface Water Delineation Survey***

Surface waters, as well as general characteristics of the hydrology and character of the Wetland Survey Area, were collected as part of wetland and waterbody delineations performed by TRC wetland biologists in June, October, and December of 2020, as well as May of 2021. Prior to the field survey, the Applicant conducted a desktop review of publicly available data to determine the potential presence of federal and state-mapped resources within the Wetland Survey Area. As part of delineation efforts, TRC identified and delineated 25 streams within the Wetland Survey Area (totaling 29,244.69 linear feet), including 4 ephemeral streams, 14 intermittent streams, and 7 perennial streams. Of the streams delineated, six (S-BBP-3, S-JJB-2, S-JJB-11, S-JJB-12, S-JJB-14, and S-WCR-2) are mapped as NYSDEC Class C(T) streams and are protected streams. Additionally, two streams (S-JJB-1, and S-WCR-1) are mapped as NYSDEC

Class D streams and are unprotected. The ORES JD received on July 27, 2021, (Appendix 14-3) identified named stream Allen Brook (S-JJB-2) as a protected Navigable Water. The ORES JD also identified named stream Kane Brook (S-JJB-11), as well as an unnamed tributary of Allen Brook (S-WCR-2) as a protected non-navigable water. According to Article 15 of the NYSDEC Environmental Conservation Law (ECL), NYSDEC-protected streams are protected to the top of its bank and a bank will not be considered to extend more than 50 feet horizontally from the mean high-water level.

Additional information regarding delineation methodology, stream characteristics, as well as mapping and photographs of the water resources onsite are included in the Wetland and Stream Delineation Report included herein as Appendix 14-1.

### **(3) Surface Water Characteristics**

The Facility is located within the NYSDEC-defined St. Lawrence River major drainage basin. This major drainage basin drains an area of 3,584,000 acres and ranges in elevation from 20 to 4,850 feet above sea level (USDA NRCS, 2010). Within this major drainage basin, the Facility is located in the Chateaugay English sub-basin (Hydrologic Unit Code [HUC] 04150308). This region receives an average annual precipitation of 38.86 inches. Wetlands and open water constitute 12.2 percent of the sub-basin. The remaining portion of the watershed falls within Canada where the USDA NRCS does not have available data (USDA NRCS, 2010). At the watershed level, the Facility Site is located within 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 St. Lawrence River major watershed is composed of smaller drainages that empty into the St. Lawrence River. The majority of land cover in the St. Lawrence River major watershed is forest and agriculture. A smaller portion of land cover is wetland and water, with minimal developed areas in the watershed. Sources of impairment for lakes, rivers, and streams in the watershed include agriculture, priority organics, and municipal sources, with smaller portions of contamination coming from metals, septic, and other industry (USDA NRCS, 2010b). There are no identified impaired waterbodies within the Facility Site. No aquatic invasive species have been previously documented within the Facility Site (iMapInvasives, 2021). TRC biologists observed Japanese honeysuckle (*Lonicera japonica*) along stream S-JJB-11 within the Wetland Survey Area. Based on the NYSDEC's list of Prohibited and Regulated Invasive Species of New York, one species from the list was observed during wetland and waterbody delineations.

The NYSDEC has classified waterbodies state-wide according to their best use, as either AA, AA(T), A, A(T), B, B(T), C, C(T), or D. Class AA or A waterbodies are of the highest water quality. AA or A classes indicate that the best uses of the waterbody are as follows: a source of water supply for drinking, culinary, or food processing purposes, primary and secondary contact recreation, and/or fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival. The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The best usage of Class D waters is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish, shellfish, and wildlife survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning events. Certain waters of the state are listed as protected due to their classification level.

Waterbodies with a classification of AA, A, or B, or with a classification of C with a standard of (T) or (TS) are collectively referred to as "protected waterbodies," and are subject to the provisions of the Protection of Waters regulations. Special requirements apply to sustain (T) and (TS) waters that support sensitive fisheries resources. Table 13-2 below lists NYSDEC-mapped waterbodies within the Facility Site and their state classifications. Figure 13-2 portrays their locations relative to the Facility Site. In addition to those NYSDEC-mapped waterbodies listed below, a number of small unnamed and unmapped (by NYSDEC) waterbodies and tributaries are also present within the Facility Site. No aquatic invasive species were identified within these surface waterbodies. Those waterbodies within 100 feet of any Facility components have been mapped and identified on Figure 13-2.



**Table 13-2. NYSDEC-Mapped Streams within the Facility Site**

<b>NYSDEC Stream Name and Regulatory ID Number</b>	<b>NYS Major Drainage Basin</b>	<b>USGS Sub-basin Hydrologic Unit Code (HUC) 8 and Name</b>	<b>NYSDEC Classification<sup>1</sup> and Standard<sup>2</sup></b>
Allen Brook - 910-24	St. Lawrence River	04150308 - Chateaugay English Sub Basin	Class C(T)
Allen Brook - 910-24	St. Lawrence River	04150308 - Chateaugay English Sub Basin	Class C(T)
Kane Brook - 910-24	St. Lawrence River	04150308 - Chateaugay English Sub Basin	Class C(T)
Allen Brook - 910-25	St. Lawrence River	04150308 - Chateaugay English Sub Basin	Class D
Chateaugay River, lower and minor tributaries - 910-25	St. Lawrence River	04150308 - Chateaugay English Sub Basin	Class D
Chateaugay River, lower and minor tributaries - 910-24	St. Lawrence River	04150308 - Chateaugay English Sub Basin	Class C(T)
<sup>1</sup> 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. Waters with a classification of D are generally suitable for fishing and non-contact recreation. <sup>2</sup> Streams designated (T) indicate that they support trout, while those designated (TS) support trout spawning.			

NYS water quality standards are defined in 6 NYCRR Part 703 and 704, and the Standards for Class C(T) and D streams are provided in Table 13-3 below.

**Table 13-3. NYSDEC Water Quality Standards**

Parameter	NYSDEC Waterbody Classifications <sup>1</sup>	Standard
Taste, color, and odor-producing, toxic, and other deleterious substances	C, D	None in the amounts that will adversely affect the taste, color, or odor thereof, or impair the waters for their best usage.
Turbidity	C, D	No increase that will cause a substantial visible contrast to natural conditions.
Suspended, colloidal, and settleable solids	C, D	None from sewage, industrial wastes, or other wastes that will cause deposition or impair the waters for their best usages.
Oil and floating substances	C, D	No residue attributable to sewage, industrial wastes, or other wastes, not visible oil film nor globules of grease.
Phosphorus and nitrogen	C, D	None in the amounts that will result in growths of algae, weeds, and slimes that will impair the waters for their best usage.
Thermal discharges	C, D	All thermal discharges to the waters of the state shall assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water.
Flow	C, D	No alteration that will impair the waters for their best usage.
pH	C	Shall not be less than 6.5 nor more than 8.5.
	D	Shall not be less than 6.0 nor more than 9.5.
Dissolved Oxygen	C	For non-trout waters, the minimum daily average shall not be less than 5.0 milligrams per liter (mg/L), and at no time shall the dissolved oxygen concentration be less than 4.0 mg/L.
	D	Shall not be less than 3.0 mg/L at any time.
Dissolved solids	C, D	Shall be kept as low as practicable to maintain the best usage of waters but in no case shall it exceed 500 mg/L.
Total coliforms	C	The monthly median value and more than 20 percent of the samples, from a minimum

**Table 13-3. NYSDEC Water Quality Standards**

Parameter	NYSDEC Waterbody Classifications <sup>1</sup>	Standard
		of five examinations, shall not exceed 2,400 and 5,000, respectively.
Fecal coliforms	C	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.
<p>Source: 6 NYCRR Parts 703.2, 703.3, 703.4, 704.1</p> <p><sup>1</sup>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. Waters with a classification of D are generally suitable for fishing and non-contact recreation.</p>		

#### **(4) Downstream Drinking Water Supply Intakes**

The Applicant evaluated the potential for downstream drinking water impacts based on publicly available information regarding water supply intakes in relation to the Facility Site and the construction and operational methods anticipated for the Facility. Based on this review, no impacts to downstream drinking water supply intakes are anticipated.

Review of the DECinfo Locator indicated that there are two downstream drinking water supplies located in the vicinity of the Facility Site (DECinfo Locator, n.d.). These two drinking water supplies are in the Towns of Burke and Chateaugay. The closest downstream drinking water supply is located in the Town of Chateaugay. The most recent publicly available data for the Town of Chateaugay public drinking water supply is a Water Withdrawal Reporting Form for the 2019 year. This water supply is located at 44.927, -74.078. This water supply has a total of 482 water service connections serving 1,100 people. This water supply is withdrawn from surface water. The next closest downstream drinking water supply is located in the Town of Burke. The most recent publicly available information for the public water supply in the Town of Burke is a Water Withdrawal Reporting Form for the 2019 year. This water supply is located at 44.905, -74.169. This water supply has a total of 79 service connects and serves 273 people. This water supply is withdrawn from groundwater.

**(5) Avoidance of Impacts on State-Protected Waters**

As described above, 25 streams were identified within the Wetland Survey Area during delineation efforts. Of these, five were identified and delineated onsite as State-protected waters with a classification of C(T) and jurisdictional by the State per the ORES JD received on July 27, 2021. No impacts are expected to any of the five State-protected waters due to the construction or operation of the Facility. All Facility components will be sited more than 50 feet from State-protected waterbodies.

**(6) Minimization of Impacts on State-Protected Waters**

There will be no impacts to State-protected streams (ECL 15-0501) due to construction or operation of the Facility.

**(7) Stream Restoration and Mitigation Plan**

There will be no impacts to State-protected streams due to construction or operation of the Facility. Accordingly, pursuant to Section 900-10.2(f)(3) of the Section 94-c Regulations, a mitigation plan is not required and therefore, has not been prepared.

**13(c) Stormwater**

**(1) SWPPP and SPDES Permit**

The NYSDEC requires coverage under the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) for any

*...construction activities involving soil disturbances of one or more acres; including disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land; excluding routine maintenance activity that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.*

This authorization is subject to review by NYSDEC but is coordinated with the 94-c process. The Applicant will seek coverage under the NYSDEC SPDES General Permit for the construction phase of the Facility.

The Applicant has prepared a SWPPP in accordance with the guidelines set forth in GP-0-20-001 and has included it as Appendix 13-3 herein. The SWPPP describes in specific terms the

erosion and sediment control practices that will be implemented during construction activities, and the stormwater management practices that will be used to reduce the pollutants in stormwater discharges after Facility construction has been completed. As part of these requirements, an Environmental Monitor (EM) is required to be onsite daily to inspect the Facility's erosion and sediment control practices when soil-disturbing activities are being performed.

This SWPPP has been prepared as part of the requirements for coverage under GP-0-20-001. It is anticipated that an electronic Notice of Intent (eNOI) will be prepared and submitted to the NYSDEC (with a copy filed with ORES), who will review and authorize a SPDES General Permit number along with the NYSDEC Letter of Acknowledgement certifying that the Facility will comply the technical requirements of GP-0-20-001 prior to construction. The Applicant will request a five-acre waiver to disturb greater than five acres at one time during construction. Once the Facility receives this required documentation, the Letter of Acknowledgement will be inserted within the SWPPP and kept onsite, as required by GP-0-20-001. The eNOI will be included in Attachment A of the SWPPP.

## ***(2) Post-Construction Stormwater Management Practices Plan***

The SWPPP provides information on stormwater management practices, including erosion and sediment control (vegetative and structural measures, temporary and permanent measures), construction phasing and disturbance limits, waste management and spill prevention, and site inspection and maintenance. Pre- and post-development hydrology, in addition to evaluation of runoff and drainage patterns, will be analyzed as part of stormwater design in accordance with final Facility layout, and if necessary, the SWPPP will be updated prior to construction.

### **13(d) Chemical and Petroleum Bulk Storage**

#### ***(1) Spill Prevention and Control Measures***

No onsite storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of NYS is proposed. On a typical solar project, spill containment is included at the substation transformers. However, transformers are exempt from the petroleum bulk storage program as they are considered operational tank systems. Operational tank systems are integral to, or connected to, equipment or machinery for which the petroleum in the system is used solely for operational purposes. Petroleum in an operational

tank system is not consumed in any context (such as being combusted as fuel or used as a raw material in a manufacturing process).

To minimize the potential impact to aquatic resources from minor leaks or mechanical failures of construction equipment/vehicles, the Facility will adhere to an SPC Plan that will be submitted prior to the start of construction..

This plan dictates that all contractors will be required to keep materials on hand to control and contain a petroleum spill. In accordance with Section 900-6.4(m)(5), spill kits will be kept in all construction vehicles. Any leaks will be stopped and cleaned up immediately. Spillage of fuels, waste oils, other petroleum products, or hazardous materials shall be reported to the NYSDEC's Spill Hotline within two hours, in accordance with the NYSDEC Spill Reporting and Initial Notification Requirements Technical Field Guidance. ORES and the New York State Department of Public Service (NYSDPS) shall also be notified of all reported spills in a timely manner. Contractors will be responsible for ensuring responsible action on the part of construction personnel.

### ***(2) Storage or Disposal of Regulated Substances***

The onsite storage of large volumes of substances regulated under the chemical and petroleum bulk storage programs of NYS is not proposed. Onsite disposal will not occur. If construction operations require petroleum or other hazardous chemicals to be stored onsite, applicable state and federal laws and guidelines will be followed.

### ***(3) Storage of Hazardous Substances Compliance with Local Law Storage Regulations***

Onsite storage of large volumes of substances regulated under the chemical and petroleum bulk storage programs of any local laws is not proposed for the Facility, as discussed in Sections 13(d)(1) and (2) above. Onsite disposal will not occur. If construction operations require petroleum or other hazardous chemicals to be stored onsite, those substances will be stored in a manner such that the applicable, substantive provisions of local laws and guidelines will be followed.

## **13(e) Aquatic Species and Invasive Species:**

### ***(1) Biological Aquatic Resource Impacts***

It is assumed that any potential impacts to surface waters within the Facility Site could potentially impact ecologies, organisms, and ecosystems dependent upon these aquatic resources through the introduction of invasive species. Only a small portion of these biological complexes, however, could be impacted by the construction and operation of the Facility due to its siting design. Exhibit 14 directly addresses potential impacts to wetlands and waterbodies within the Facility Site. Additionally, Exhibit 11 (Terrestrial Ecology), Exhibit 12 (NYS Threatened and Endangered Species), and the Wildlife Site Characterization Report (Appendix 12-1) within this Application discuss NYS threatened and endangered species that may be impacted by the Facility.

TRC, on behalf of the Applicant, consulted local, state, and federal desktop databases and environmental agencies to determine common species documented to occur in the region of the Facility Site. A list of animal species likely to occur on the Facility Site within each vegetative community is included in Exhibit 11 in Table 11-3. Table 11-3 was completed based on publicly available data sources and observations made during field surveys and site visits. None of the invasive species within the Common Aquatic Invasive Species of New York list (NYSDEC, n.d.) were documented during onsite survey work conducted by environmental field staff. Therefore, adverse impacts to aquatic biology resulting from the spread of invasive species caused by Facility construction are not anticipated.

### ***(2) Avoidance, Minimization, or Mitigation Measures for Biological Aquatic Resources***

The Facility has been sited to avoid impacts to aquatic resources and will only require two Class D stream crossings. The Applicant has designed the crossings to occur at the narrowest point where feasible. As stated above, there will be no impacts to the five State-protected streams located in the Facility Site or in the immediate vicinity. There is one perennial waterbody onsite designated as navigable by NYS (Allen Brook, S-JJB-2). This waterbody is also classified as a protected waterbody under ECL 15-0501. There will be no direct impacts to Allen Brook. This waterbody is located within a mapped Federal Emergency Management Agency (FEMA) Flood Zone. The closest impacts to Allen Creek within the top of banks (S-JJB-2; Class C(T)) are 0.2 acres of selective tree clearing (selective tree clearing is clearing without grading or grubbing of

stumps) up to the bank edge to reduce shading on the arrays. Two other State-protected non-navigable streams (S-JJB-12 and S-WCR-2; Both Class C(T)) have selective tree clearing impacts totaling 0.16 acres within the 50-foot banks. The Facility Site has designed and minimized all tree clearing within streams and to the maximum extent practicable within 50 feet of NYS and State-jurisdictional streams. As described herein, the Applicant will adhere to the SWPPP, SPC Plan, and BMPs for the Facility, as well as the USCs under Section 94-c. Based on the careful siting of Facility components and avoidance and minimization of impacts, no impacts on aquatic biological resources are anticipated.

In summation, protection of surface waters during Facility construction through avoidance and implementation of the SWPPP, SPC, and BMPs, will in turn protect the biological aquatic resources that depend on these surface waters. Any surface water impacts anticipated to occur as a direct result of construction of the Facility shall be minimal.

### **13(f) Water Quality Certification**

#### ***(1) Water Quality Certification Request***

In accordance with Section 401 of the Clean Water Act (CWA), if construction or operation of a proposed major renewable energy facility would result in any discharge into a navigable Water of the United States (WOTUS) and require a federal license or permit, the Applicant shall request and, prior to commencing construction, obtain a Water Quality Certification (WQC) indicating that the proposed activity will be in compliance with water quality standards, as set forth in 6 NYCRR Section 608.9. The Applicant anticipates applying for a WQC concurrently with the Section 404 permit for the Facility, on or around Q2 of 2022. Based on the impacts to WOTUS associated with the Facility, the Applicant anticipates impacts will qualify for coverage under the United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) program. Applications for coverage under the NWP as well as the WQC request are expected to be submitted by in the beginning of 2022. Specific information regarding water quality standards and the resources onsite can be found in the Wetland and Stream Delineation Report (Appendix 14-1) of Exhibit 14. The Applicant expects that the construction and operation of this Facility shall comply with the New York State Water Quality Standards, as described in 6 NYCRR Section 608.9, pursuant to compliance with Section 401 of the CWA.



**(2) Related Federal Permit Applications**

As stated above, the Applicant anticipates the need for a coverage under Section 404 and Section 401 of the CWA for impacts to WOTUS related to the Facility. Due to the limited impacts to federally regulated WOTUS, the Applicant will be applying for coverage under the USACE NWP Program. Additional information regarding these anticipated submittals can be found in Exhibit 25 (Other Permits and Approvals). The Applicant initiated the Preliminary Jurisdictional Determination (PJD) process with the USACE in May 2021 and a copy of this correspondence is provided in Appendix 25-1 of Exhibit 25.

The Applicant plans to request issuance of the Section 401 WQC by the end of 2021 and, in accordance with 900-1.4., ORES will issue the WQC.

**(3) Compliance with 6 NYCRR Section 608.9**

As stated above, the Applicant is seeking a WQC pursuant to 6 NYCRR Section 608.9 concurrently with this filing. The Applicant does not anticipate the Facility will impact water quality.

**(4) Pertinent Contact Information Related to Water Quality Certification**

The USACE federal wetlands process for the Facility is described above in Section 13(f)(2). The Application will be filed with the Buffalo District of the USACE located at 1776 Niagara Street, Buffalo, New York, 14207.

**(5) Plan and Timetable for Water Quality Certification Request**

Please see Section 13(f)(1) above. The Applicant expects the Facility to be in compliance with state water quality standards.

**Conclusion**

Within the Wetland Survey Area, 25 streams were delineated. There are no impacts to State-jurisdictional waterbodies as part of the construction and operation of Facility, and only minor impacts to USACE regulated WOTUS (approximately 2,768.41 linear feet). Construction activities have the potential to impact surface waters, but these impacts will be minimized to the maximum extent practicable using existing crossings and by crossing at narrow locations where feasible. Further impact avoidance and minimization will be outlined in the SWPPP, SPC Plan, and NWP application package. A total of 59 well survey questionnaire responses were received,

27 of which indicated the presence of wells on their property, there were also 3 wells identified by parcel location, for a total of 30 active wells. There are no anticipated groundwater impacts associated with these wells. The Facility has been designed to comply with 19 NYCRR Section 900-2.14 and the USCs and impacts related to water resources and aquatic ecology have been avoided and minimized to the maximum extent practicable.

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