Wetland Restoration and Mitigation Plan

South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Matter No. 21-00750

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1.0 INTRODUCTION

On August 10, 2021, ConnectGen Chautauqua County LLC (the Applicant) filed a siting permit application (94-c Application) for the South Ripley Solar Project, a Major Renewable Energy Facility, with the Office of Renewable Energy Siting (ORES) pursuant to Section 94-c of the New York State Executive Law. This Wetland Restoration and Mitigation Plan (Plan) was developed to address comments received from ORES on October 12, 2021 as part of the Notice of Incomplete Application, and supplements Exhibit 14 (Wetlands) of the 94-c Application to describe how the Applicant plans to offset unavoidable impacts to existing State-regulated wetlands and adjacent areas associated with the proposed South Ripley Solar Project (Project).

This Plan has been prepared in accordance with New York State Freshwater Wetlands Regulation Guidelines on Compensatory Mitigation and the Office of Renewable Energy Siting Regulations Chapter XVIII, Title 19 of NYCRR Part 900 as specified in Sections 900-2.15(g) and Section 10-2(f)(2). The level of detail in this Plan in intended for conceptual purposes only as final mitigation site(s) have not yet been determined. The information presented in this Plan will be developed in more detail and submitted as the Final Wetland Restoration and Mitigation Plan prior to the start of construction in accordance with the Section 900-10.2(f) of the 94-c regulations.

1.1 Overview and Project Purpose

ConnectGen Chautauqua County LLC (the Applicant) is constructing a 270-megawatt (MW) solar energy generation facility and associated necessary infrastructure (the Facility) in the Town of Ripley in Chautauqua County, New York. The proposed Facility is sited in a collection of privately owned parcels encompassing 3,382 acres of land that is primarily rural in nature (the Facility Site). Facility components will consist of solar photovoltaic (PV) arrays, gravel access roads, pad-mounted transformers, inverters, overhead and buried electrical collection lines, an operations and maintenance (O&M) building, a collection substation, a point of interconnect (POI) switchyard, a 20 MW battery energy storage system, and temporary laydown yards. The proposed limits of disturbance, including all areas of clearing, grading, and temporary or permanent ground disturbance (i.e., the Limits of Construction Activity or the "LOCA") will encompass approximately 1,300 acres (approximately 38% of the Facility Site). This boundary includes the footprint of all major Facility components, defined work corridors, security fencing, and proposed planting modules, and incorporates areas utilized by construction vehicles and/or personnel to construct the Facility.

The proposed Facility will help advance state policies that encourage the development of renewable energy projects, seek solutions to fight climate change, and emphasize the need to transition New York's energy markets away from a reliance on fossil fuels for electricity generation.

1.2 Site Description

The Facility Site occurs primarily within the Chautauqua-Conneaut Hydrologic Unit (04120101) which totals approximately 554,323 acres and spans New York, Pennsylvania, and Ohio along Lake Erie. Approximately 193,388 acres of the watershed occurs within New York State, primarily within Chautauqua County (NRCS, 2010). The Facility is located at the southwestern portion of the watershed in New York State, where the

elevation is highest relative to the rest of the watershed. Total annual precipitation (from 2000 to 2020) averages 33.91 inches at the nearby Dunkirk-Chautauqua County Airport (NOAA, 2020), located approximately 30 miles from the Facility Site.

Wetlands, streams, and other surface waters are common and dispersed throughout the Facility Site, many of which drain north to Twentymile Creek, which is the nearest perennial water conveyance in the vicinity of the Project. Twentymile Creek is documented by the New York Natural Heritage Program as a high-quality confined river community with good species diversity that is situated within a moderate-sized landscape of working forests (NYNHP, 2020). Delineated wetlands commonly occur along riverine systems, as large wetland complexes, and as smaller depressional areas within agricultural fields. The results of the wetland and stream delineation are described in the Wetland and Stream Delineation Report (Appendix 13-C of the 94-c Application). ORES provided Final Wetland and Waterbody Jurisdictional Determinations on April 19, 2021, which identified state-jurisdiction over 24 of the delineated wetlands, pursuant to 19 NYCRR 900-2.15(g).

2.0 ACTIVITIES REQUIRING MITIGATION

The Applicant has avoided and minimized wetland impacts to the greatest extent practicable, as described in Exhibit14 of the 94-c Siting Permit Application and Supplement. These efforts have included locating PV arrays, the Facility substation and energy storage facility in upland areas, outside of wetlands and state-regulated 100-foot adjacent areas. In addition, access roads and collection lines were routed along existing crossings and previously disturbed corridors, where feasible. Narrow crossing locations were utilized when possible to minimize wetland disturbance. Additional avoidance and minimization efforts are documented in the Iterative Facility Layout Design Matrix included as Appendix 11-E of the 94-c Application. However, certain Facility-related activities result in unavoidable impacts to State-regulated wetlands and 100-foot adjacent areas. These activities primarily occur along critical linear component corridors (i.e., access roads and collection lines) that are essential to the construction and operation of a viable solar energy facility at this site.

Construction of the Facility will also result in temporary and permanent impacts to federally regulated waters of the United States (WOTUS). The Applicant has initiated consultation with the United States Army Corps of Engineers (USACE) regarding compensatory mitigation of regulated activities in federal WOTUS in accordance with the Clean Water Act Section 404 permitting process.

2.1 Unavoidable Impacts to State Regulated Wetlands and Adjacent Areas

Based on the current Facility design, construction of the Facility Site will result in a total of approximately 337,510 square feet (7.7 acres) of impacts to state-regulated wetlands and approximately 1,448,759 square feet (33.3 acres) to state-regulated 100-foot adjacent areas. Several proposed activities will require compensatory mitigation in accordance with the 94-c regulations as detailed in Section 2.2 below.

2.2 Mitigation Requirements

The extent and type of compensatory mitigation required is determined by ORES through consideration of the impacted wetland's State classification, the type and location of the activity causing impacts, and existing surrounding land uses, as laid out in Table 1 of Section 900-2.15(g) in the 94-c regulations. The prescribed mitigation ratio and type are defined by the following categories per Section 900-2.15(g)(2)(i):

(a) X: Not an allowable feature or activity.
(b) A: Allowed, no mitigation or enhancement required;
(c) A(M1): Allowed, mitigation required (3:1 mitigation ratio by area of impact - creation only, broken down by cover type)
(d) A(M2): Allowed, mitigation required (2:1 mitigation ratio by area of impact - creation, restoration, and enhancement
(e) A(M3): Allowed, mitigation required (1:1 mitigation ratio by area of impact – creation, restoration and enhancement);
(f) A(E): Allowed, enhancement and/or mitigation required (e.g., planting of adjacent area, mitigating hydrological changes);

Per Section 900-2.15(g)(2)(iv), ORES defines creation, enhancement, and restoration by the following:

(a) Creation, in cases of activities requiring fill, means making a new wetland or expanding an existing wetland in lands that were not previously occupied by a wetland. Creation, in cases of activities not requiring fill, can include planting trees and/or shrubs in an existing wetland currently devoid of trees and shrubs.
(b) Restoration means reclaiming a degraded wetland or adjacent area to bring back one or more functions that have been partially or completely lost.
(c) Enhancement means altering an existing functional wetland or adjacent area to increase selected functions and benefits that offsets losses of these functions or benefits in another wetland or adjacent area or parts of the same wetland or adjacent area.

A summary of activities proposed within state-regulated wetlands and 100-foot adjacent areas, and the prescribed mitigation ratios as set forth in Section 900-2.15(g) of the 94-c regulations, is provided in Table 1 below. A more detailed breakdown of proposed impacts within each individual wetland and adjacent area is included in Exhibit 14 and depicted in Appendix 14-C of the 94-c Application.

Table 1. Summary of Impacts and Mitigation for State-Regulated Wetlands and Adjacent Areas

Wetland Class[1]	94-C Activity	FWW					RAA			
		94-C Mitigation Requirement	Impact		Mitigation		94-C Mitigation Requirement	Impact		Mitigation	
			Sq ft	Acres	Sq ft	Acres		Sq ft	Acres	Sq ft	Acres
Class II Wetlands	Access Roads	A(M2)	4,669.7	0.11	9,339.4	0.21	A(E)*	35,945.2	0.83	27,488.9	0.63
	Clearing of Forests	A(M2)	200,060.4	4.59	400,120.8	9.19	A(E)*	553,801.1	12.71	319,514.2	7.34
	Other activities and structures integral to the project involving placement of fill	A(M2)	-	-	-	-	A(E)*	4,253.0	0.10	1,253.6	0.03
	Security Fence	A(M3)	-	-	-	-	A	241.7	0.01	0.0	0.0
	Clearing and Manipulation of Undisturbed Herbaceous Vegetation	A(M3)	432.8	0.01	432.8	0.01	A	-	-	-	-
	Other activities integral to the project involving grading	A(M3)	-	-	-	-	A	16,150.1	0.37	0.0	0.0
	Grading and Manipulation of Disturbed Areas	A(M3)	-	-	-	-	A	11,045.3	0.25	0.0	0.0
	Work Area	A(M3)	794.0	0.02	794.0	0.02	A	39,456.9	0.91	0.0	0.0
Unmapped > 12.4 acres	Access Roads	A(M3)	24,018.4	0.55	24,018.4	0.55	A	95,529.0	2.19	0.0	0.0
	Clearing of Forests	A(M3)	104,447.5	2.40	104,447.5	2.40	A	385,537.4	8.85	0.0	0.0
	Security Fence	A	-	-	-	-	A	389.4	0.01	0.0	0.0
	Clearing and Manipulation of Undisturbed Herbaceous Vegetation	A(M3)	-	-	-	-	A	296.8	0.01	0.0	0.0
	Other activities integral to the project involving grading	A(M3)	-	-	-	-	A	20,930.2	0.48	0.0	0.0
	Grading and Manipulation of Disturbed Areas	A(E)	359.6	0.01	359.6	0.01	A	143,386.3	3.29	0.0	0.0
	Selective Cutting of Trees and Shrubs	A	128.3	0.0	0.0	0.0	A	-	-	-	-
	Work Area	A(E)	2,599.3	0.06	2,599.3	0.06	A	142,427.7	3.27	0.0	0.0
TOTALS:			**337,510.0**	**7.7**	**542,111.8**	**12.4**		**1,448,759.0**	**33.3**	**348,256.8**	**8.0**

[1] Per the ORES Final Wetland Jurisdictional Determination letter dated April 19, 2021.

*No enhancements or mitigation required with 75 foot or more setback.

3.0 MITIGATION

As detailed in Table 1, the proposed impacts to State-regulated wetlands and adjacent areas will require a total of 20.4 acres of compensation, including approximately 12.4 acres of wetland mitigation and 8 acres of regulated adjacent area mitigation.

Currently, there are no wetland mitigation banks that service the Chautauqua-Conneaut watershed (04120101). Therefore, to offset unavoidable impacts to State-regulated wetlands and adjacent areas the Applicant will implement an on-site permittee-responsible mitigation project.

3.1 Proposed Mitigation Activities

The goal of the Wetland Mitigation Plan is to replace the loss of wetlands and 100-foot adjacent areas and their corresponding functions and values within the Facility Site. The preferred method for compensatory mitigation is mitigation "in-kind" or replacing the loss of a wetland with a wetland of the same community type (e.g., PFO, PEM, PSS). Therefore, in-kind mitigation would result in no net loss of wetland functions and values. Furthermore, the implemented compensation is dependent on the activity types such that wetland alteration is mitigated for appropriately with similar activities. For example, forested wetland clearing will be mitigated through the plantings of trees and shrubs while fill activities will be mitigated through the establishment of a new wetland or expansion of an existing wetland. State-regulated wetland and 100-foot adjacent area impacts will be mitigated through a combination of creation, enhancement, and restoration. The proposed breakdown of mitigation categories is summarized below:

Creation

The construction of access roads will result in the placement of approximately 28,688 square feet (0.66 acre) of permanent fill in State-regulated wetlands and will require approximately 33,358 square feet (0.77 acre) of mitigation. The Applicant proposes to mitigate access road impacts through creation in the form of expansion of an existing wetland (i.e., excavation) or creation of a new wetland, where site conditions allow.

The installation of collection lines will result in approximately 304,508 square feet (6.99 acres) of forest clearing within State-regulated wetlands. The Applicant proposes to mitigate forest clearing impacts through approximately 504,568 square feet (11.6 acres) of creation in the form of planting trees and shrubs in existing emergent or scrub-shrub wetlands.

Restoration

Direct wetland impacts will also occur as a result of site preparation work, including the clearing and manipulation of undisturbed herbaceous vegetation and the grading and manipulation of disturbed areas. This will result in a total of 792 square feet (0.02 acre) of impacts that are anticipated to be minor and temporary in nature. Therefore, impacts associated with these activities will be restored in-place upon completion of construction. In addition, work areas adjacent to proposed facility components or site preparation work will total 3,393 square feet (0.08 acre) within wetlands to account for additional space for ingress and egress of construction vehicles and equipment. Although no direct impacts are proposed within work areas and the Applicant will install construction matting to minimize the potential for soil disturbance,

any inadvertent wetland impacts within the work area would be considered minor and temporary in nature and will be restored in-place upon completion of construction. The disturbed areas will be returned to pre-construction contours and re-seeded with native wetland species mix in accordance with Section 900-6.4(q) of the 94-c regulations as appropriate.

Enhancement

A total of 348,257 square feet (8 acres) of State-regulated Class II wetland 100-foot adjacent areas will receive enhancement to mitigate for direct impacts relating to forest clearing, installation of access roads, and other fill activities.

Proposed mitigation activities and construction specifications will be outlined in more detail in the Final Wetland Restoration and Mitigation Plan prior to the start of construction.

3.2 Potential Mitigation Locations and Existing Conditions

To identify potential mitigation sites, a desktop review of several parcels with ConnectGen land control and/or potentially willing landowners within the Facility Site was conducted. These parcels are located within the Chautauqua-Conneaut Watershed (HUC 04120101) and were also within the study area for wetland and stream delineations, as shown in Figure 1.

Desktop analysis of existing site characteristics included a review of the state-jurisdictional[1] delineated wetland and stream boundaries. In addition, the Applicant reviewed publicly available information including remote-sensing data, satellite imagery, 2-foot topographic contours, NRCS soils, ecological communities, and existing land use within the Facility Site to provide baseline existing conditions of each parcel. Table 2 presents a summary of the parcels containing State-regulated wetlands and Figure 2 shows the existing site conditions within each parcel. Site photographs at each parcel are provided in Attachment 1, and photograph locations and direction are identified in Figure 2.

3.3 Mitigation Site Value

The proposed mitigation project will be designed to replace or increase the impacted wetland acreage and provide a functional lift over existing conditions at the mitigation sites. Restoration activities typically reestablish one or more wetland function that were partially or completely lost due to the proposed impacts. Creation offers the benefit of maintaining a no-net-loss of wetland acreage. Further, the functions and values of the replacement wetland are assumed to be generally the same as the impacted wetland. Enhancement activities involve the alteration of an existing wetland or adjacent area to increase or enhance select functions and values in a manner that offsets the proposed losses (NYSDEC, 1993).

Table 2 below summarizes the primary functions and values and site conditions found within the Potential Mitigation Parcels. For additional information, a detailed Wetland Functions and Values Assessment is

[1] Per the ORES Final Wetland and Waterbody Jurisdictional Determination letters dated April 19, 2021.

included as Appendix 14-B of the 94-c Application. This evaluation contains a table summarizing the vegetative, hydrologic, and landscape conditions, and primary functions and values of each wetland as well as a completed Wetland Function-Value Evaluation Form for each wetland. In addition, completed wetland data forms are included within the Wetland and Stream Delineation Report (Appendix 13-C of the 94-C Application).

Table 2. Facility Site Parcels Evaluated for Potential Mitigation Sites

Potential Mitigation Parcel	Delineated Wetlands				Vegetation Conditions		Hydrologic Conditions		Soil Conditions [4]			Surrounding Land Cover		
	Delineated Wetland ID	Total Wetland Size [1]	Acres within Parcel	Wetland Functions and Values	Wetland Cover Types [2]	Invasive Species Present	Streams Present [3]	Seasonal Pools/ Standing Water	Hydric Soils	Soil Texture	Hydrologic Soil Group [5]	Adjacent to Upland Forest	Adjacent to Agriculture/ Developed Land	Primary Ecological Cover Types
290.00-1-15	FA Wetland 011	Medium	3.25	Groundwater Recharge/ Discharge	PFO	No	-	Yes	No	Channery silt loams	D	Yes	No	Beech-Maple Mesic Forest, Successional Old Field, Developed/ Disturbed
	FA Wetland 012	Large	14.93	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration	PFO	Yes	-	Yes	Yes	Silt loams	C/D	Yes	Yes	
	FA Wetland 013	Large	32.40	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration	PEM, PFO	Yes	R4	Yes	Yes	Channery silt loam and mucky silt loam	D, C/D	Yes	Yes	
	FA Wetland 014	Small	0.13	Groundwater Recharge/ Discharge	PFO	Yes	-	Yes	No	Silt loams	C/D	Yes	No	
	Wetland 35	Medium	1.70	Groundwater Recharge/ Discharge, Floodflow Alteration	PFO	Yes	-	Yes	No	Channery silt loams	D	Yes	No	
291.00-2-17	FA Wetland 029	Large	13.59	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation	PSS	Yes	-	Yes	Yes	Silt loams	D, C/D	Yes	Yes	Beech-Maple Mesic Forest
	Wetland 98	Medium	6.63	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation	PEM	Yes	-	Yes	Yes	Silt loams	D	Yes	Yes	
	Wetland 46	Large	3.58	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/Retention/Transformation, Floodflow Alteration, Sediment/Shoreline Stabilization, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality	PFO	Yes	-	Yes	Yes	Silt loam and Mucky Silt Loams	D, C/D	Yes	Yes	

Potential Mitigation Parcel	Delineated Wetlands				Vegetation Conditions		Hydrologic Conditions		Soil Conditions [4]			Surrounding Land Cover		
	Delineated Wetland ID	Total Wetland Size [1]	Acres within Parcel	Wetland Functions and Values	Wetland Cover Types [2]	Invasive Species Present	Streams Present [3]	Seasonal Pools/ Standing Water	Hydric Soils	Soil Texture	Hydrologic Soil Group [5]	Adjacent to Upland Forest	Adjacent to Agriculture/ Developed Land	Primary Ecological Cover Types
308.00-2-6	Wetland 46	Large	19.80	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Sediment/ Shoreline Stabilization, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality	PFO	Yes	-	Yes	Yes	Silt loam and Mucky Silt Loams	D, C/D	Yes	Yes	Beech-Maple Mesic Forest, Hemlock-Northern Hardwood Forest
308.00-2-7	Wetland 46	Large	5.70	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Sediment/ Shoreline Stabilization, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality	PFO	Yes	R4	Yes	Yes	Silt loams	D, C/D	Yes	Yes	Beech-Maple Mesic Forest, Hemlock-Northern Hardwood Forest
	FA Wetland 028	Small	0.32	Groundwater Recharge/Discharge	PSS	Yes	-	Yes	Yes	Silt loams	D, C/D	Yes	Yes	
	FA Wetland 030	Small	0.41	Groundwater Recharge/Discharge	PFO	Yes	-	Yes	No	Silt loams	D	Yes	No	
308.00-2-8	Wetland 46	Large	5.34	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Sediment/ Shoreline Stabilization, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality	PFO	Yes	R4	Yes	Yes	Silt loam and Mucky Silt Loams	D, C/D	Yes	Yes	Beech-Maple Mesic Forest, Hemlock-Northern Hardwood Forest, Shallow Emergent Marsh
	FA Wetland 026	Large	2.86	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Fish and Shellfish Habitat, Wildlife Habitat	PSS, PEM	No	-	Yes	Yes	Mucky silt loam and silt loams	D, C/D	Yes	No	
	FA Wetland 027	Small	0.10	Groundwater Recharge/Discharge	PEM	Yes	-	Yes	Yes	Silt loams	D, C/D	Yes	Yes	
	FA Wetland 028	Small	0.13	Groundwater Recharge/Discharge	PSS	Yes	-	Yes	Yes	Silt loams	D, C/D	Yes	Yes	
	FA Wetland 030	Small	0.04	Groundwater Recharge/Discharge	PFO	Yes	-	Yes	No	Silt loams	D	Yes	No	

Potential Mitigation Parcel	Delineated Wetlands				Vegetation Conditions		Hydrologic Conditions		Soil Conditions [4]			Surrounding Land Cover		
	Delineated Wetland ID	Total Wetland Size [1]	Acres within Parcel	Wetland Functions and Values	Wetland Cover Types [2]	Invasive Species Present	Streams Present [3]	Seasonal Pools/ Standing Water	Hydric Soils	Soil Texture	Hydrologic Soil Group [5]	Adjacent to Upland Forest	Adjacent to Agriculture/ Developed Land	Primary Ecological Cover Types
291.00-2-13	Wetland 51	Large	4.55	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Sediment/ Shoreline Stabilization	PFO, PEM	Yes	R4	Yes	No	Silt loams	D, C/D	Yes	Yes	Successional Old Field, Field Crops, Beech-Maple Mesic Forest, Hemlock-Northern Hardwood Forest
	Wetland 46	Large	4.45	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Sediment/ Shoreline Stabilization, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality	PFO	Yes	R3, R4, R2	Yes	No	Silt loams	D	Yes	Yes	
308.00-2-10	Wetland 46	Large	48.69	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Sediment/ Shoreline Stabilization, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality	PEM, POW, PSS, PFO	Yes	R4	Yes	Yes	Silt loam and Mucky Silt Loams	D, C/D	Yes	Yes	Hemlock-Northern Hardwood Forest, Beech-Maple Mesic Forest, Successional Shrubland, Shallow Emergent Marsh, Successional Old Field, Field Crops
	Wetland 49	Small	0.10	Groundwater Recharge/ Discharge	PEM	No	-	No	No	Silt loams	D	No	Yes	
292.00-1-18	Wetland 38	Large	11.17	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention	PEM	No	-	No	Yes	Silt loams	C/D, D	No	Yes	Pastureland, Pine Plantation, Developed/ Disturbed, Beech-Maple Mesic Forest
	Wetland 39 *	Small	0.21	Groundwater Recharge/ Discharge, Sediment/ Shoreline Stabilization	PFO	Yes	R3, R4, R6	No	No	Silt loams	B	Yes	No	
	Wetland 06 *	Medium	1.62	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Floodflow Alteration, Sediment/ Shoreline Stabilization	PEM, PSS	Yes	R2, R6	Yes	Yes	Silt loams, Fluvaquents-Udifluvents complex, frequently flooded	A/D, C/D	Yes	Yes	

Potential Mitigation Parcel	Delineated Wetlands				Vegetation Conditions		Hydrologic Conditions		Soil Conditions [4]			Surrounding Land Cover		
	Delineated Wetland ID	Total Wetland Size [1]	Acres within Parcel	Wetland Functions and Values	Wetland Cover Types [2]	Invasive Species Present	Streams Present [3]	Seasonal Pools/ Standing Water	Hydric Soils	Soil Texture	Hydrologic Soil Group [5]	Adjacent to Upland Forest	Adjacent to Agriculture/ Developed Land	Primary Ecological Cover Types
292.00-1-18	Wetland 07 *	Small	0.01	Groundwater Recharge/ Discharge, Sediment/ Shoreline Stabilization	PFO	No	R4	No	Yes	Fluvaquents-Udifluvents complex, frequently flooded	A/D	Yes	No	Pastureland, Pine Plantation, Developed/ Disturbed, Beech-Maple Mesic Forest
	Wetland 27 *	Small	0.49	Groundwater Recharge/ Discharge, Floodflow Alteration, Sediment/ Shoreline Stabilization	PEM	Yes	R4, R6	Yes	Yes	Fluvaquents-Udifluvents complex, frequently flooded	A/D, A	Yes	Yes	
	Wetland 36 *	Small	0.64	Groundwater Recharge/Discharge	PEM, POW, PSS	Yes	-	Yes	Yes	Silt loams, Channery loams, Fluvaquents-Udifluvents complex, frequently flooded	A/D	No	Yes	
	Wetland 37 *	Medium	0.02	Groundwater Recharge/ Discharge, Sediment/ Shoreline Stabilization	PFO	No	R3, R4	Yes	Yes	Fluvaquents-Udifluvents complex, frequently flooded	A/D	Yes	No	
	Wetland 45 *	Small	0.25	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	PFO	Yes	R6	Yes	Yes	Silt loams, Fluvaquents-Udifluvents complex, frequently flooded	A/D	Yes	No	
293.00-1-11.1 **	Wetland 80 *	Small	0.16	Groundwater Recharge/Discharge	PEM	Yes	-	Yes	Yes	Silt loams	C/D	No	Yes	Field Crops, Successional Shrubland, Open Water, Hemlock Northern
	Wetland 81 *	Medium	2.33	Groundwater Recharge/ Discharge, Sediment/ Shoreline Stabilization, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation	PEM, PSS	Yes	R4	Yes	Yes	Silt loams	D, C/D	No	Yes	

Potential Mitigation Parcel	Delineated Wetlands				Vegetation Conditions		Hydrologic Conditions		Soil Conditions [4]			Surrounding Land Cover		
	Delineated Wetland ID	Total Wetland Size [1]	Acres within Parcel	Wetland Functions and Values	Wetland Cover Types [2]	Invasive Species Present	Streams Present [3]	Seasonal Pools/ Standing Water	Hydric Soils	Soil Texture	Hydrologic Soil Group [5]	Adjacent to Upland Forest	Adjacent to Agriculture/ Developed Land	Primary Ecological Cover Types
	Wetland 82 *	Medium	1.96	Groundwater Recharge/ Discharge, Sediment/ Shoreline Stabilization, Sediment/ Toxicant/ Pathogen Retention	POW, PEM	Yes	-	Yes	No	Silt loams	D	Yes	Yes	Hardwood Forest
	Wetland 83	Large	17.23	Groundwater Recharge/ Discharge, Sediment/ Toxicant /Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Wildlife Habitat, Fish and Shellfish Habitat	PEM, PSS	Yes	-	Yes	Yes	Silt loams	D	Yes	Yes	
293.00-1-11.2 **	Wetland 81 *	Medium	0.14	Groundwater Recharge/ Discharge, Sediment/ Shoreline Stabilization, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation	PEM	Yes	R4	Yes	Yes	Silt loams	D, C/D	No	Yes	Field Crops, Successional Shrubland, Hemlock Northern Hardwood Forest, Shallow Emergent Marsh
	Wetland 83	Large	0.0	Groundwater Recharge/ Discharge, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Floodflow Alteration, Wildlife Habitat, Fish and Shellfish Habitat	PSS	Yes	-	Yes	Yes	Silt loam and Mucky Silt Loams	C/D, D	Yes	Yes	

[1] Small (0-1 acre), Medium (1-5 acres), Large (5+ acres)

[2] Wetland community types are based upon the Cowardin et al. (1979) classification system: POW = open water, PEM = palustrine emergent wetland, PFO = palustrine forested wetland, and PSS = palustrine scrub-shrub.

[3] Based on delineation of streams classified as R2 = lower perennial stream, R3 = upper perennial stream, R4 = intermittent stream.

[4.] Soil conditions are based on NRCS Web Soil Survey data within the Facility Site (Soil Survey Staff, NRCS, & USDA, 2020).NRCS soil data within the Facility Site.

[5] Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). Definitions of each group are available at the following link: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/.

* These wetlands are not regulated under State jurisdiction per the ORES Final Wetland Jurisdictional Determination Letter dated 4/19/2021.

** Wetland delineations were not completed within the entirety of these parcels due to the limited presence of Facility components to the northeast. Based on review of aerial imagery and topography, additional wetlands are present. Further delineation will be required if parcels are selected for potential mitigation sites.

3.4 Mitigation Site Selection

The final locations of all Project-specific mitigation sites will be identified in the Final Wetland Restoration and Mitigation Plan to be developed prior to the start of construction and submitted as part of the pre-Construction filing. The Applicant will implement a combination of desktop and field analysis to continue evaluating potential mitigation sites, including but not limited to the parcels identified in Table 2. The evaluation and site selection will be based on the following criteria:

- Includes state-regulated wetlands and 100-foot adjacent area (particularly PEM or PSS wetlands which may provide more availability for wetland mitigation opportunities than PFO wetlands);
- Is adjoining or directly adjacent to the same state-regulated wetlands that are being impacted;
- Is currently subject to anthropogenic disturbance (i.e., degraded state in need of restoration/enhancement);
- Wetland or 100-foot adjacent area can be enhanced without disturbing other existing sensitive resources (e.g., forest vegetation or agricultural practices);
- The site has suitable access for mitigation activities and subsequent monitoring;
- The landowner is agreeable to allowing mitigation activities and future conservation easements on their property;
- Feasibility of construction;
- Overall costs;
- Technical requirements and logistics;
- Ecological sustainability; and
- Practicability for long-term monitoring and maintenance.

While on-site mitigation is preferred, in the unlikely event that the Facility Site parcels are determined to be undesirable or not suitable for wetland mitigation sites, off-site mitigation may be explored within the same watershed.

The selected mitigation sites will be identified and further characterized in the Final Wetland Restoration and Mitigation Plan which will contain the following information:

- A description of the selected wetland mitigation site or sites, including information on soils, vegetation, topography, and proximity to NYSDEC-regulated wetlands;
- Details on the proposed mitigation action, including the area of wetland creation, enhancement, or restoration, as well as vegetative cover types that will be established;
- A preliminary site plan showing existing and proposed contours and vegetative plantings; and
- A wetland mitigation monitoring program to ensure the success of the mitigation action and establish corrective actions if required.

In accordance with Section 900-10.2(f), the Final Wetland Restoration and Mitigation Plan will be submitted to ORES for review and approval prior to the start of construction.

4.0 MITIGATION SITE PROTECTION AND LONG-TERM MANAGEMENT

A Declaration of Covenants, Restrictions, and Easements will be established for the selected wetland mitigation site(s) to maintain the integrity of the site and prevent future encroachment or disturbance, and the boundaries of the mitigation site(s) will be posted with appropriate signage. The completed Declaration of Covenants, Restrictions, and Easements records will be included as an attachment to the Final Wetland Restoration and Mitigation Plan and will be executed upon approval of the final Plan.

4.1 Performance Standards and Monitoring

Performance standards can be defined as observable or measurable physical, chemical, and/or biological attributes that are used to determine if a compensatory mitigation project is meeting its objectives. Based on the final mitigation details, the Applicant will develop performance standards to evaluate effectiveness in achieving the objectives of the proposed wetland and 100-foot adjacent area mitigation activities. These performance standards will be outlined in the Final Wetland Restoration and Mitigation Plan.

A post-construction monitoring protocol is also proposed as part of the Final Plan in order to evaluate mitigation effectiveness at defined intervals. Monitoring activities will be initiated after the first full year of growth following construction of the mitigation site(s) and will continue annually for up to five growing seasons. Monitoring activities will include:

- Preparation of an initial report that will be submitted to ORES and NYSDEC following the construction of the mitigation site(s);
- Monitoring of vegetation and hydrologic conditions of the mitigation site(s) at appropriate annual intervals;
- Documenting the percent areal cover of woody vegetation within the WMA; and
- Summarizing the results of each year's monitoring efforts in an annual report that will be submitted to ORES and NYSDEC (within 5 years following the start of mitigation activities).

The mitigation site(s) shall be monitored for a minimum of 5 years, with the success criteria being the achievement of at least 80% survivorship of native woody species, or 85% absolute areal coverage by native herbaceous species with the appropriate wetland indicator status being established over all portions of the replanted area. This metric may be reconsidered if the invasive species baseline survey indicates a smaller percentage of survivorship or cover of appropriate native species exists prior to construction. If, after five years, monitoring demonstrates that the wetland mitigation is still not meeting the established performance standards, then the Certificate Holder must submit a Wetland Mitigation Remedial Plan (WMRP). The WMRP, if required, would include the following:

- Evaluation for why performance standards are not being achieved;
- Corrective actions to ensure a successful wetland mitigation site; and
- Schedule for conducting the remedial work.

Once approved, the WMRP will be implemented according to the approved schedule.

5.0 REFERENCES

National Oceanic and Atmospheric Administration (NOAA). 2020. *Temperature and Precipitation Summary for Dunkirk Chautauqua County Airport, Chautauqua, NY, 2000-2020*. NOAA Regional Climate Center. Available at: http://agacis.rcc-acis.org/ (Accessed September 2020).

Natural Resources Conservation Service (NRCS). 2010. New York Rapid Watershed Assessment Profile: Chautauqua-Conneaut Watershed. Available at: https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=stelprdb1246862&ext=pdf.

NYSDEC. 1993. Freshwater Wetlands Regulation Guidelines on Compensatory Mitigation. Available at: https://www.dec.ny.gov/docs/wildlife_pdf/wetmitgdln.pdf.

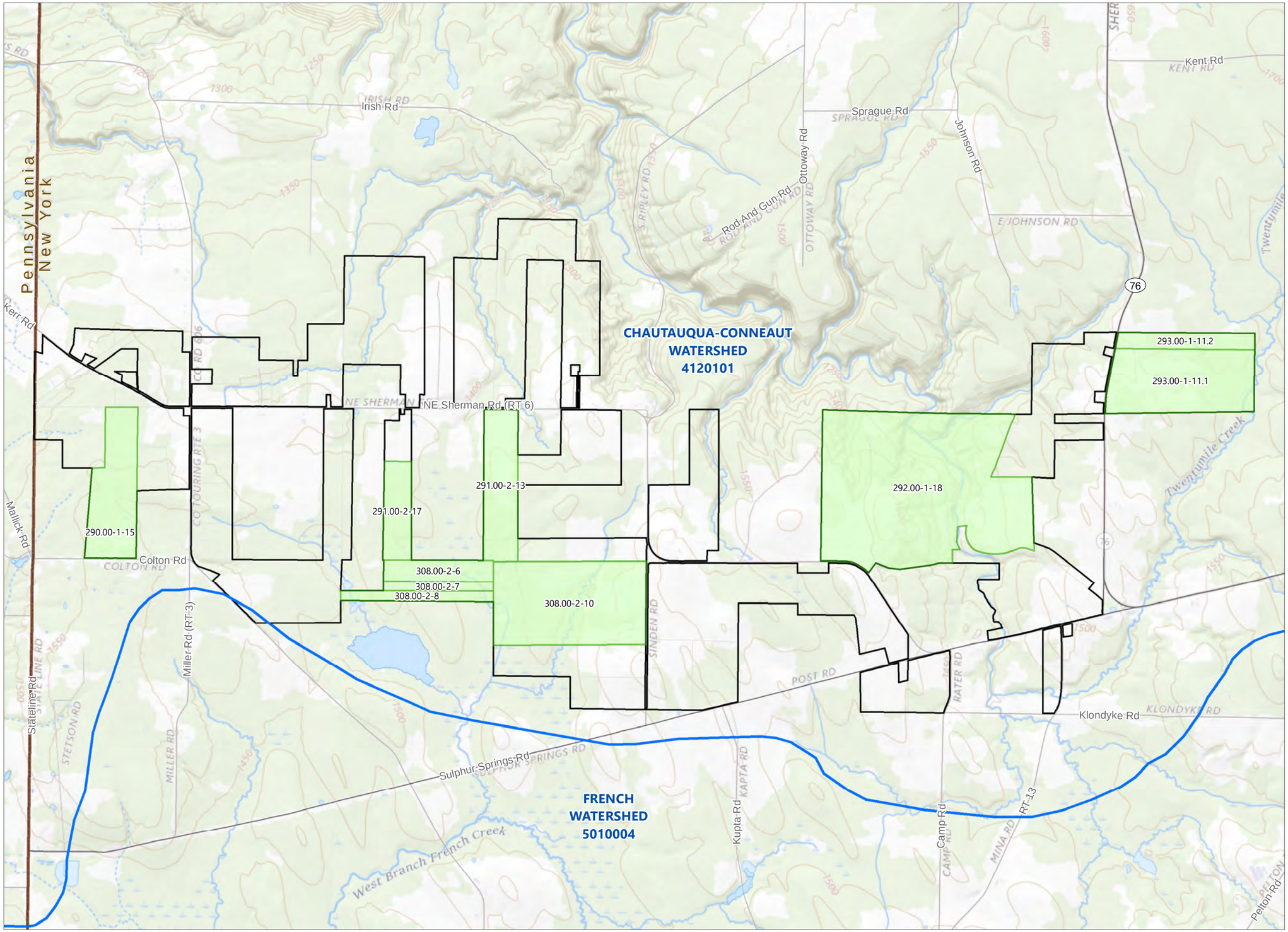
NYNHP 2020. Re: South Ripley Solar Project (EDR Project No. 19020) Correspondence from Heidi Krahling dated May 21, 2020. New York Natural Heritage Program, Albany, NY.

Office of Renewable Energy Siting. Regulations Chapter XVIII, Title 19 of NYCRR Part 900. New York State Executive Law § 94-c. Available at: https://ores.ny.gov/regulations.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed December 2021.

FIGURES

Figure 1. Overview of Potential Wetland Mitigation Locations



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

Potential Wetland Mitigation Parcel
HUC-8 Watershed Boundary
Facility Site

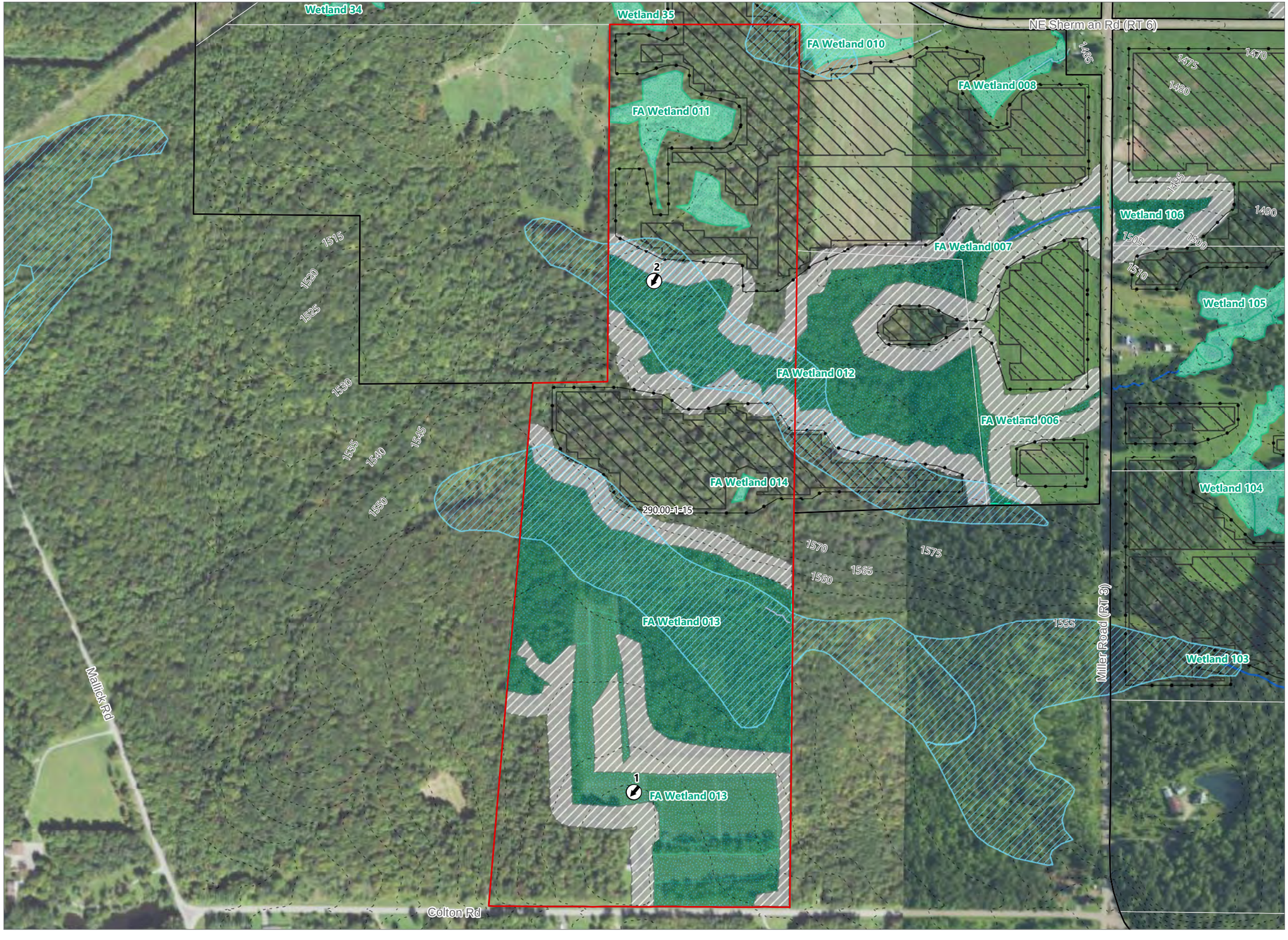
0 1,000 2,000 4,000
Feet

Prepared December 27, 2021
Basemap: Esri ArcGIS Online "USGS Topo" map service.

EDR

Figure 2. Existing Site Conditions

Parcel 290.00-1-15



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream Non-Jurisdictional
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

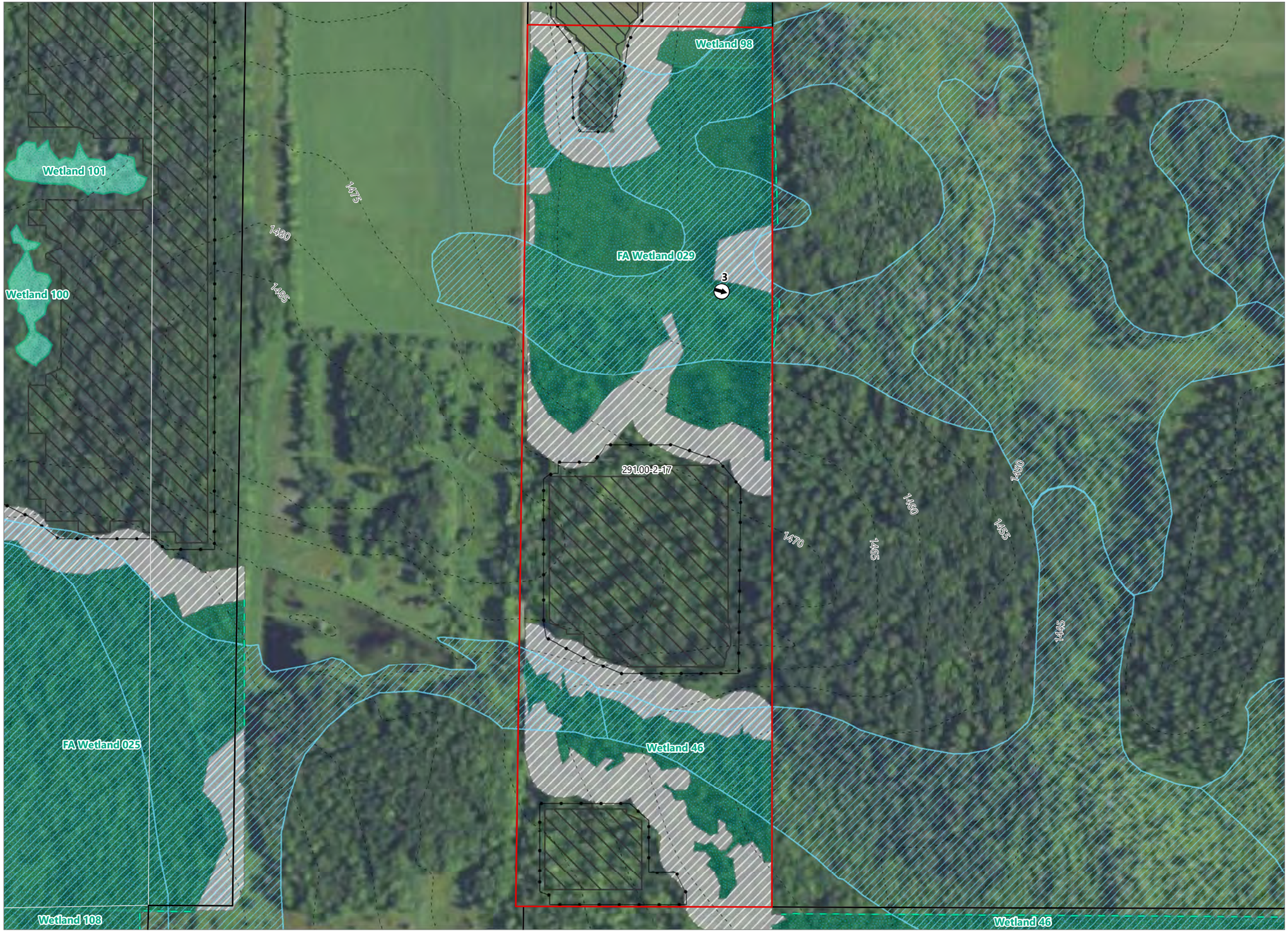
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 291.00-2-17



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

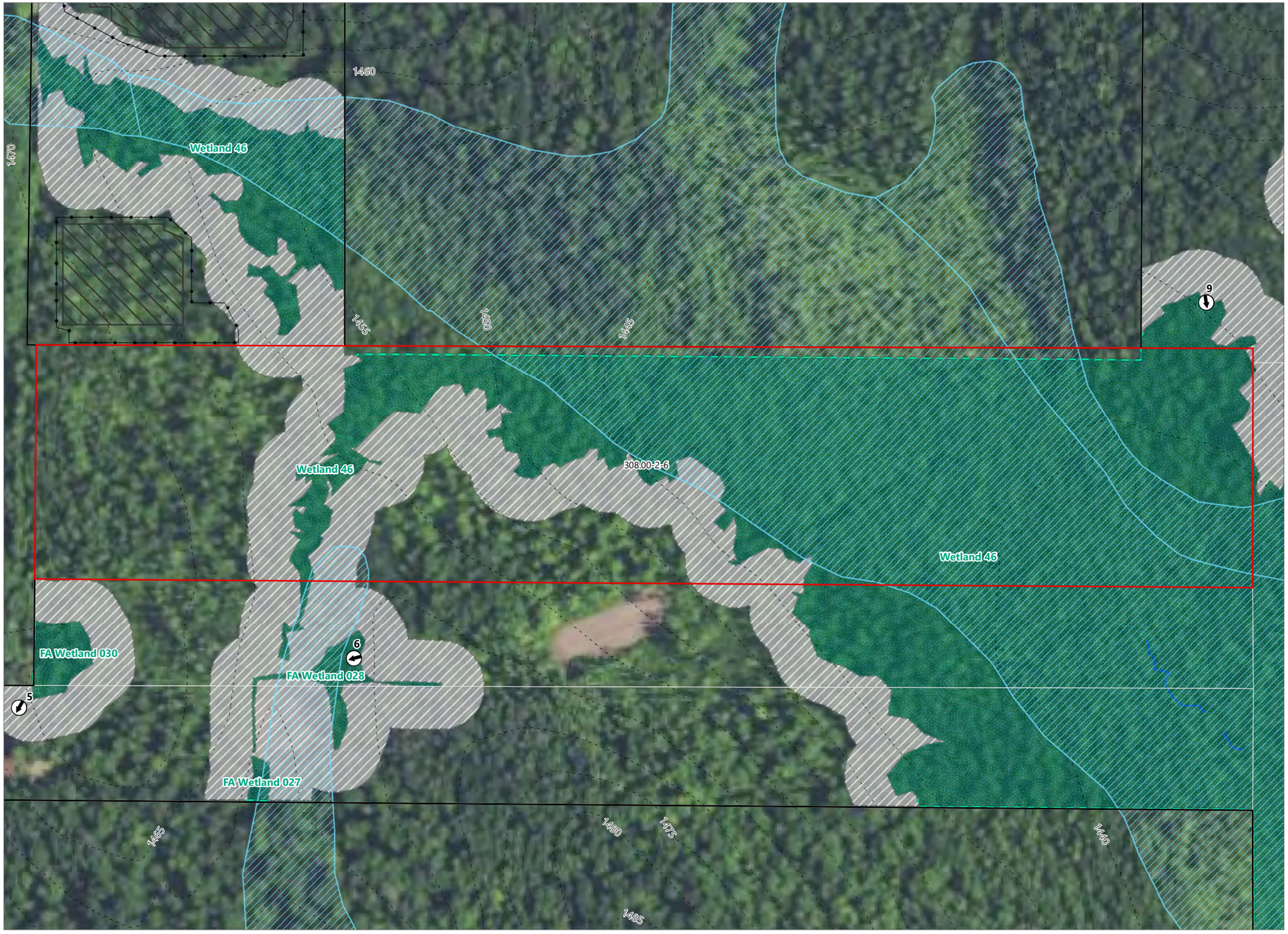
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 308.00-2-6



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 308.00-2-7

South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

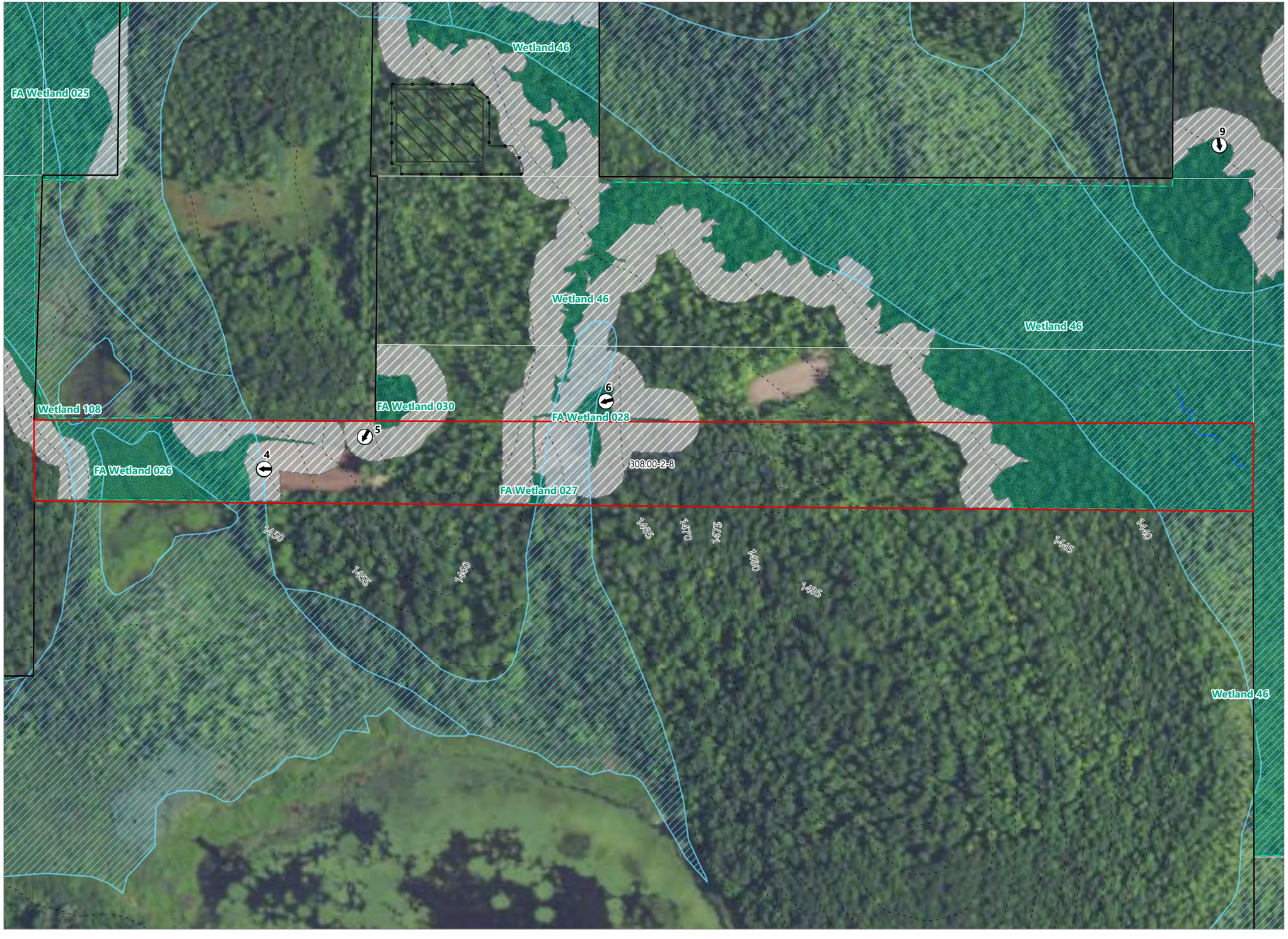
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 308.00-2-8



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

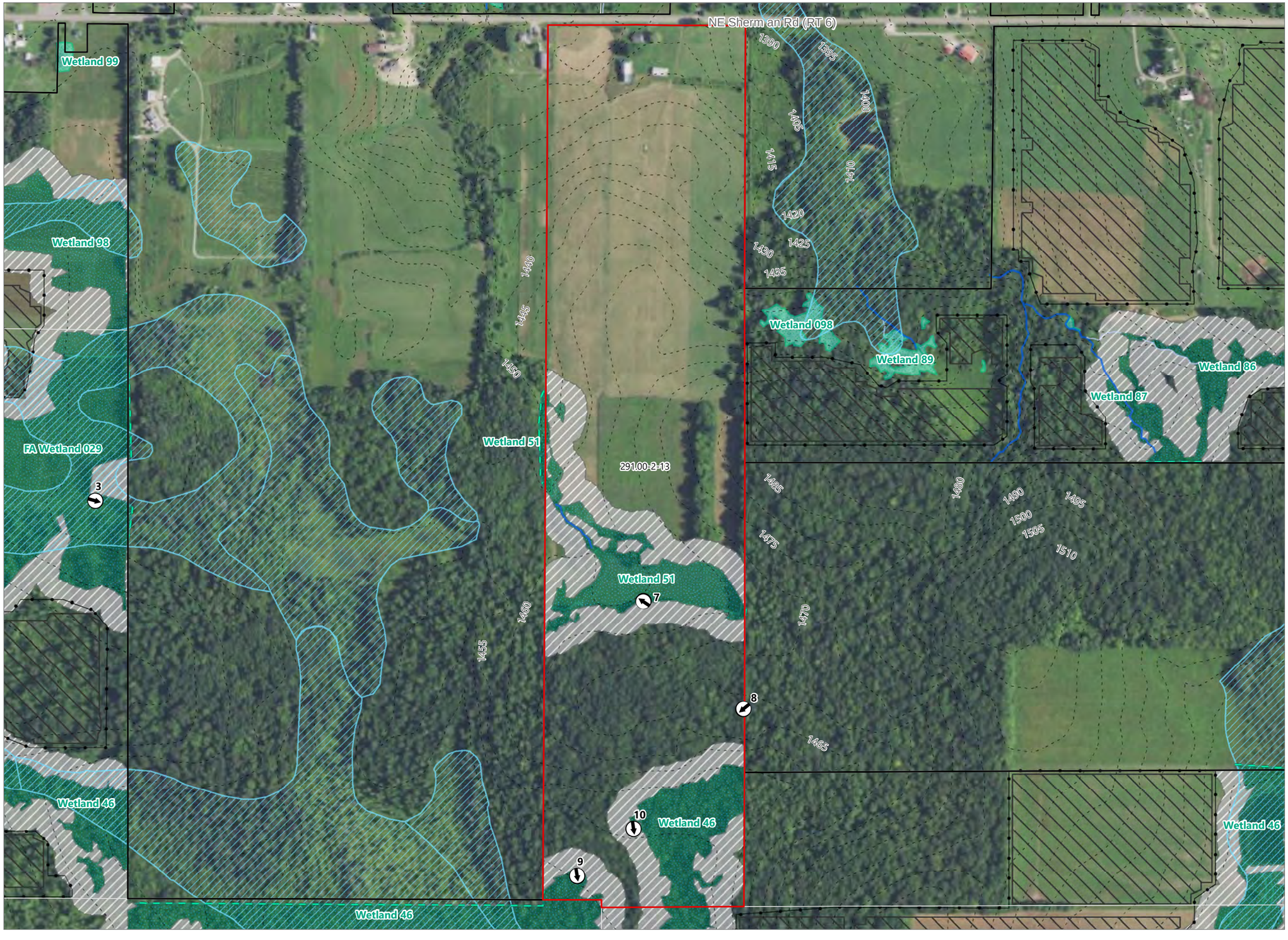
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 291.00-2-13



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream Non-Jurisdictional
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

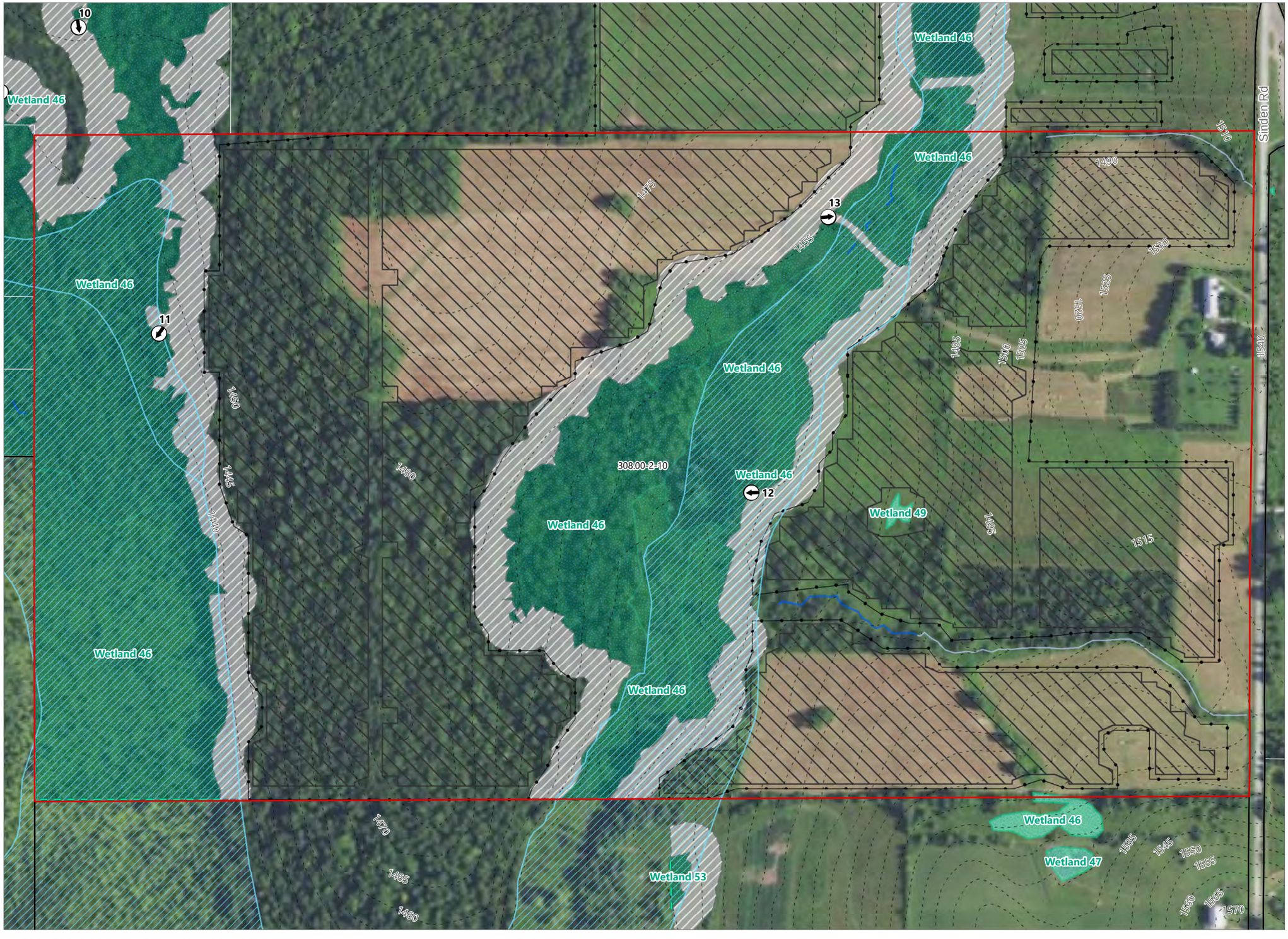
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 308.00-2-10



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream Non-Jurisdictional
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

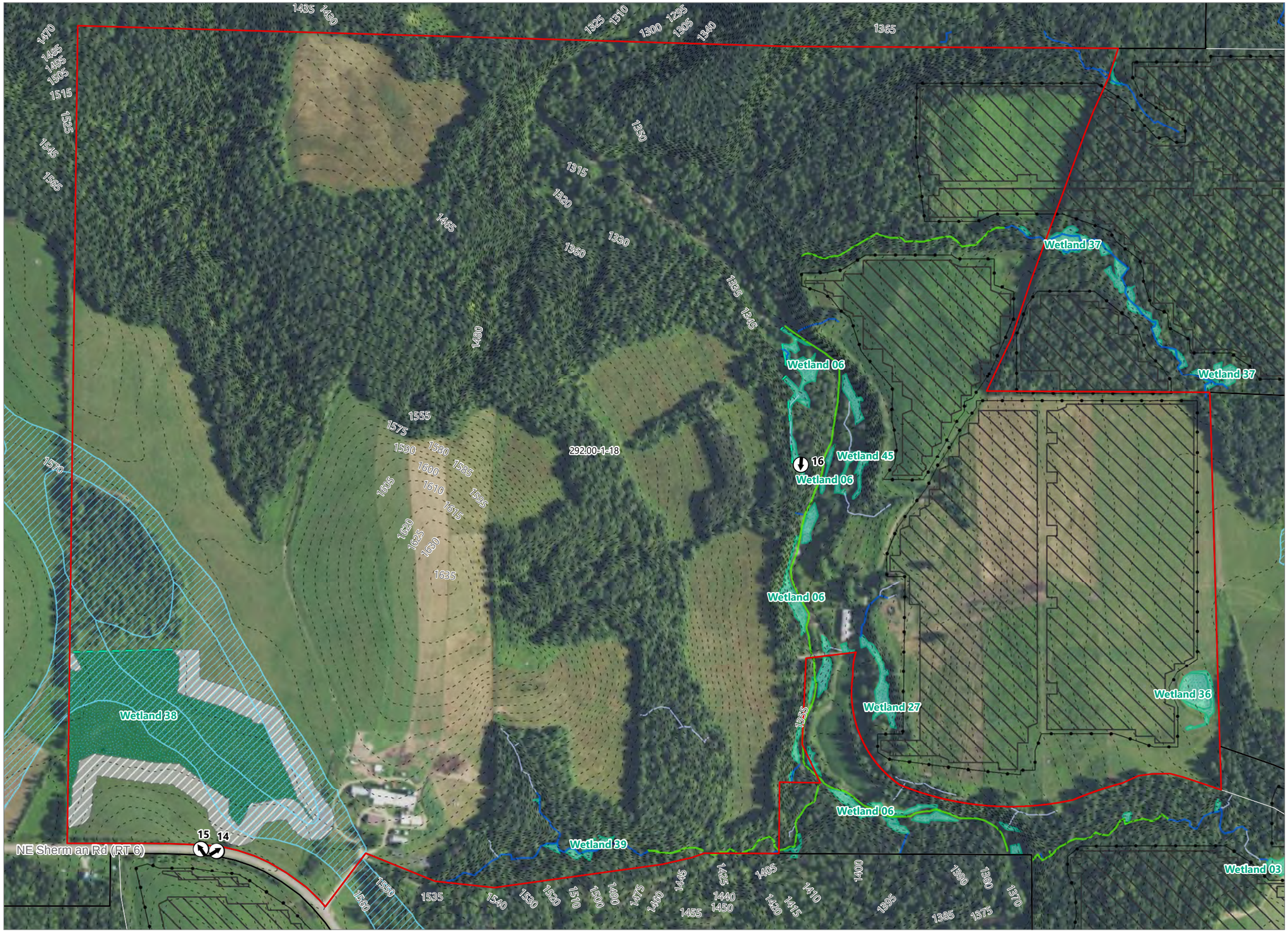
Feet

Prepared December 28, 2021
Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 292.00-1-18



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream Non-Jurisdictional
- Delineated Stream w/ Federal Jurisdiction
- Delineated Stream w/ Federal & State Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

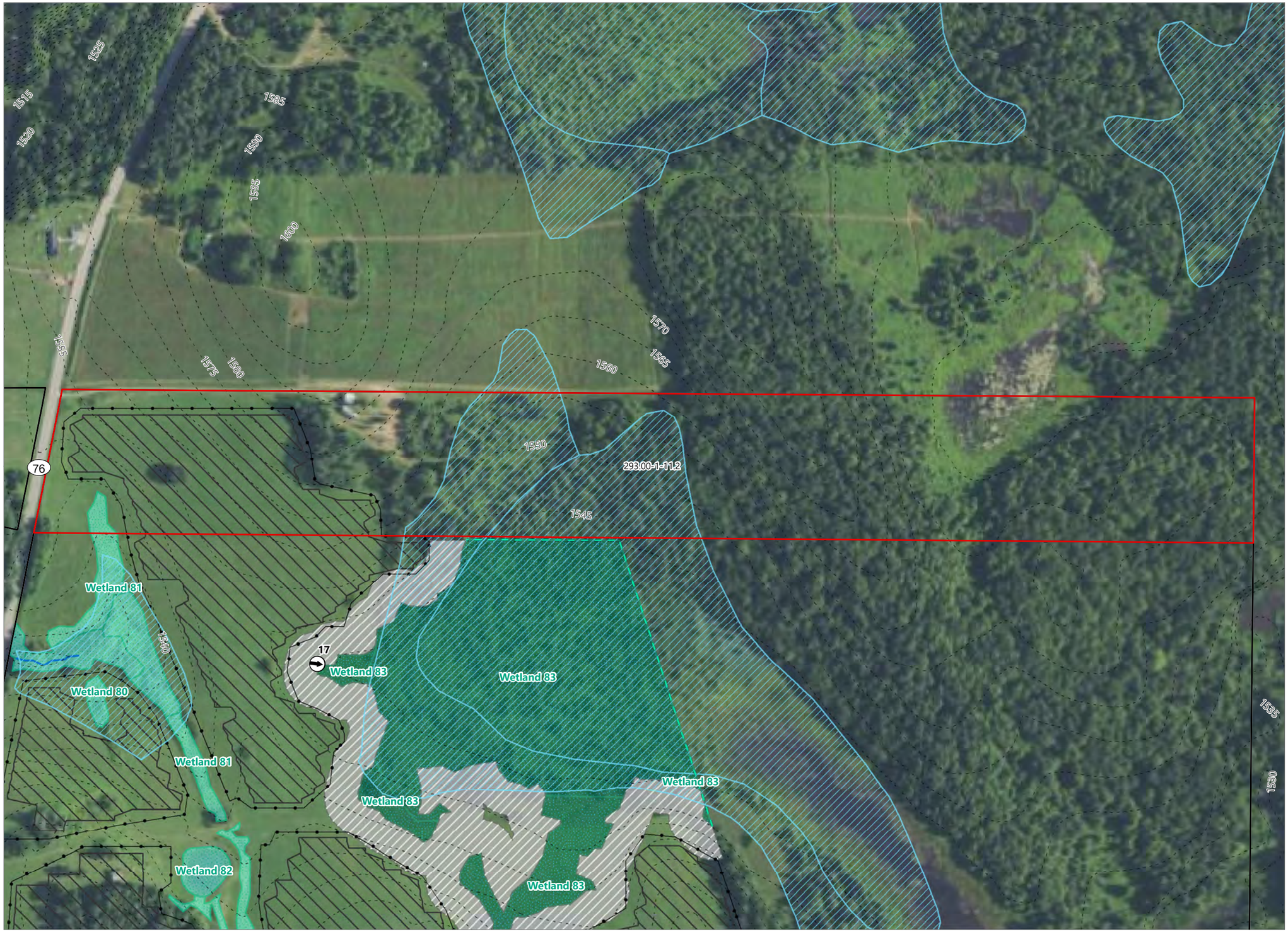
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 293.00-1-11.2



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

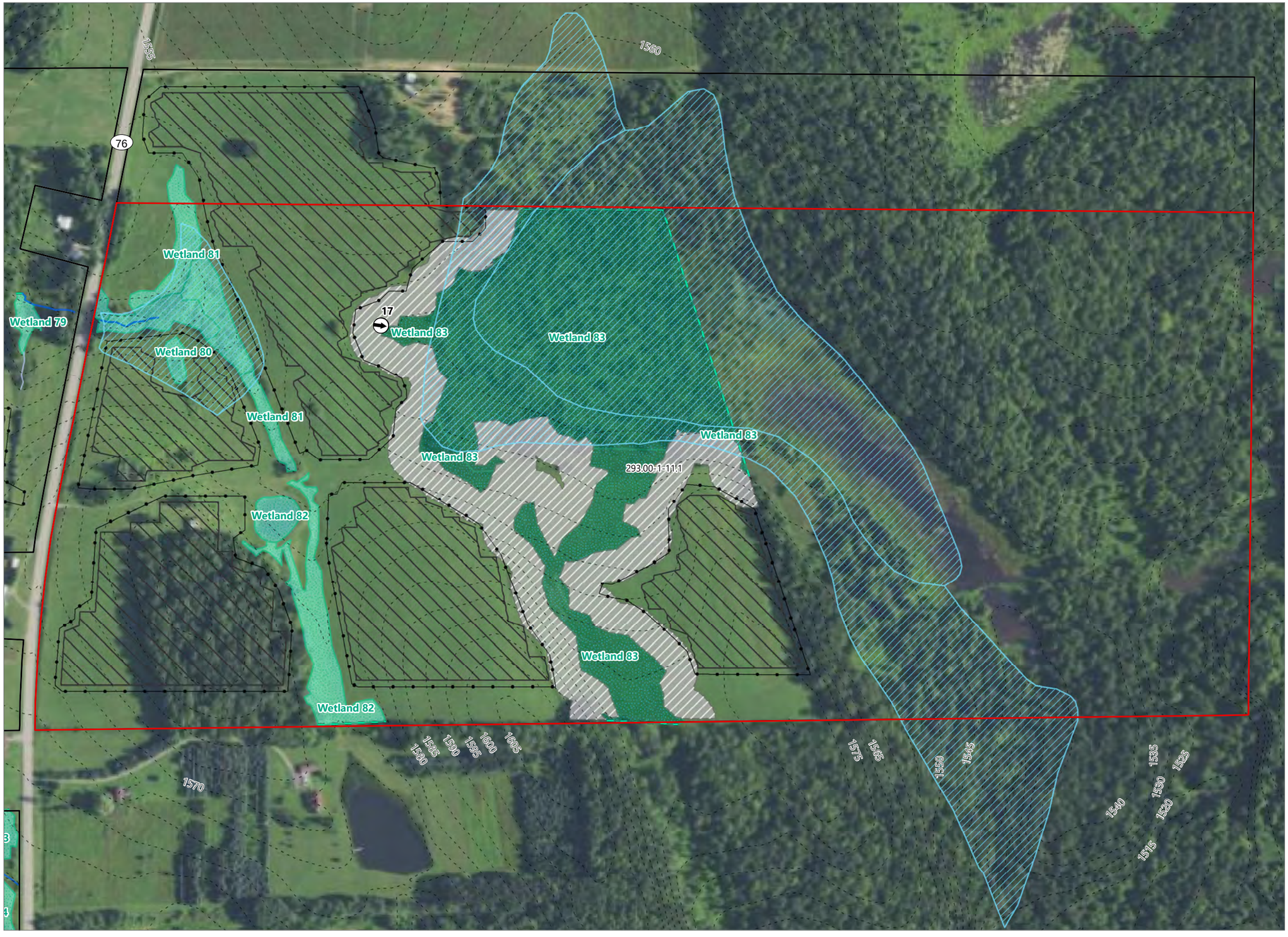
Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Figure 2. Existing Site Conditions

Parcel 293.00-1-11.1



South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Wetland Restoration and Mitigation Plan

- Potential Wetland Mitigation Parcel
- Photograph Location
- 5-foot Contour

Wetlands and Streams

- Wetland Continues
- Delineated Stream Non-Jurisdictional
- Delineated Stream w/ Federal Jurisdiction
- State-Regulated Adjacent Area
- Delineated Wetland w/ Federal Jurisdiction
- Delineated Wetland w/ State & Federal Jurisdiction
- Hydric Soil

Facility Components

- PV Panel Area
- Fenceline
- Facility Site

0 100 200 400

Feet

Prepared December 28, 2021

Basemap: USDA NAIP "2019 New York 60cm" orthoimagery map service.

EDR

Attachment 1

Site Photographs

Photo 1

Representative view of PEM Wetland 015 in Parcel 290.00-1-15.

Photo 2

Representative view of PFO Wetland 012 in Parcel 290.00-1-15.

South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Conceptual Wetland Mitigation Plan

Photo 3

Representative view of PSS FA Wetland 029 in Parcel 291.00-2-17.

Photo 4

Representative view of upland adjacent area of PSS FA Wetland 026 in Parcel 308.00-2-8.

Photo 5

Representative view of upland adjacent area of PSS FA Wetland 030 in Parcel 308.00-2-8.

Photo 6

Representative view of PSS FA Wetland 028 in Parcel 308.00-2-7.

Photo 7

Representative view of PEM Wetland 51 in Parcel 291.00-2-13.

Photo 8

Representative view of upland adjacent area in Parcel 291.00-2-13.

Photo 9

Representative view south of PFO Wetand 46 in Parcels 308.00-2-6 and 291.00-2-13.

Photo 10

Representative view of PFO Wetland 46 in Parcel 291.00-2-13.

Photo 11

Representative view of PFO Wetland 46 in Parcel 308.00-2-10.

Photo 12

Representative view of PSS Wetland 46 in Parcel 308.00-2-10.

Photo 13

Representative view of upland adjacent area of Wetland 46 in Parcel 308.00-2-10.

Photo 14

Representative view of parcel 292.00-1-18 facing northeast.

Photo 15

Representative view of parcel 292.00-1-18 facing northwest.

Photo 16

Representative view of PFO Wetland 06 along forested riparian area in Parcel 292.00-1-18.

Photo 17

Representative view of upland adjacent area of PSS Wetland 83 in Parcel 293.00-1-11.1.

Note: *Representative photographs are not available at Parcel 293.00-1-11.2.*