

Attachment M2

WETLAND AND STREAM DELINEATION REPORT

GARNET ENERGY CENTER PROJECT

TOWN OF CONQUEST
CAYUGA COUNTY, NEW YORK

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1.0 INTRODUCTION

1.1 Project Description and Purpose

Garnet Energy Center, LLC, (Garnet Energy Center) a wholly-owned indirect subsidiary of NextEra Energy Resources, LLC (NEER), is proposing construction of the Garnet Energy Center (the Project) in the Town of Conquest, Cayuga County, New York (see Appendix A: Figure 1). The Project Area consists of approximately 2,288 acres within the Town of Conquest. The proposed Project will consist of a 200 megawatt (MW) solar energy center with a 20-MW/four-hour energy storage system located on land leased or purchased from private property landowners. Proposed components include commercial-scale solar arrays, access roads, buried (and possibly overhead) electric collection lines, energy storage components, and electrical interconnection facilities. The final solar array specification, as well as locations of arrays, will be finalized as part of ongoing environmental studies and engineering efforts. The Project Area consists predominantly of active agricultural land and forestland.

1.2 Report Purpose

TRC Companies, Inc. (TRC) conducted a wetland and stream delineation of the Project Area on behalf of Garnet Energy Center on June 15 through June 23, 2020, November 3 through November 6, 2020, as well as May 12 and October 21, 2021. This report details the wetlands and surface waters (including rivers, streams, ponds, and lakes) within the Project Area, regardless of jurisdictional status. This report lends itself toward assessing and implementing setbacks as required by State and Garnet Energy Center's internal process during Project planning, to the extent practical.

Delineation efforts included the following tasks:

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

Conclusions proposed herein provide information necessary to support a permit/certificate applications to the United States Army Corps of Engineers (USACE) and the New York State Board on Electric Generation Siting and the Environment (Siting Board).

2.0 REGULATORY AUTHORITY

2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act, the USACE asserts jurisdiction over Waters of the United States (WOTUS). WOTUS are defined as wetlands, streams, and other aquatic resources under the regulatory authority of Title 33 Code of Federal Regulations (CFR) Part 328 and the United States Environmental Protection Agency (EPA), per Title 40 CFR Part 230.3(s). Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[c]).

On June 22, 2020, the Navigable Waters Protection Rule (NWPR) took effect, replacing the prior Clean Water Rule. The Navigable Waters Protection Rule outlines categories of waters considered jurisdictional, as well as those considered non-jurisdictional. However, On August 30, 2021, the U.S. District Court for the District of Arizona issued an order vacating and remanding the NWPR, nationwide. In accordance with a September 2, 2021, directive from the Acting Assistant Secretary of the Army for Civil Works, the Corps has resumed conducting approved jurisdictional determinations (AJDs) nationwide, consistent with the pre-2015 WOTUS regulatory regime. The pre-2015 regulatory regime is the 1986 WOTUS regulation, as informed by previously-issued 2003 SWANCC and 2008 Rapanos guidance documents resulting from US Supreme Court decisions.

Summary of Key Points:

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

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

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

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

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

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

The agencies will apply the significant nexus standard as follows:

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

2.1.1 Navigable Waters

The USACE also regulates navigable waters under Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.), which requires a permit be issued by the USACE prior to the construction of any structure in or over a navigable water of the United States, as well as any proposed action (such as excavation/dredging or deposition of materials) that would affect the course, location, condition, or capacity of the navigable water, even if the proposed activity is outside the boundaries of the stream in associated wetlands.

2.2 New York State Department of Environmental Conservation

The Freshwater Wetlands Act [Article 24 and Title 23 of Article 71 of the Environmental Conservation Law (ECL)] gives the NYSDEC jurisdiction (in an Article 10 proceeding, the Siting Board) over state-protected mapped wetlands and an adjacent 100-foot protective upland buffer area. To implement this Act, regulations were promulgated by the state under 6 New York Codes, Rules, and Regulations (NYCRR) Parts 663 and 664.

Part 663 establishes regulations that, (1) define the procedural requirements to be followed in undertaking different activities in mapped wetlands and in areas adjacent to mapped wetlands; (2) establish standards governing the issuance of permits by the NYSDEC pursuant to the act; and (3) govern the NYSDEC's implementation of the act. Part 664 of the regulations designates wetlands into four class ratings, with Class I being the highest or best quality wetland and Class IV being the lowest. In general, mapped wetlands regulated by the NYSDEC are those that meet the definition provided in section 24-0107(1) of Article 24 and have an area of at least 12.4 acres mapped (5 hectares) in size or larger. The NYSDEC can regulate smaller mapped wetlands,

including those without connections to other aquatic resources if they are considered to be of “unusual local importance.”

5.0 RESULTS

5.1 General Overview

The Project Area contains primarily agricultural land and upland forest. The Project Area also contains several tree lines between agricultural fields and riparian corridors. The estimated average diameter at breast height (DBH) of the trees ranged from 12 to 30 inches. Dominant upland vegetation included, corn (*Zea mays*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), American beech (*Fagus grandifolia*), garlic mustard (*Alliaria petiolata*), American witch-hazel (*Hamamelis virginiana*), white lettuce (*Nabalus albus*), mayapple (*Podophyllum peltatum*), silvery spleenwort (*Deparia acrostichoides*), basswood (*Tillia americana*), coltsfoot (*Tussilago farfara*), lesser burdock (*Arctium minus*), painted trillium (*Trillium undulatum*), Virginia creeper (*Parthenocissus quinquefolia*), eastern black walnut (*Juglans nigra*), bitternut hickory (*Carya cordiformis*), American hornbeam (*Carpinus caroliniana*), shagbark hickory (*Carya ovata*), northern spicebush (*Lindera benzoin*), tulip poplar (*Liriodendron tulipifera*), Morrow’s honeysuckle (*Lonicera morrowii*), Carolina horsenettle (*Solanum carolinense*), Eastern hemlock (*Tsuga canadensis*), yellow birch (*Betula alleghaniensis*), American elm (*Ulmus americana*), Himalayan knotweed (*Persicaria wallichii*), annual ragweed (*Ambrosia artemisiifolia*), multiflora rose (*Rosa multiflora*), red raspberry (*Rubus ideaus*), eagle fern (*Pteridium aquilinum*), Canada goldenrod (*Solidago canadensis*), common blackberry (*Rubus allegheniensis*), fragrant sumac (*Fragaria vesca*), Jack pine (*Pinus banksiana*), giant goldenrod (*Solidago gigantea*), tall goldenrod (*Solidago altissima*), boxelder (*Acer negundo*), reed-canary grass (*Phalaris arundinacea*), fire cherry (*Prunus pensylvanica*), meadow foxtail (*Alopecurus pratensis*), pokeweed (*Phytolacca americana*), American basswood (*Tilia americana*), jewelweed (*Impatiens capensis*), stickywilly (*Galium aparine*), rough bedstraw (*Galium asprellum*), hedge bedstraw (*Galium molugo*), wild carrot (*Daucus carota*), poison ivy (*Toxicodendron radicans*), common dandelion (*Taraxacum officinale*), summer grape (*Vitis aestivalis*), quaking aspen (*Populus tremuloides*), white clover (*Trifolium repens*), alsike clover (*Trifolium hybridum*), ribwort plantain (*Plantago lanceolata*), broadleaf plantain (*Plantago major*), common milkweed (*Asclepias syriaca*), soybean (*Glycine max*), European buckthorn (*Rhamnus cathartica*), asters (*Asteraceae*), eastern white pine (*Pinus strobus*), white ash (*Fraxinus americana*), green ash (*Fraxinus pennsylvanica*), black cherry (*Prunus serotina*), and Kentucky bluegrass (*Poa pratensis*).

TRC identified and delineated 45 wetlands and 27 streams within the Project Area on June 15 through June 23, 2020, November 3 through November 6, 2020, as well as May 12 and October 21, 2021 (Figure 4). Some of these wetlands have multiple cover types, as described in Table 4. Approximately 26.81 percent (613.50 acres) of the 2,288-acre Project Area is delineated as wetland. Tables 4 and 5 below detail the wetlands and streams delineated at the Project Area.

Representative photographs taken of each delineated wetland and stream within the Project Area are provided in Appendix B. Completed USACE Routine Wetland Determination Forms and TRC Stream Inventory Data Forms are provided in Appendix C.

Table 4. Delineated Wetlands within the Project Area

Wetland Field Designation	Cover Type Classification ¹ and Acreage				Total Wetland Acreage within Project Area	NWI Cover Type ²	Overlapping NYSDEC Mapped Wetland ID	Overlapping NYSDEC Mapped Wetland Class	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB						
W-BTF-1	0.74	-	47.64	-	48.39	PFO1E	V-19	III	43.13219	-76.64289
W-BTF-2	0.07	-	-	-	0.07	-	-	-	43.13596	-76.63955
W-BTF-3	0.14	-	-	-	0.14	-	-	-	43.13757	-76.64845
W-BTF-4	0.26	-	-	-	0.26	-	-	-	43.13799	-76.64712
W-BTF-5	0.29	-	-	-	0.29	-	-	-	43.13636	-76.64662
W-BTF-6	0.28	-	-	-	0.28	-	-	-	43.13778	-76.64495
W-BTF-7	0.82	-	4.08	-	4.90	R5UBH	M-2	II	43.13216	-76.65489
W-BTF-8	-	-	1.54	-	1.54	-	M-2	II	43.13359	-76.65509
W-BTF-9	-	-	3.94	-	3.94	PFO1E	-	-	43.13764	-76.65510
W-BTF-10	0.42	-	-	-	0.42	R5UBH	-	-	43.13300	-76.64964
W-BTF-11	0.49	-	5.30	-	5.79	PFO1E	-	-	43.13809	-76.65154
W-BTF-12	-	-	1.29	-	1.29	PFO1E, R5UBH	-	-	43.14234	-76.65051
W-BTF-13	-	-	10.67	-	10.67	PFO1E	M-2	II	43.14135	-76.65602
W-BTF-14	0.95	-	-	-	0.95	-	-	-	43.13582	-76.65434
W-BTF-15	-	-	0.23	-	0.23	-	-	-	43.13593	-76.65126
W-BTF-16	-	-	1.24	-	1.24	-	-	-	43.14691	-76.63813
W-BTF-17	0.82	-	18.19	-	19.01	PFO1E, R5UBH, PSS1/EM5E	V-20	II	43.14623	-76.63173

Wetland Field Designation	Cover Type Classification ¹ and Acreage				Total Wetland Acreage within Project Area	NWI Cover Type ²	Overlapping NYSDEC Mapped Wetland ID	Overlapping NYSDEC Mapped Wetland Class	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB						
W-BTF-18	1.52	-	6.37	-	7.89	PFO1E	-	-	43.14191	-76.63434
W-BTF-19	-	-	1.99	-	1.99	PFO1E	-	-	43.15088	-76.62571
W-JJB-1	-	-	1.13	-	1.13	PFO1E	-	-	43.13883	-76.59703
W-JJB-2	-	-	9.47	-	9.47	PFO1E	C-33	II	43.13156	-76.60668
W-JJB-3	31.29	5.68	289.24	3.62	329.82	PFO1E, R4SBC, R5UBH, PFO4/1A, PFO1/ SS1E, PSS1/ EM5E, PEM5E	C-33	II	43.13867	-76.62956
W-JJB-4	24.15	6.25	7.14	17.34	54.88	PFO1E, PEM5E	C-33	II	43.14832	-76.59680
W-JJB-5	0.26	-	-	-	0.26	-	-	-	43.15368	-76.59990
W-JJB-6	0.36	1.48	2.85	-	4.70	PFO1E	-	-	43.14589	-76.60292
W-JJB-7	-	-	0.68	-	0.68	-	-	-	43.61750	-76.61750
W-JJB-8	1.28	-	19.06	-	20.33	PSS1E/ EM5A, PEM5E	-	-	43.10440	-76.62257
W-NSD-1	0.89	-	-	35.21	36.10	PFO1E, PUBH	C-33	II	43.11734	-76.59959
W-NSD-2	0.50	-	-	-	0.50	-	C-33	II	43.11708	-76.60339
W-NSD-3	-	-	0.13	-	0.13	-	-	-	43.11413	-76.60065
W-NSD-4	4.15	-	-	-	4.15	PFO1E, PSS1/ EM5E	-	-	43.11334	-76.60299
W-NSD-5	-	-	0.30	-	0.30	PFO1A	-	-	43.11685	-76.60724
W-NSD-6	-	-	1.58	-	1.58	R5UBH, PFO1E	W-2	III	43.11229	-76.60696

Wetland Field Designation	Cover Type Classification ¹ and Acreage				Total Wetland Acreage within Project Area	NWI Cover Type ²	Overlapping NYSDEC Mapped Wetland ID	Overlapping NYSDEC Mapped Wetland Class	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB						
W-NSD-7	-	-	-	0.29	0.29	PUBFx	-	-	43.13080	-76.62199
W-NSD-8	0.54	-	1.49	-	2.03	PEM5E	-	-	43.13032	-76.61995
W-NSD-9	1.19	-	-	-	1.19	PFO1E	-	-	43.12415	-76.62056
W-NSD-10	19.53	-	12.13	-	31.66	PFO1E, PEM5E, PSS1/EM5E	W-1	II	43.11465	-76.61962
W-NSD-11	1.56	-	-	-	1.56	-	M-4	II	43.12429	-76.62856
W-NSD-12	-	-	0.33	-	0.33	PFO1E	M-4	II	43.11646	-76.62812
W-NSD-13	-	-	0.75	-	0.75	PFO1E	C-33	II	43.13721	-76.63020
W-NSD-14	-	-	0.61	-	0.61	-	-	-	43.15168	-76.62298
W-NSD-15	0.24	-	-	-	0.24	-	-	-	43.14223	-76.62953
W-NSD-16	-	-	1.08	-	1.08	-	-	-	43.13431	-76.63333
W-NSD-17	-	-	0.12	-	0.12	-	-	-	43.13491	-76.63370
W-NSD-18	0.31	-	-	-	0.31	PFO1C, PFO1/SS1E	-	-	43.13565	-76.63049
Total Wetland Acreage Delineated:					613.50					

1PEM – palustrine emergent; PSS – palustrine scrub-shrub; PFO – palustrine forested; PUB – palustrine unconsolidated bottom
2PUBH – palustrine unconsolidated bottom, permanently flooded; PUBFx – palustrine unconsolidated bottom, semi permanently flooded, excavated; PFO1A – palustrine forested, broad-leaved deciduous, temporarily flooded; PFO1C – palustrine forested, broad-leaved deciduous, seasonally flooded; PFO1E – palustrine forested, broad-leaved deciduous, seasonally flooded/saturated; PFO4A – palustrine forested, needle-leaved evergreen, temporarily flooded; PSS1E – palustrine scrub-shrub, broad-leaved deciduous, seasonally flooded/saturated; PEM5A – palustrine emergent, *Phragmites australis*, temporarily flooded; PEM5E – palustrine emergent, *Phragmites australis*, seasonally flooded/saturated; R4SBC – riverine intermittent, streambed, seasonally flooded; R5UBH – riverine, unconsolidated bottom, permanently flooded

5.2 Delineated Streams

Streams (RUP, RIN, REPH) – Twenty-seven streams were delineated within the Project Area. Classification of streams were dependent on a temporal description of their usual level of flow regimes. Perennial streams (RUP) tend to flow all year, except during severe drought conditions. Perennial streams can flow below the water table and receive groundwater flow sources from springs or groundwater seepages on slopes. Intermittent streams (RIN) flow only during certain times of the year from alternating springs, snow melts, or from runoff from seasonal precipitation events. Intermittent streams can flow above or below the water table. Ephemeral streams (REPH) flow sporadically and are entirely dependent on transient precipitation from storm events or from periodic snow melts. These streams tend to flow above the water table and are often found as drainage features adjacent to, or within, the headwaters of a more major stream system.

Streams encountered on the Project Area were mostly intermittent in nature along gentle to moderate gradients (0 to 10 percent). Stream widths ranged from 2 to 6 feet. They generally contained channel substrates of silt, clay, cobble, gravel, and sand with probed stream depths in the range of 0 to 6 inches. Most streams were determined to lack substantial features to permit the prevalence of aquatic ecologies. Only a small number of streams within the Project Area were determined to contain significant aquatic habitat to establish and support fish and wildlife populations. Most of the stream systems supporting aquatic habitats were found to be perennial in nature, as an annual flow regime allows for a more readily established life cycle.

Table 5. Delineated Streams within the Project Area

Stream Field Designation	Flow Regime Classification	Linear Feet within Project Area	NYSDEC Stream Name and Regulatory ID Number	NYSDEC Classification ¹ and Standard ²	Potential Jurisdiction Under Rapanos	Associated Buffer	Latitude of Centroid	Longitude of Centroid
S-BTF-1	Perennial	4,890	847-106	Class C	USACE	None	43.13129	-76.64351
S-BTF-2	Intermittent	183	-	-	USACE	None	43.13302	-76.63943
S-BTF-3	Intermittent	361	-	-	USACE	None	43.13266	-76.63985
S-BTF-4	Ephemeral	366	-	-	Non-Jurisdictional	None	43.12964	-76.63876
S-BTF-5	Intermittent	712	-	-	USACE	None	43.13345	-76.65470
S-BTF-6	Ephemeral	184	-	-	Non-Jurisdictional	None	43.13287	-76.64990
S-BTF-7A	Ephemeral	1,220	-	-	Non-Jurisdictional	None	43.13613	-76.65095
S-BTF-7B	Intermittent	710	-	-	USACE	None	43.13613	-76.65095
S-BTF-8	Perennial	922	847-106	Class C	USACE	None	43.14222	-76.65047
S-BTF-9	Intermittent	746	-	-	USACE	None	43.14626	-76.63486
S-BTF-10	Perennial	2,401	847-490	Class C	USACE	None	43.14636	-76.63363
S-BTF-11	Intermittent	1,129	-	-	USACE	None	43.14220	-76.63431
S-JJB-1	Intermittent	329	-	-	USACE	None	43.13887	-76.59695
S-JJB-2	Intermittent	1,157	-	-	USACE	None	43.13150	-76.60698
S-JJB-3	Intermittent	2,097	898-31	Class C	USACE	None	43.10420	-76.62259
S-JJB-4	Intermittent	1,624	898-31	Class C	USACE	None	43.10479	-76.61878
S-NSD-1	Intermittent	263	-	-	USACE	None	43.11777	-76.60332
S-NSD-2A	Ephemeral	117	-	-	Non-Jurisdictional	None	43.11467	-76.60080
S-NSD-2B	Intermittent	153	-	-	USACE	None	43.11467	-76.60080

Stream Field Designation	Flow Regime Classification	Linear Feet within Project Area	NYSDEC Stream Name and Regulatory ID Number	NYSDEC Classification ¹ and Standard ²	Potential Jurisdiction Under Rapanos	Associated Buffer	Latitude of Centroid	Longitude of Centroid
S-NSD-3	Intermittent	2,372	898-31	Class C	USACE	None	43.11266	-76.60710
S-NSD-4	Intermittent	1,172	-	-	USACE	None	43.13084	-76.62174
S-NSD-5	Intermittent	2,696	898-31	Class C	USACE	None	43.11795	-76.62033
S-NSD-6	Intermittent	372	-	-	USACE	None	43.12458	-76.62871
S-NSD-7	Intermittent	3,131	847-500	Class C	USACE	None	43.13634	-76.62988
S-NSD-8	Ephemeral	1,564	847-500	Class C	Non-Jurisdictional	None	43.13948	-76.62899
S-NSD-9	Intermittent	1,541	847-490	Class C	USACE	None	43.14256	-76.62742
S-NSD-10	Intermittent	244	-	-	USACE	None	43.13252	-76.64634
Total Stream Length Delineated:		32,656						

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

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

6.0 CONCLUSIONS

TRC identified and delineated a total of 45 wetlands (613.50 acres) in the Project Area. Of these, 29 wetlands had PFO characteristics (450.60 acres), 25 wetlands had PEM characteristics (93.04 acres), four wetlands had PUB characteristics (56.46 acres), and three wetlands had PSS characteristics (13.41 acres), including combinations thereof. Of the delineated wetlands, 15 overlap NYSDEC-mapped freshwater wetlands, and therefore portions of those wetlands are assumed likely NYSDEC mapped-regulated under the ECL, as would be the 100-foot adjacent area around these mapped wetlands.

TRC identified and delineated 27 streams in the Project Area, including three perennial streams, 19 intermittent streams, and five ephemeral streams. Of the 27 delineated streams, 10 streams coincide with NYSDEC-mapped Class C streams. These streams are not considered protected, per Article 15 of the ECL (Protection of Waters).

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APPENDIX B
USACE Routine Wetland Determination Forms &
Photograph Log
&
TRC's Stream Inventory Data Forms & Photograph
Log