APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SEC A.	CTION I: BACKGROUND INFORMATION REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 20 July 2018
В.	DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAE-RDC, Acorn Energy Solar 2, LLC, NAE-2018-00912
C.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: Vermont County/parish/borough: Addison City: Shoreham Center coordinates of site (lat/long in degree decimal format): Lat. 43.892914° N, Long73.333199° W. Universal Transverse Mercator: 18 Name of nearest waterbody: Unnamed Tributary to the Lemon Fair River Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: The Lemon Fair River flows into Otter Creek, a TNW. Name of watershed or Hydrologic Unit Code (HUC): 04150402 Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request. Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form.
D.	REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY): Office (Desk) Determination. Date: 05 June 2018 Field Determination. Date(s): 11 May 2018
	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
revi	ere Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the iew area. [Required] Waters subject to the ebb and flow of the tide. Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:
	CWA SECTION 404 DETERMINATION OF JURISDICTION. ere Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]
	1. Waters of the U.S.
	a. Indicate presence of waters of U.S. in review area (check all that apply): TNWs, including territorial seas Wetlands adjacent to TNWs Relatively permanent waters ² (RPWs) that flow directly or indirectly into TNWs
	Non-RPWs that flow directly or indirectly into TNWs Wetlands directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs Impoundments of jurisdictional waters Isolated (interstate or intrastate) waters, including isolated wetlands
	b. Identify (estimate) size of waters of the U.S. in the review area: Non-wetland waters: linear feet: width (ft) and/or acres. Wetlands: acres.
	c. Limits (boundaries) of jurisdiction based on: Pick List Elevation of established OHWM (if known):
	 Non-regulated waters/wetlands (check if applicable):³ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Two wetlands were reviewed for potential jurisdiction. The resources are labeled "Wetland 1" and "Wetland

2" on the attached plan entitled, "AJD Review Area", dated "05/21/2018". The two resources are isolated from the nearest jurisdictional surface waters, including an unnamed tributary to the Lemon Fair River. Wetland 1 and 2 are not hydrologically connected to any other wetlands or waterways and have no outlet. There are no adjacent,

Boxes checked below shall be supported by completing the appropriate sections in Section III below.
 For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
 Supporting documentation is presented in Section III.F.

bordering, contiguous, or neighboring jurisdictional surface waters in proximity to these waters. Wetland 1 and 2 are non-navigable, isolated, and intrastate. There is no nexus with interstate commerce activities which are defined as the sale or exchange of commodities, the transportation of people, money or goods, or the navigation of waters between different states. The use, degradation, or loss of these wetlands will not affect other waters of the United States or affect interstate commerce. It is unlikely wetland dependent wildlife traverse between Wetland 1 and 2 and the unnamed tributary to the Lemon Fair River, which is located over 1,100' to the west. Based on the distance of the wetlands from the nearest jurisdictional streams and their lack of a hydrological connection, there is no opportunity for the waters to benefit the chemical, physical, or biological integrity of the nearest unnamed surface waters, or ultimately Otter Creek, the nearest TNW to which the Lemon Fair River flows. Based on this information it has been determined that Wetland 1 and 2 at 869 Watch Point Road, Shoreham, Vermont are isolated waterbodies not subject to the jurisdiction of Section 404 of the Clean Water Act. See Memorandum for the Record, dated 05 June 2018, for additional details.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW,	, complete
Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections	III.A.1 and 2
and Section III.D.1.; otherwise, see Section III.B below.	

1.	TNW Identify TNW:	
	Summarize rationale supporting determination:	
2.	Wetland adjacent to TNW Summarize rationale supporting conclusion that wetland is "adjacent":	

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under Rapanos have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(1)	General Area Conditions:
	Watershed size: Pick List
	Drainage area: Pick List
	Average annual rainfall: inches
	Average annual snowfall: inches
(ii)	Physical Characteristics:
()	(a) Relationship with TNW:
	Tributary flows directly into TNW.
	Tributary flows through Pick List tributaries before entering TNW.
	Project waters are Pick List river miles from TNW.
	Project waters are Pick List river miles from RPW.
	Project waters are Pick List aerial (straight) miles from TNW.
	Project waters are Pick List aerial (straight) miles from RPW.
	Project waters cross or serve as state boundaries. Explain:
	Identify flow route to TNW ⁵ :
	Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

	(b)	Tributary Characteristics (check all that apply): Tributary is: Natural Artificial (man-made). Explain: Manipulated (man-altered). Explain:
		Average width: Average depth: Average side slopes: Pick List.
		Primary tributary substrate composition (check all that apply): Silts Sands Concrete Gravel Muck Bedrock Vegetation. Type/% cover: Other. Explain:
		Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Presence of run/riffle/pool complexes. Explain: Tributary geometry: Pick List Tributary gradient (approximate average slope): %
	(c)	Flow: Tributary provides for: Pick List Estimate average number of flow events in review area/year: Pick List Describe flow regime: Other information on duration and volume:
		Surface flow is: Pick List. Characteristics:
		Subsurface flow: Pick List. Explain findings: Dye (or other) test performed:
	-	Tributary has (check all that apply): Bed and banks OHWM ⁶ (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list): Discontinuous OHWM. ⁷ Explain:
		If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply): High Tide Line indicated by:
(iii)	Cha	emical Characteristics: aracterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: ntify specific pollutants, if known:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break. Thid.

	(IV)		Riparian corridor. Characteristics (type, average width): Wetland fringe. Characteristics: Habitat for: Federally Listed species. Explain findings: Fish/spawn areas. Explain findings: Other environmentally-sensitive species. Explain findings: Aquatic/wildlife diversity. Explain findings:
2.	Cha	ract	eristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
	(i)		General Wetland Characteristics: Properties: Wetland size: Wetland type. Explain: Wetland quality. Explain: Project wetlands cross or serve as state boundaries. Explain:
		(b)	General Flow Relationship with Non-TNW: Flow is: Pick List. Explain:
			Surface flow is: Pick List Characteristics:
			Subsurface flow: Pick List. Explain findings: Dye (or other) test performed:
		(c)	Wetland Adjacency Determination with Non-TNW: ☐ Directly abutting ☐ Not directly abutting ☐ Discrete wetland hydrologic connection. Explain: ☐ Ecological connection. Explain: ☐ Separated by berm/barrier. Explain:
:		(d)	Proximity (Relationship) to TNW Project wetlands are Pick List river miles from TNW. Project waters are Pick List aerial (straight) miles from TNW. Flow is from: Pick List. Estimate approximate location of wetland as within the Pick List floodplain.
	(ii)	Cha	emical Characteristics: aracterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
	(iii)	Bio	logical Characteristics. Wetland supports (check all that apply): Riparian buffer. Characteristics (type, average width): Vegetation type/percent cover. Explain: Habitat for: Federally Listed species. Explain findings: Standard Stan
3.	Cha	All	reristics of all wetlands adjacent to the tributary (if any) wetland(s) being considered in the cumulative analysis: Pick List proximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Summarize overall biolog	ical, chemical and physica	al functions being performed:	

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1.	TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area: TNWs: linear feet width (ft), Or, acres.
	Wetlands adjacent to TNWs: acres.
2.	RPWs that flow directly or indirectly into TNWs.
	Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that
	tributary is perennial:
	Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are
	jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows
	seasonally:

E.

 ⁸See Footnote # 3.
 9 To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
 10 Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

	Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: linear feet width (ft). Other non-wetland waters: acres.
	Identify type(s) of waters: Wetlands: acres.
F.	NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY): If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers
	Wetland Delineation Manual and/or appropriate Regional Supplements. Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
	Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR). Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
	Other: (explain, if not covered above): Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR
	factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
	Non-wetland waters (i.e., rivers, streams): linear feet width (ft). Lakes/ponds: acres.
	Other non-wetland waters: acres. List type of aquatic resource: Wetlands: 0.48 acres.
	Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
	Non-wetland waters (i.e., rivers, streams): linear feet, width (ft). Lakes/ponds: acres.
	Other non-wetland waters: acres. List type of aquatic resource: Wetlands: acres.
SE	CTION IV: DATA SOURCES.
	SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked
	and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Two sheets, entitled "Overall Site Plan" (dated
	"04/05/2018") and "AJD Review Area" (dated "05/21/2018"). Data sheets prepared/submitted by or on behalf of the applicant/consultant.
	Office concurs with data sheets/delineation report.
	☐ Office does not concur with data sheets/delineation report. ☐ Data sheets prepared by the Corps:
	Corps navigable waters' study:
	U.S. Geological Survey Hydrologic Atlas:USGS NHD data.
	USGS 8 and 12 digit HUC maps.
	U.S. Geological Survey map(s). Cite scale & quad name: BRIDPORT, 1:24,000, entitled "VICINITY MAP" dated "01 June 2018".
	USDA Natural Resources Conservation Service Soil Survey. Citation: Natural Resources Conservation Service, Web Soil Survey National Cooperative Soil Survey, accessed 01 June 2018. Area of Interest Soil Map, entitled "Soil Map - Addison County, Vermont
	(Acorn Energy Solar 2, LLC).
	 National wetlands inventory map(s). Cite name: State/Local wetland inventory map(s): Two Natural Resources Atlas Map, both entitled "AJD - 869 Watch Point Road, Shoreham,
	VT", dated "June 1, 2018"
	STREAM STATS MAP, dated "01 JUNE 2018".
	FEMA/FIRM maps: FIRM, Town of Shoreham, Panel number: "500171 0005 B" and "500171 0015 A". [100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
	Photographs: Aerial (Name & Date): Google Earth Pro Aerial Imagery, dated 2016, 2015, 2011, 2009, 2008, 2006, 2003, 1995
	showing 500' radius around Wetland 1 and 2 "PROXIMITY MAP 1" and "PROXIMITY MAP 2", dated "01 JUNE 2018", showing distance of Wetland 1 and 2 from an unnamed
	tributary to the Lemon Fair River, the nearest surface water.
	or Other (Name & Date): Site Visit Photos and Drone Photos, dated 11 May 2018. Previous determination(s). File no. and date of response letter:

Applicable/supporting case law: Court ruling concerning Clean Water Act jurisdiction over isolated waters, Solid Waste Agency of
Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (January 9, 2001) ("SWANCC").
Applicable/supporting scientific literature:
Other information (please specify): Memorandum for the Record dated "05 June 2018"
Memorandum dated "16 May 1991" regarding Adjacent Wetlands in New England. See "Adjacent Wetlands in New England Rules
of Thumb".

B. ADDITIONAL COMMENTS TO SUPPORT JD: See Memorandum for the Record dated "05 June 2018".