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December 14, 2017

**VIA HAND DELIVERY AND ELECTRONIC MAIL**

[Siting.Council@ct.gov](mailto:Siting.Council@ct.gov)

Melanie Bachman  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

**Re: Petition 1312 - Candlewood Solar, LLC Petition For Declaratory Ruling That No Certificate Of Environmental Compatibility And Public Need Is Required For A 20 Megawatt AC Solar Photovoltaic Electric Generating Facility In New Milford Connecticut**

Dear Ms. Bachman:

On behalf of Candlewood Solar, LLC (“Candlewood”), enclosed are the originals and fifteen (15) copies each of Candlewood’s Brief and attachment.

This letter also provides notice to the Connecticut Siting Council that Candlewood has reviewed the draft Findings of Fact and has no comments or proposed changes.

I certify that copies of all items in this filing have been provided to all parties on the Petitioner’s service list.

Sincerely,

Paul R. Michaud

CC: Service List

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

**PETITION OF CANDLEWOOD SOLAR LLC FOR ) PETITION NO. 1312**  
**A DECLARATORY RULING THAT NO )**  
**CERTIFICATE OF ENVIRONMENTAL )**  
**COMPATIBILITY AND PUBLIC NEED IS )**  
**REQUIRED FOR THE CONSTRUCTION, )**  
**OPERATION, AND MAINTENANCE OF A 20 MW )**  
**AC SOLAR PHOTOVOLTAIC FACILITY IN NEW )**  
**MILFORD, CONNECTICUT )**      **December 14, 2017**

**BRIEF OF CANDLEWOOD SOLAR LLC**

**I. INTRODUCTION**

Candlewood Solar LLC (“Candlewood” or “CS”), a wholly owned subsidiary of Ameresco, Inc., submits this Brief in support of its petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a 20 MW (AC) solar electric generating facility located on parcel 26/67.1, parcel 34/31/1, and parcel 9/6 in New Milford, Connecticut (the “Petition”). The extensive factual record of this petition proceeding, as summarized in the Connecticut Siting Council’s (“Council”) December 8, 2017 draft Findings of Fact (“FOF”)<sup>1</sup>, establishes that Candlewood’s proposed solar electric generating facility (“Facility” or the “Project”) has no substantial adverse environmental impact. Accordingly, the Council should grant Candlewood’s Petition.

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<sup>1</sup> Candlewood hereby Incorporates the Council’s draft FOF as if set forth in full in this Brief herein.

## **II. STATUTORY AUTHORITY**

The Petition describes the Council's authority under Section 16-50k of the Connecticut General Statutes ("C.G.S.") and § 16-50j-38 et. seq. of the Regulations of the Connecticut State Agencies, to enter a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is necessary for the Project because: (1) the Project is a 20 MW (AC) solar generating facility in New Milford, Connecticut; (2) the Project is a grid-side distributed resources facility, as defined in C.G.S. § 16-1(a)(38); (3) the Project has a generating capacity that is under 65 MW; (4) the Project complies with the air and water quality standards of the Connecticut Department of Energy and Environmental Protection ("CT DEEP"); and (5) the Project petition was submitted to the Council on June 28, 2017.

## **III. LACK OF ADVERSE ENVIRONMENTAL IMPACT**

Due to its location, configuration, zero emissions, fire resiliency, erosion controls, stormwater controls, best management practices, protection measures, fencing enhancements, mitigation measures, safety controls, transmission grid benefits to the region, tax benefits, and substantial environmental benefits to Connecticut, the Project presents no substantial adverse environmental effects.

### **A. Project Location and Description**

The Project is located on the southern flank of Candlewood Mountain on a combination of open field and wooded areas, less than one mile from the Rocky River substation in New Milford, Connecticut. The Rocky River substation is a PTF node on the ISO-NE grid and connects to a 345kV trunk line of the grid transmission system. The Project will provide up to 20 MW of AC power directly to the grid via the interconnection at the Rocky River substation. The Facility, as originally proposed, consisted of a 26.5 MW DC (20 MW AC) solar photovoltaic

array and associated balance of system components, including transformers, inverters, combiners, wiring, and medium voltage conductors, to connect the Project to the ISO-NE grid. The solar array itself originally consisted of approximately 75,000 individual solar panels mounted on steel racking supports. The racking system will be anchored to the ground by vertical screws installed 4 to 6 feet into the underlying soil/rock. The panels themselves were to be oriented to face directly south at a tilt angle of 15 degrees. The solar panels will be assembled to the racking in a “landscape” orientation, with the top height of the highest panel being at approximately 9-10 feet above ground, and the bottom edge of the lowest panel approximately 2-3 feet above ground. The entire leased area of the Project, including under and around the solar panels, will be natural soil planted with appropriate grass species. The solar array and interconnection route will be separated from nearby residences and abutting properties by elevation and a significant tree buffer. The Facility will include eight (8) utility scale inverters. Each inverter will be nameplate rated at 2,500 kw. The inverters will convert the DC power from the panels to AC power. The total AC power of the Facility is 20 MW. The AC power will be fed to 8 transformers, which will step the voltage up from 1,500 V to 13,800 V and feed the power to the conductors which will run from the Facility to the Rocky River substation. The inverters and transformers will be located on concrete pads as shown on the Detailed Site Plan which was included in the Petition. Once constructed, the Facility will be surrounded by a 7-foot high counter-sunk (for species protection) chain link security fence, as required by electrical code. There will be one main gate entrance to the solar array. The Facility will be accessed during construction and operation via an existing unpaved access road that connects to Candlewood Mountain Road. Improvements will be made to this access road to make it suitable for construction traffic and to mitigate any erosion issues. During operation, the access road will be

used by operations personnel on a quarterly to biannual basis, landscaping/mowing personnel, and emergency services personnel.

To address the Council’s environmental concerns, the proposed Facility layout was altered and the footprint has been reduced in size to allow the Project and associated area of disturbance to avoid undisturbed slimy salamander habitat, increase the area of undisturbed critical terrestrial habitat (“CTH”) around the two cryptic vernal pools within Wetland I which were initially identified during the site walk with Council members and representatives on September 26, 2017, and subsequently mapped by Oxbow Associates, Inc. (“Oxbow”) and the vernal pool in Wetland V, and include an approximate 69-foot buffer between the Project limits of work (“LOW”) and a potentially significant archaeological area (Locus 7). As documented in the Petition and in testimony, the original size of the array was 26.5 MW DC using solar panels at a 15-degree tilt angle. The revised array is approximately 24 MW DC at a 12-degree tilt angle, and will consist of approximately 60,000 solar panels. At the revised 12-degree tilt angle, the top height of the panel is approximately 6-7 feet above the existing ground surface. A 24 MW DC array is the minimum size that can be coupled with 20 MW AC of inverter capacity, which is the minimum required AC capacity under the Project’s PPA with the participating Tri-State RFP Utilities. As the Project was bid into the Tri-State RFP competitively, 24 MW DC is also a lower limit of Facility size below which project economics become highly unfavorable, and make the Project unfinanceable. The reduction from a 15-degree to a 12-degree tilt was made to allow reduction in the overall Facility area while maintaining a minimum of 24 MW DC. It should be noted that the open field adjacent to Candlewood Mountain Road on the parcel was also considered as a possible area to locate a portion of the Facility, but solar panels in this field would have much more visual impact for neighboring residences than the current location of the

Facility. The output of the Facility will be reduced due to the reduction in kW DC size. In the original petition, the annual output was projected at 34,000,000 kWh. The revised Facility output on an annual basis is projected at 31,000,000 kWh. The location of the interconnection route immediately east of the Facility has also been altered slightly to better take advantage of an existing old haul road cut, thereby reducing environmental impacts in this area. As described in the Petition, testimony, and interrogatory responses, staging and laydown areas will be established within the overall area of disturbance for the Facility, and removed as the Facility is constructed. As noted on the revised site plans, the Project will also potentially use the open field adjacent to Candlewood Mountain Road as a temporary laydown, staging, and vehicle parking area during construction. Use of this area will not require grading and any impacted areas will be re-seeded after construction.

B. Land Conservation

The land developer of the parcel hosting the Project - New Milford Clean Power, LLC - will deed approximately 100 contiguous acres (located on the solar array parcel as well as an adjacent parcel also controlled by the land developer) to a local land conservation trust as permanently conserved land. The area to be set aside will encompass the area of the three vernal pools and associated prime slimy salamander habitat immediately to the north and east of the area to be used for the Project. The area to be placed into conservation will include the location at the summit of Candlewood Mountain which is also the terminus of the “Blue Trail” and Lookout Point, a trail destination currently on private land. Additionally, the 100-acre permanent conservation restriction would include Locus 7, an area of archaeological sensitivity. The completion of the transaction to deed the subject conservation parcel to a local land

conservation trust will be accomplished once the Project is fully entitled and permitted, and moves into construction.

C. Interconnection

The Facility will be interconnected directly to the Rocky River substation via a dedicated circuit. The exact specifications of interconnection conductors and associated protection circuitry will be determined after obtaining the results of the distribution and transmission level impact studies that are currently underway by Eversource Energy. These studies are near completion. The dedicated circuit will run east from the solar array and down the east side of Candlewood Mountain, onto the FirstLight property that contains the Candlewood Lake dam. The circuit will run north of the dam and along an existing paved service road towards Route 7, then along an existing fiber optic line corridor before terminating at Route 7 across from the FirstLight power station and Rocky River substation. Where the circuit runs through wooded area, a 30-foot wide corridor will be cleared. Only limited clearing/trimming will be necessary along the service road or along the fiber optic line corridor. The interconnection line will not be visible from the main body of Candlewood Lake, based on location and existing trees which will remain between the interconnection route and the Lake.

D. Benefits to Community

The Project will provide economic and other benefits to the Town of New Milford. For example, the Project will provide increased tax revenues. The Project has worked closely with the Town of New Milford to negotiate and execute Payment In lieu of Taxes (“PILOT”) agreement that provides for payment of over \$2.7 million in tax revenue for the Facility over 20 years. This is an approximately five-fold increase in the tax revenue currently being generated by the property where the Project is sited, and will be a significant economic benefit to Town

finances. In addition, the solar facility will require no additional services or infrastructure from the Town during construction or operation.

**E. Preserves Land from Intense Development**

The parcel hosting the solar array is currently zoned as a Major Planned Residential Development District (“MPRDD”) – the only such zoned parcel in the Town of New Milford. This zoning designation allows for the building of a large scale, high-density residential development of up to hundreds of units, buildings up to 5 stories high, and paved parking and surface roads. The solar development is not permanent, and involves minimal installation of impervious surfaces and project heights no more than 7 feet, except for the transmission line poles which will be approximately 45 to 50 feet in height. The PILOT also has a provision for voluntary change by the land owner of the zoning from MPRDD to R-80, which significantly reduces the potential scale and density of potential residential development of the parcel after the solar array is removed.

**F. Creates Local Jobs**

The construction of the Project will likely take approximately 6-9 months, and will generate up to 250 construction jobs. These jobs will potentially be in the areas of surveying, system installation, mowing/landscaping, site work and utility work. As part of the PILOT agreement, the Petitioner agreed to make commercially reasonable efforts to give preference to local contractors, subcontractors, and workers to install, construct, and maintain the Facility. The Petitioner will also provide a written report to the Town prior to construction outlining the percentage of work for local contractors and workers. The report will be updated on the commercial operation date to show the Petitioner’s actual usage of local contractors, subcontractors and workers during the installation and construction of the Project.

#### **G. Benefits to Connecticut**

The environmental attributes of the Project will provide substantial benefits to the State of Connecticut and the New England Region for years to come. First, the Project will provide emission free power and CO2 Offset by generating approximately 31 million kilowatt hours per year of clean, emission free electricity that will be fed directly into the ISO-NE grid. This generated power will offset the equivalent of over 25 million pounds of coal being burned for electricity production. Alternatively, the energy produced will be sufficient to offset approximately 23,071 metric tons of carbon dioxide (equivalent) each year.

Second, the Project will reduce the need for Fossil fuel-based power generation by contributing to the reduction of additional fossil fuel generation capacity to the ISO-NE grid to meet electricity demand in the future, thereby further reducing the region's dependence on fossil fuels, and improving air and water quality in the state of Connecticut and the New England region.

Third, the Project benefits the ISO-NE Grid in Connecticut by providing deliveries into the ISO-NE forward capacity market, thus standing ready to provide energy during constrained periods in the western Connecticut region. The ability to deliver energy during constraints is due to its location and interconnection to the 345 KV high voltage transmission line.

#### **H. Currently Allowed Land Uses at the Site**

The parcel is zoned as a Major Planned Residential Development District ("MPRDD"). This zoning district was established for this parcel approximately 12 years ago to allow for the potential development of a large scale, high-density, multi-story residential complex. Plans for an over 500-unit active adult residential development (called "Dunham Farms") were submitted

to the Town of New Milford in 2007, but approval was never granted by the Town and the project did not go forward. The MPRDD zoning designation remains in place, and therefore a large scale residential development could still be constructed at the site. As opposed to a large multi-story residential development with paved roads and parking, however, the solar array will create only a very small amount of additional impervious area at the Site. The only impervious structures will be 8-10 concrete pads for the inverters/transformers, each approximately 10x20 feet in size. The entire area of the solar array will be grass field and there will be no paved areas. The solar array will require no Town services and will be largely invisible to the surrounding area, as the maximum height of the solar panels is approximately 6-7 feet. In contrast, a large scale residential complex would be allowed to be up to 5 stories (approximately 50 feet) in height.

It should be emphasized that the Facility is not a permanent structure. The solar array will be removed and decommissioned at the end of its useful life (20-30 Years) and the area occupied by the array can remain as meadow or revert to forest. The PILOT agreement executed with the Town also has a provision for voluntary change of the zoning of the solar array parcel to R-80, which is much lower density (approximately 2 acre) residential zoning than the current MPRDD zoning.

#### I. PILOT with the Town of New Milford

The PILOT Agreement was negotiated between the Town of New Milford and Candlewood Solar LLC between November 2016 and February 2017. The PILOT provides for a structured tax payment over twenty years of the operation of the solar array, with an option to renew for 5 years at the end of the 20-year term. The total amount of payment to the Town over 20 years is over \$2.7 million. The PILOT also includes numerous provisions that provide the

Town with additional protections regarding the construction and operation of the Project. These include the requirement for issuance of a total of \$325,000 in surety bonds during construction to cover potential storm water drainage and erosion impacts, local infrastructure impacts, and impacts from visibility of the array to nearby properties. The PILOT also requires that Candlewood hire a licensed forester to provide guidance on proper logging operations, and provide decommissioning assurance in a form acceptable to the Siting Council and the Town. Lastly, the PILOT requires that Candlewood make commercially reasonable efforts to hire local contractors and construction personnel for the construction work, and to report to the Town on the amount of local labor and contractors that are hired. The PILOT provides the following tangible economic benefits to the town: (1) \$2.7 million in guaranteed tax revenue over 20 years, which is approximately five times the amount of tax revenue that would be generated by the property as it exists now; and (2) commitment by the Project to make commercially reasonable efforts to hire local contractors for work on the Project.

J. Construction

Regarding site preparation, the access road to the site from Candlewood Mountain Road will be improved and stormwater control measures will be incorporated into the construction. Wooded areas will be cleared, and the land will be graded as necessary. Temporary stormwater and erosion control measures will be employed. Racking and panel deliveries to the site will be made, and racks will be installed starting at the northern portion of the array and working south. Panel installation will follow racking, also working north to south. Trenching, wiring and installation of inverters and transformers, and fencing will follow. Interconnection work will proceed as soon as site preparation is completed and will be completed in parallel to array construction. Overall the construction at the site will take 6-9 months, excluding winter down

time. Tree clearing, and site preparation work will occur primarily in the first 2-3 months, and this will include preparation and installation of erosion controls, storm water controls, and exclusion barriers for the protection of sensitive resources (e.g. archaeological resources and state listed species), light grading, improvements to the access road, and readying of pads for the inverters and transformers. The remainder of the construction time will be taken with installation of the racks, panels and wiring, as well as transformers and inverters. The permanent security fence will be completed at the end of the construction phase.

Construction of the Facility will be conducted in an area approximately 350 feet away from the closest residential structure. The following measures will be implemented to minimize construction impacts: (1) Storm water and erosion control measures will be implemented in accordance with State of Connecticut requirements and erosion control measures will be maintained during construction of the Facility, until the Site has achieved final stabilization; (2) noise impacts will be minimal due to the physical distance of the site from residential receptors, and by the Project's compliance with standard work hours mandated by the Town of New Milford; and (3) traffic impacts on Candlewood Mountain Road will be minimized by grouping and consolidation of major equipment deliveries (panels, racks, inverters). Measures such as installation of a tracking pad will be taken to minimize tracking of mud from construction vehicles onto Candlewood Mountain Road. Outside of equipment delivery, construction vehicle traffic will be minimal. Personnel vehicles can be parked at the Project site in areas not occupied by the solar facility, and if necessary, in the open field on Candlewood Mountain Road.

All construction activities will be timed and sequenced to allow for implementation of mitigative and protective measures required for state listed species. Specifically, as outlined in Candlewood's October 27, 2017 letter to CT DEEP Natural Diversity Data Base ("NDDB"), filed

with Council on October 31, 2017, tree clearing will be completed during the hibernation or winter range period (Hoary, Red and Silver-haired) for bats and tree clearing will be limited to November 1 through March 30. The implementation of this measure would be protective of those species of bats identified by NDDB as well as other bat species.

Additionally, to minimize potential impacts to turtles, after tree clearing activities, but prior to April 15th, a perimeter of standard silt fence and haybales will be installed along the LOW to enclose the solar array field and active construction areas. A perimeter of standard silt fence and haybales will also be installed to enclose the 30-foot work corridor from Rocky River near the Candlewood Reservoir Dam east, and northeast to the intersection with the paved service road (approximately 1,500 feet) during construction and installation of the electric interconnection route. The perimeter, exclusionary barrier will be a minimum of 20 inches tall and will be secured to and remain in contact with the ground. The exclusion barrier will be maintained, and inspected weekly through the construction period to secure any gaps or openings at ground level to exclude any box turtles that may seek the disturbed soils for nesting substrate, or random wanderings of extant mountain turtles. Plastic web or netted silt-fence will not be used. Silt fencing that is used for exclusion will be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.

No construction is planned within wetland areas, other than a small amount of tree clearing/trimming. Approximately 2,322 sf of Wetlands VI, VII, VIII, and IX along the interconnection route would be converted from forested wetlands to emergent and/or shrub wetlands to provide vertical clearance for the overhead utility line.

**K. Safety and Security**

The Facility will be surrounded by a 7-foot high chain link security fence<sup>2</sup>, and there will be one locked gated entrance to the Facility. All electrical equipment is fully enclosed and locked. Local fire and emergency personnel will be trained on system basics and how to shut the system down in emergencies, as well as provided contact information for operations personnel. The Facility will be located at a higher elevation from the surrounding area and surrounded by existing forested areas. The Project will emit minimal noise during the day and will be silent at night. There are no moving parts or exposed electrical components or wires. The Project has made 7460 Filings to the Federal Aviation Administration (“FAA”) for over 40 points along the perimeter of the solar array and along the alignment of the interconnection route. Based on these filings, FAA has determined that the Facility and associated interconnection does not pose a hazard to air navigation.

**L. Electric and Magnetic Fields**

The Project may produce some electric and magnetic fields, but will produce no more significant electromagnetic field than typical distribution wires on poles that run throughout the Town of New Milford.

**M. Air Quality**

As detailed in Section 3.3 of the EA, the Facility will not produce air emissions of regulated air pollutants or greenhouse gases during operation. No air permit is required for construction or operation of the Facility. Temporary construction related emissions will be controlled by implementing appropriate measures (e.g., dust control, limits on idling of

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<sup>2</sup> As a protection measure for the Box turtle, the security fence surrounding the solar array will be counter-sunk to exclude Box turtles from the array field to avoid the potential for mowing mortality to turtles that would access the array with a raised fence configuration.

equipment, proper maintenance of vehicles and equipment, etc.). Any potential air quality effects resulting from construction activities for the Project would be localized, temporary and de-minimis. As detailed in the response to Council Interrogatory Number 48, carbon emissions avoided through generation of electricity by the proposed solar facility will offset the carbon sequestration loss from tree clearing for the Project in less than one day per year of operation. The Project will meet air quality standards of the CT DEEP.

N. Soils, Geology, and Topography

Construction of the proposed solar array would result in minimal alterations to soils, geology, and topography at the Site. As detailed in the response to Council Interrogatory Number 60, limited grading within the proposed footprint of the array is proposed where slopes exceed the maximum allowable slope of the racking equipment. Grading will also be required to improve the access road as well as implement construction-phase best management practices (“BMPs”) for erosion and sedimentation control, as described in the Erosion and Sediment Control Plan (EA Attachment D, Appendix D), which will be converted to permanent stormwater quality BMPs to maintain water quality following construction. Please also refer to the response to Council Interrogatory #64. Overall, the site topography will remain largely unchanged. No impacts to site geology are proposed. Should ledge be encountered when installing the vertical posts for the solar panels, the rock will be pre-drilled, and no chipping or blasting of ledge or rock is proposed. The construction of the Project will not result in any impacts to NRCS mapped, stated designated Prime Farmland and/or Important Agricultural Soils.

## O. Aquatic Resources

The construction of the solar array will not result in any direct impacts to wetlands or waterways. The solar array, associated appurtenances, access road and tree clearing area, has been designed to avoid any direct impacts to wetlands or waterways. As noted in response to Council Interrogatory Number 54, the fence line would be located approximately 64 feet from Wetland III at its closest point and approximately 470 feet to the closest watercourse (stream from discharge of Wetland I, northeast of closest fence).

The construction of the electric interconnect will not result in any loss of wetlands. The construction of the electric interconnect will result in the conversion of approximately 2,322 square feet of forested wetlands to emergent and/or shrub wetlands, but no loss of wetland area is proposed. As detailed in Section 3.5 of the EA, trees will be cleared from small portions of Wetlands VI, VII, VIII and IX to provide vertical clearance for the overhead utility lines. As detailed in the response to Council Interrogatory Number 51, clearing will be limited to cutting of trees which could interfere with the overhead lines, there is no planned ground disturbance in wetlands, and stumps will be left in place to avoid soil disturbance. No direct impacts to wetlands or watercourses would be required to install the utility poles and guide wires associated with the electric interconnection.

A total of three vernal pools are located within the solar array site. No impacts will occur to the vernal pool depressions or 100-foot envelopes. Two cryptic vernal pools are part of a single wetland system (Wetland 1) and were evaluated together, as a single system and not in isolation. The critical terrestrial habitat (“CTH”) (area within 100-750 feet of the pool's edge) associated with the cryptic vernal pools covers an area of approximately 63.08 acres. Development within the CTH (tree clearing area and solar array development) will cover

approximately 26.14 acres or 41.4 percent of the CTH projected by the Wetland 1 vernal pools. Approximately two (2) percent of the CTH associated with Wetland 1 vernal pools (1.36 acres) is currently altered field area and the proposed condition will largely mimic the existing condition in that area in that it will remain field.

The CTH associated with Wetland V covers an area of approximately 43.45 acres. Development under the reduced footprint design within the CTH (tree clearing area and solar array development) will cover approximately 7.5 acres or 17.3 percent of the CTH.

As depicted on Figures 1 - 3 attached to Council Interrogatory Number 49 (October 27, 2017, letter to Ms. Dawn McKay, Connecticut Department of Energy & Environmental Protection, Natural Diversity Data Base) the CTH associated with the vernal pool in Wetland V overlaps with the CTH associated with the cryptic vernal pools in Wetland 1 (approximately 11.94 acres of overlap). Based on the overlapping, continuous, unfragmented system between the CTHs, these areas likely function as a single, mutually supportive system and therefore, should be assessed together. As a single system, the CTH totals approximately 94.57 acres and the development area (tree clearing area and solar array development) within the single combined CTH system totals approximately 29.91 acres or 31.6 percent. Additionally, as noted above, approximately 2 percent (1.36 acres) is currently altered field area and the proposed condition will largely mimic the existing condition in that area in that it will remain field.

While the post-development condition of the cryptic vernal pools in Wetland 1 exceeds the recommended less than 25 percent developed area guideline set forth in Table 3 on page 18 of Calhoun and Klemens (2002), nonetheless, the net impact to the aggregate, overlapping CTH associated with the three pools is 31.6 percent and, unlike more conventional development (commercial, residential) when completed, the array field will not have many of the legacy

mortality sources (to vernal pool wildlife) that result from conventional projects built in close proximity to vernal pools. Specifically, there will be no ongoing road mortality to frogs, toads or salamanders. Similarly, no animals will be captured in storm gutters and deep sump catch basins. Although the array field will not provide terrestrial habitat, it will impede, but not prevent movement by salamander species and will do little to impede nocturnal migration by wood frogs.

The Project will adhere to the following recommended measures prescribed for Tier I vernal pools identified by Calhoun and Klemens (2002) as follows:

- No impacts will occur to the vernal pool depression or 100-foot envelope.
- The total length of roads within the 750-foot CTH will be the minimum required to access the northern and eastern portions of the array for maintenance or emergency activities.
- Any ruts or artificial depressions created as part of the Project will be refilled to grade to avoid creation of decoy vernal pools.
- Erosion and sediment control BMPs will be implemented per the required Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities.
- Impervious surfaces will be minimized within vernal pool habitat.
- No lighting will be required for the Project.

P. Vegetation and Wildlife

In response to environmental concerns, revisions were made to the site layout and design that reduced the solar array limit of work area from 84.42 acres to 67.9 acres. This area represents an approximate 19.5 percent reduction in the limit of work area from what was

provided in the original Petition. Additionally, the forested area to be cleared within the solar array limit of work was reduced from 68.52 acres to 51.55 acres (approximately 24.7 percent).

Of the 163.5-acre facility parcel, more than half of the parcel will remain undisturbed. The electric interconnect is located on all three parcels and covers an area approximately 4.83 acres. As detailed in Section 3.6 of the EA, construction of the solar array will alter the upland forested areas, converting them to upland herbaceous areas and thus altering their habitat type. Existing herbaceous cover areas within the solar array area will remain herbaceous following construction. As previously noted, wetland habitats will not be directly impacted by construction of the solar array. Along the interconnect route, tree clearing will be required for clearance of the overhead electric lines, but remaining understory vegetation will be allowed to remain in both upland and wetland areas.

Construction activities will disturb local wildlife. Following construction, habitat changes will alter the use of the site by local wildlife. The increased herbaceous / shrub habitats will be of less value to wildlife species that prefer forested habitats, but will provide increased habitat for those species preferring herbaceous, scrub, and forest edge habitats. Except for species of concern identified by NDDB, these alterations are not expected to adversely impact overall wildlife populations within the Project area. Appropriate protection and mitigation measures, which are described herein and in previous testimony, will be agreed to with NDDB to protect state listed species. Therefore, construction and operation of the Project will not result in substantial adverse effects to vegetation or wildlife.

Regarding the status of surveys for state listed species and/or associated habitat(s) at the site, as requested in the NDDB letter of July 10, 2017, as noted in the response to Council Interrogatory Number 49, Oxbow was engaged to conduct surveys for the slimy salamander and

its habitat, as well as perform a habitat assessment for the Golden-winged warbler. Numerous surveys were conducted during September and October 2017. With respect to the Golden-winged warbler, the NDDB letter of July 10 referenced the field habitats on the site as potential breeding habitat. Specifically, three horse field/hay pasture areas are located within the southern portion of the proposed solar array footprint with a fourth horse field/hay pasture located along Candlewood Mountain Road. Field review of these areas has determined that they do not represent suitable breeding habitat for this species, and, in fact, these areas wholly lack the particular ephemeral seral stage, commonly referred to as scrub-shrub or old-field habitat that is required for successful breeding by this species. A report dated October 27, 2017, detailing these findings was submitted to NDDB on October 28, 2017 and was provided Council on October 31, 2017.

With respect to the slimy salamander, field surveys identified areas of potential habitat within the overall parcel proposed for the solar array. Specifically, areas with mature second growth forest on steep rocky hillsides with exfoliating bedrock and moist soils are present in portions of the site. Notably, these areas are not present throughout much of the southwestern, upland portion of the parcel where development is proposed. The survey documented several relatively common herpetozoan species, including two salamanders and six anurans (frogs and toads); however, no slimy salamanders were documented in the examination of more than 400 suitable cover objects in diverse portions of the parcel. While no slimy salamanders were documented, we cannot conclusively determine whether individuals of the species may occur within the larger Project parcel. The habitat quality, dimension and adjacency to other occurrences suggests the species is likely to persist at this locus, and particularly in the higher quality, older growth, steep rocky forested sections. As such, avoidance and protection measures

including reduced solar array footprint, adjustment of the electrical interconnect alignment to reduce alteration of steep forested habitat, and installation of an exclusion barrier during construction have been implemented. Additionally, an approximate 100-acre area of contiguous forested habitat, approximately 75% of which is steeply sloped, mature forest will be placed into conservation restriction to conserve slimy salamander habitat in perpetuity.

The October 27, 2017 Report and cover letter, filed with Nddb on October 28, 2017 and provided Council on October 31, 2017 addresses all state listed species identified in Nddb's July 10, 2017 letter and identifies additional BMPs, protection measures, and mitigation measures proposed by Candlewood. At the time of this filing, a response from Nddb is still pending. Copies of future correspondence received from or submitted to Nddb will be filed with the Council.

**Q. Water Supply Areas and Water Quality**

The construction and operation of the Project will not adversely impact public water supplies. The Project Site is not located within an Aquifer Protection Area. Further, the Project will not require any water withdrawals for operation and will not result in any wastewater or sanitary water discharges. Any water supplies needed during construction (dust control, etc.) will be supplied to the site via truck.

The construction and operation of the Project will not adversely impact groundwater quality underlying the site. As detailed in Section 3.7 of the EA, appropriate measures will be implemented during construction to prevent accidental releases of fuels from vehicles and equipment. In addition, no fuels or hazardous materials will be stored at the Project Area during operation. As noted, the Project will not generate any wastewaters, including sanitary

wastewaters during operation. Therefore, construction and operation of the Project will not result in any adverse impacts to groundwater quality underlying the site.

The construction or operation of the Project will not adversely impact surface water quality of streams or Rivers in the Project vicinity or of Candlewood Lake. As detailed in EA Attachment D and further discussed below, appropriate erosion and sediment controls and storm water management measures will be implemented during construction and operation to protect water quality of wetlands and watercourses on and near the Site.

**R. Stormwater Management and Erosion and Sediment Control**

The site and stormwater design have been advanced to provide additional detail for contractors that may be performing the site work. The overall stormwater management approach remains as initially presented, however, additional detail on grading, BMP sizing, site stabilization, and compliance with Connecticut stormwater guidelines has been included. An updated Stormwater Management Plan, Soil Erosion & Sediment Control Plan, and site plans will be submitted to the Siting Council following review with CT DEEP.

During construction, stormwater runoff will be managed through phasing of construction activities. No more than 5 acres of the proposed array (draining to a common discharge point) will be disturbed at any one time. Runoff will be directed through stabilized conveyances to sediment traps. Downgradient areas along the limit of work will be lined with perimeter controls (i.e., berms, silt logs, or compost socks).

Stormwater management during operation will be managed through conveyance swales, water quality swales, sand filters, and level spreaders. This combination of best management practices has been developed to meet the requirements of the 2004 Connecticut Stormwater Quality Manual.

Construction of the Project will comply with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The Erosion and Sediment Control Plan provides the rationale and supporting calculations for selection and design of the best management practices to be employed during construction. Best management practices were developed using the criteria specified in the guidelines.

The proposed stormwater management practices will meet the requirements of the 2004 Connecticut Stormwater Quality Manual. The Stormwater Management Plan provides the rationale and supporting calculations for selection and design of the permanent best management practices to be constructed for this Project. Permanent best management practices were developed using the criteria specified in the guidelines.

The Project will seek coverage under the CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. As the Project will disturb greater than one acre of land, coverage under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities will be required. As such, a Stormwater Pollution Control Plan will be prepared in compliance with the General Permit.

S. Cultural Resources

Heritage Consultants, LLC (“Heritage”) was retained to complete the Phase IA Professional Cultural Resources Assessment and Reconnaissance Survey and Report for the Project. The Report concludes that portions of the solar array site retains moderate/high archaeological sensitivity and recommends that Phase IB cultural resources reconnaissance using subsurface testing techniques be conducted in these areas.

Heritage conducted Phase IB subsurface testing of the approximate 35 acre moderate/high archaeological sensitive area within the solar array site and the approximate 5-acre hay/horse pasture located along Candlewood Mountain Road in September and October 2017. The Phase IB Report was filed with the SHPO and the Council on October 26, 2017 and October 31, 2017, respectively.

As noted in the Phase IB Report, due to the presence of artifacts recovered from intact subsoil context in multiple shovel tests, Locus 7 is potentially significant applying Criterion D of the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]), which states that a resource “has yielded or may be likely to yield, information important in history or prehistory” and it was recommended that CS develop an avoidance plan for this area in consultation with the Connecticut State Historic Preservation Office so that Locus 7 is not adversely affected by the proposed construction. If an avoidance plan for this area is not feasible, then Phase II National Register of Historic Places testing and evaluation of Locus 7 was recommended prior to construction of the proposed solar facility.

The cover letter attached to the Phase IB Report noted that the revised site plan avoids Locus 7 and that a buffer of approximately 69 feet will separate the limit of work / limit of tree clearing and the area of archaeological sensitivity and that the approximate 69-foot buffer between the limit of work / limit of tree clearing and the area of archaeological sensitivity consists of mature forest. Additionally, an exclusion barrier consisting of standard silt fencing will be installed along the limit of work after tree clearing activities, but prior to April 15th. Standard silt fencing was selected for erosion and sediment control purposes as well as for ecological reasons (species exclusion barrier). Orange snow fencing was considered, however, CT DEEP NDDB notes that plastic web or netted silt-fence should not be used as exclusionary fencing (CT DEEP NDDB letter

dated July 10, 2017, Recommended Protection Strategies for Wood and Box Turtles). Further, the 100-acre area for permanent conservation restriction includes Locus 7, providing further permanent protection of this resource.

On November 28, 2017, the SHPO issued a letter in response to the Phase IB Report (See “Exhibit A” to this Brief).

**T. Visual Impacts**

The Project will be screened from view by existing forested areas, and terrain from nearly all surrounding locations. This is due to the low profile of the solar panels and associated equipment, the presence of mature forested buffers surrounding the Facility which will remain, and the elevation of surrounding visual receptor locations relative to the solar array. No views of the solar array are anticipated from locations adjacent to the Facility parcel or along Candlewood Mountain Road. As depicted in the before and after photos from Viewpoint numbers 1 and 5 included in the EA, limited views of the solar array on the western facing side of Candlewood Mountain are anticipated to be possible from more distant locations to the west. As the Facility will be small relative to the overall viewshed from these locations and partially screened by intervening vegetation, the impact of these limited views will be minimal.

Views of the solar array from locations to the north, east and south of the solar array will be precluded by intervening topography and existing forest.

**U. Scenic and Recreational Areas and Community Facilities**

The Project will not result in any changes to public access to scenic or recreational areas or community facilities, or place any additional demands on the use of these resources. The Project will not impact public access to scenic or recreational areas or community facilities. The

Project will be unstaffed once constructed and will not result in any increased demands on scenic or recreational areas or community facilities in the Project area.

The Project will not result in visual, noise, traffic, air quality, or any other adverse impacts to scenic or recreational areas or community facilities. The Project will not be visible from surrounding areas except for limited, distant views from isolated locations to the west. Views from the Housatonic Range Trail / Blue Trail System, Candlewood Lake, and associated public parks (Lynn Deming, Millstone Ridge Beach) will be precluded by intervening vegetation and terrain. As detailed in the CS response to Council Interrogatory Number 39, when operating, the Project will meet the CT DEEP noise control standards for Class A receptors. Additionally, when operating the Project will not generate air emissions and will not generate daily traffic on area roadways.

#### **IV. CONCLUSION**

The testimony, documentary evidence, and draft FOF contained in the record of this proceeding, demonstrate that the Project satisfies the required legal standard of lack of adverse environmental impact. Accordingly, and for the reasons stated in this Brief, the Council's draft FOF, CS' EA, testimony, and supplemental documentary evidence, Candlewood respectfully requests that the Council grant its Petition.

Respectfully submitted,

CANDLEWOOD SOLAR LLC



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## CERTIFICATE OF SERVICE

This is to certify that on this 14<sup>th</sup> day of December 2017, an original of the foregoing will be filed electronically and the original and 15 copies will be hand-delivered to the Connecticut Siting Council, 10 Franklin Square, New Britain, CT 06051, and one (1) copy will be delivered electronically on this 14<sup>th</sup> day of December 2017 to the individuals listed on the Service List.



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Paul R. Michaud, Esq.



Department of Economic and  
Community Development

State Historic Preservation Office

November 28, 2017

Ms. Tricia Foster  
Senior 2 Planner  
Amec Foster Wheeler Environment and Infrastructure, Inc.  
271 Mill Road, 3<sup>rd</sup> Floor  
Chelmsford, MA 01824

Subject: Phase IB Cultural Resource Reconnaissance Survey  
20 MW Solar Photovoltaic Project  
Parcels 26/67.1, 9/6, and 34/31.1  
Candlewood Mountain Road  
New Milford, Connecticut

Dear Ms. Foster:

The State Historic Preservation Office (SHPO) has reviewed the archeological survey report prepared by Heritage Consultants, LLC (Heritage), dated October 2017. The fieldwork was completed at the request of this office in a letter dated June 21, 2017. The proposed activities are under the jurisdiction of the Connecticut Siting Council and are subject to review by this office pursuant to the Connecticut Environmental Policy Act (CEPA). The proposed facility is located on portions of three adjacent parcels, totaling 163.5 acres; the solar array will occupy approximately 54.55 acres. The reconnaissance survey consisted of subsurface testing of areas deemed to have moderate to high archaeological sensitivity, and that would be subject to ground disturbing impacts as part of the proposed undertaking. A total of 8 cultural resources loci were identified, and 446 shovel tests were excavated within the areas considered to be archaeologically sensitive based on the results of the Phase IA survey completed by Heritage. The submitted report is well-written, comprehensive, and meets the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*.

During the archeological reconnaissance survey, shovel tests were excavated at 15 and 30-meter intervals; in areas where cultural materials were identified, shovel tests were reduced to 7.5 and 3.75-meter intervals. During survey, Locus 1, 3, and 4 contained small prehistoric flake scatters, indicative of single-use areas for stone sharpening, while failing to produce additional artifacts or evidence of cultural features, and as such, are not considered eligible for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4 [a-d]). This office concurs that additional archeological investigations of these areas are not warranted.

State Historic Preservation Office

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## Department of Economic and Community Development

### State Historic Preservation Office

Locus 2 contained a single Early Archaic Period Bifurcate projectile point, an artifact type rarely identified in Connecticut. No other cultural materials for evidence of cultural features were identified within Locus 2.

Examination of the proposed solar facility also resulted in the identification of Locus 7, a prehistoric lithic workshop. Multiple shovel tests conducted in the area produced lithic material from undisturbed soil contexts, and is potentially eligible for listing on the National Register of Historic Places under Criterion D. SHPO will assign a state archaeological site number to Locus 7 once it has been requested by the consultant.

In response to the results of the survey, an avoidance and construction management plan has been developed by the project sponsor. Revisions to the previously submitted site plan include a buffer of approximately 69 feet that will separate the limit of work (LOW) and limit of tree clearing from the area of archeological sensitivity. Additionally, a fence line that will surround the facility is proposed to be located approximately 129 feet from Locus 7. Though tree clearing is proposed between the LOW and the fence line, the tree stumps will not be removed. An exclusion barrier consisting of standard silt fencing will be installed along the limit of the LOW. Further, a 100-acre area of the site, which includes Locus 7, is proposed for permanent conservation restriction. Area 4, anticipated as a staging area for construction parking and material/equipment storage, will not be graded, no additional tree clearance would occur, and no stone walls would be altered. SHPO suggests construction matting be used in Area 4 to lessen the potential impact to undisturbed resources. With these precautionary measures taken into consideration, the proposed development of the solar farm would have no adverse effect to cultural resources.

SHPO appreciates the cooperation of all interested parties in the professional management of Connecticut's cultural resources. We look forward to additional consultation if or when additional portions of the parcel are scheduled for development. These comments are provided in accordance with the Connecticut Environmental Policy Act. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or [marena.wisniewski@ct.gov](mailto:marena.wisniewski@ct.gov).

Sincerely,

Mary B. Dunne

Deputy State Historic Preservation Officer

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