

FIFTEEN ROPE FERRY ROAD



WATERFORD, CT 06385-2886

July 18, 2018

Ms. Melanie Bachman  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

RE: Petition 1347 Town of Waterford Initial Comments

Dear Ms. Bachman,

The Town of Waterford has reviewed materials submitted to the Connecticut Siting Council for the following petition:

**PETITION NO. 1347** – GRE GACRUX LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 16.78-megawatt AC solar photovoltaic electric generating facility located at 117 Oil Mill Road and associated electrical interconnection to Eversource Energy's existing substation at 325 Waterford Parkway North in Waterford, Connecticut.

Waterford is generally supportive of renewable energy projects. Comments included in this letter focus on integration of the project with surrounding land uses, environmental impacts, mitigating damage to local roads, and decommissioning. This review is intended to provide the Siting Council with a summary of the Town's priorities concerning potential impacts of solar development at 117 Oil Mill Road.

The proposed development site is located in Waterford's lowest density residential district (RU-120) and has never been classified as industrial property as described in the application narrative. Adjacent developed properties consist of single family homes to the west along Oil Mill Road. Undeveloped properties adjacent (east and south) to the project are zoned industrial. Undeveloped property to the north of the site is zoned low density residential. The nearest developed industrial parcels are several thousand feet east of the project site. Land zoned for multifamily use is located almost 4,000 feet to the east of the property. The Waterford Plan of Conservation, Preservation, and Development references future rural development at this location.

Application materials indicate that the proposed development involves clearing to the property line in some locations. Screening is indicated off site. While undeveloped land does border the project, no evidence of the developer's interest in adjacent land was provided for review. In the absence of such interest, the Town recommends that the limits of clearing for this project be modified to maintain adequate screening from adjacent properties within the project boundaries. A minimum 50 foot vegetated buffer should be maintained between the development and any residential property.

The project site is located in two watersheds that drain to the already impaired Niantic River. The Town developed watershed management plans for both Stony Brook and Oil Mill Brook that identify the

critical importance of these areas in maintaining the health and functions of these watersheds. Information provided with the application is insufficient in detail to demonstrate that the proposed development will adequately mitigate the potential for increases in sediment loading, water temperature, nitrogen and phosphorus. Waterford has historically prioritized development standards intended to protect critical resources such as those adjacent to the project site. Including clear construction details for sediment control and water quality attenuation in the approved plan set will help reduce the potential for adverse project impacts.

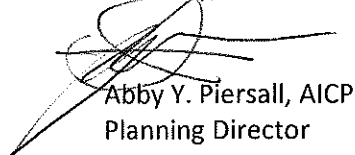
Construction and post construction runoff details should be required to demonstrate that stormwater will be adequately managed on site and in accordance with the Connecticut Stormwater Quality Manual. The Town does not support any request for a waiver of these standards based on site conditions and the sensitive nature of the receiving resources. Construction and post construction phasing and sequencing should be shown on the project plans and incorporated into stormwater permitting and construction contract documents. Phasing should include clear details on what work is required to be completed before a subsequent phase can begin. Opportunities for maintaining connected habitats, such as improving buffers near vernal pools, should be identified. Third party review during construction through site stabilization is recommended. The Town requests copies of any required third party stormwater reports. The attached letter dated July 13, 2018 from Waterford's Environmental Planner and reviewed by the Waterford Inland Wetlands/Conservation Commission reflects the Town's recommendations for additional information and project modifications to reduce potential adverse impacts to receiving water bodies and habitats.

The proposed development would be accessed via Oil Mill Road. Oil Mill is a local road that was neither designed nor built to carry heavy construction traffic. The Waterford Department of Public Works will require that the section of road to be used to support this development be reclaimed and repaved at the end of construction. Prior to the start of construction, the Town should be provided with an updated construction schedule that includes any anticipated interruptions to existing traffic on Oil Mill Road. Modifications to the site access drive will require evaluation by the Waterford DPW. Similar requirements may also be applicable during decommissioning, as project materials are removed and the site is restored.

The decommissioning plan included with the application materials references site restoration to restore vegetative cover and hydrological function to pre-development conditions. Decommissioning and restoration plans do not appear in the project maps and drawings. The Town requests clarification concerning the level of detail required by the Siting Council concerning future restoration plans. Given the recent timber harvest on the property, the Town recommends clarifying whether pre-construction conditions reference a forested or harvested site and whether the harvest access roads identified for use in this project will be restored as previously anticipated.

Thank you for the opportunity to comment on this proposal. The Town is happy to discuss the project in greater detail should the Siting Council have any questions or concerns regarding these comments.

Sincerely,



Abby Y. Piersall, AICP  
Planning Director



Date: July 13, 2018

To: Abby Piersall, Planning Director

From: Maureen FitzGerald, Environmental Planner

Re: Proposed Photovoltaic Installation  
177 Oil Mill Road; CT Siting Council Petition No. 1347  
REVISED COMMENTS on Siting Council Application

Comments Regarding Potential Impacts to Water Quality and Aquatic Habitat

The proposed project involves approximately 90 acres of land clearing and soil disturbance for construction. Based on the drainage mapping, 31 acres of this area occurs within the upper watershed of Stony Brook and 50+ acres occur within the watershed of Oil Mill Brook. Stony Brook and Oil Mill Brook are designated as Class A watercourses with a streamflow classification of 1, indicating free-flowing streams (CTDEEP Water Resources mapping).

Both Stony Brook and Oil Mill Brook discharge to the Niantic River. The Niantic is listed on Connecticut Impaired Waters List due to non-point discharges of bacteria affecting shellfish harvesting and recreational uses.

Field bioassessment surveys contracted by the Town of Waterford (Town) in 2014 and 2105 verified the presence of native trout in both Stony Brook and Oil Mill Brook. Oil Mill Brook scored a high biological condition gradient score of 1-2, reflecting a high biological diversity of water quality sensitive macroinvertebrates and clean water. The upper reach of Stony Brook scored a biological condition gradient score of 3-4, reflecting changes in the biotic community structure with several of the most sensitive macroinvertebrates lacking, but abundant presence of water quality sensitive species.

The Town's Stony Brook Watershed Management Plan (Milone & MacBroom, 2009) identifies the upper wetland and stream reach of Stony Brook as a critical wetland resource in this watershed, supporting important functions of biodiversity, habitat, nutrient retention and flood-flow alteration. A portion of this reach occurs downgradient and east of the proposed facility.

The Niantic River Watershed Management Plan, (2006), includes pollutant loading modeling for potential development in the watershed. Development of the subject parcel is identified in the model results as potentially increasing the total nitrogen, phosphorus and total suspended solids loading by greater than 100% over existing loadings.

The application does not evaluate the effectiveness of the stormwater basins in attenuating these potential increased pollutant loadings.

**Maintaining conditions in the tributary watersheds that support the biodiversity and water quality in these streams is a critical concern of the Town. Impacts to hydrology, temperature regimes and increased sediment loading can adversely impact the water quality and aquatic habitat of these streams. The application does not address the sensitivity of these receiving waters and wetlands nor evaluate the potential impacts to the receiving streams and habitats from construction and post-construction run-off from the proposed development.**

**Water quality criteria for construction and post-construction periods should be required to be satisfied in the design, construction and operation of this facility. With respect to the quality and sensitivity of the receiving waters of Stony Brook and Oil Mill Brook, the extent of soil disturbance, steep slopes, shallow ledge outcrops and aggressive construction schedule, it is imperative that sediment, bacteria and nutrient loadings be contained and attenuated onsite to abate potential degradation of wetlands and aquatic resources.**

The Wetland and Biological Assessment document submitted with the Application recommends promoting infiltration of run-off to “help to ensure” there are no thermal impacts to downstream resources. The report does not evaluate the opportunity or effectiveness of the proposed stormwater management system to infiltrate run-off or attenuate potential thermal impacts, sediment and nutrient loading to Stony Brook and Oil Mill Brook.

Significant increases in run-off are anticipated from the drainage sub-basins in post-construction conditions over that of existing conditions. Drainage calculations indicate the site post-construction is modeled as pervious. There are over 55,000 panels proposed on this site. Has field testing been conducted to verify the array performs as a pervious surface? If the post-construction site does not perform as a completely pervious landscape due to the acreage of solar panels, (@25 acres of surface area), the increase in run-off over existing conditions will be greater.

Implementation of site design and construction measures to dissipate and reduce run-off volumes prior to reaching the project perimeter and adjacent properties is recommended.

The proposed sediment/ detention basins located in the northeastern and eastern perimeter of the property are of particular concern. Basins 3, 4 and 7 are proposed to be constructed in areas of observed bedrock outcrop and soils shallow to ledge, with significant grading requirements to collect and direct run-off to the basins. Plan details do not provide elevations for the basin outlet structures for construction and post-construction phases. The construction sequence narrative indicates the basin outlets will be constructed after the drainage area has been seeded and stabilized. Erosion and potential failure of these basins embankments during site construction is a high concern, with resultant significant sediment impacts to downgradient wetland resources.

Basins level spreaders discharge to steep slopes and rock outcrops upgradient of Stony Brook. Stormwater discharged from the level spreaders is not anticipated to dissipate and may cause downgradient soil erosion and sediment impacts to the wetland and Stony Brook. The terrain and proximity to property boundaries does not provide much opportunity to attenuate or infiltrate run-off, nor to correct or abate sediment discharge impacts should they occur.

Relocation and/or re-configuration of stormwater basins 3, 4 and 7 should be evaluated to reduce the extent of soil disturbance in these ledge areas and minimize stormwater discharge to steep slopes and

the potential for impacts to Stony Brook. Reduction of the extent of disturbance on the areas of ledge and soils shallow to ledge in the northeastern portion of the project is recommended.

Relocation of the perimeter access drive in the northeast portion of the project site away from the bedrock outcrop and steep bordering slopes is recommended to reduce the extent of soil disturbance and erosion potential on these slopes.

The Town inland wetlands and watercourses mapping layer shows an intermittent watercourse in the location of detention basin #8, flowing south off the property. The wetland and biological assessment does not address if this watercourse occurs and the potential impacts to the channel stability from the proposed basin discharge. The basin should not be constructed within a watercourse.

The application narrative states the project will “foster the re-development and re-use of underutilized industrial property”. This statement is not appropriate. This subject site is not zoned industrial and has been in forested cover since before the 1934 aerial photos.

The wetland and biological assessment report identifies the parcel as part of a core forest area in the Town of Waterford and notes that the resulting clearing of @90 acres will render the site largely uninhabitable for forest-dwelling birds (p.17). Impacts of this habitat disturbance are also noted to affect core forest habitat on adjacent properties due to the relative location of the project in the central portion of the forest tract and the resultant forest fragmentation. This impact cannot be mitigated as proposed. The larger scale impact to wildlife and interior forest bird species diversity are not addressed in the application. Conversely, Volume 1, page 23 of the application states that the project will not alter areas of prime farmland or core forest.

Enhancement to upland forested areas around the identified vernal pools should be included to provide terrestrial habitat opportunities for critical vernal pool species. Removal of canopy and forest floor features in the required upland habitat can adversely affect long-term breeding success in these local populations.

The property has been authorized for timber harvest in accordance with the Waterford Inland Wetlands and Watercourses regulations and zoning regulations as an agricultural activity, not as a pre-cursor to the proposed site development. The Town of Waterford permitting department was not made aware of the proposed solar facility until April 2018. The Town requires that the haul routes, landing areas, and harvest areas are stabilized and seeded at completion of the timber harvest in accordance with the forestry best management practices. The existing access road is only that constructed from Oil Mill Road to the Eversource right of way. References to existing access roads in the application narrative appear to extend to all 13 drainage basin areas. This is not correct.

Temporary and permanent improvement to the existing dirt access road and wetland culvert crossing will likely be required to support the anticipated construction traffic. Existing sideslopes at the wetland crossing are relatively steep. Additional material may result in widening of the fill embankment at the wetland crossing. Plan details should be provided to address any access drive improvements proposed for the existing wetland crossing and its proximity to one of the identified vernal pool habitats.

### Overall Site Plan Comments:

Due to the area of site disturbance and construction schedule, vegetative stabilization of the array slopes and detention basins may not be achievable within the 2019 calendar year.

Seed mixtures specified for the detention basins may take 2 growing seasons to establish. Any accumulated sediments removed from the basin will leave the soils exposed to erosion. Once the sediment basins are converted to detention basins and the permanent outlet installed, the basins will provide little attenuation until vegetated. Supplemental soil stabilization will be required and should be included in the site plans and construction narrative.

Temporary provisions for soil stabilization within the basin and basin outlet locations will be required and should be identified on the plans.

Criteria and performance standards for the site stabilization and stormwater basins should be required on the plans and stormwater management plan.

Invert elevations for basin outlet control structure are not included on the plans. The type and design of temporary sediment basin outlets to control construction sediment discharge are not shown on the plans.

Calculations for sizing the basins to accommodate construction phase sediment storage requirements in accordance with the 2002 E&S Guidelines should be provided. The size of any temporary sediment basins should also be specified on the plans.

Soil investigations identifying field infiltration rates and depth to bedrock or refusal should be included in the plan information.

To minimize concentration of site run-off and control erosion of slopes within the drainage areas, reverse slope cuts or low swales installed parallel to existing contours should be considered in the site grading and E&S design plans to decrease run-off velocity, reduce erosion and sediment transport to the basins. The swales can also be constructed to promote infiltration of run-off where soil conditions allow prior to concentrating surface run-off into the detention basins.

Temporary and permanent stabilization measures for the proposed grassed swales should be addressed in the plans. Calculated flow velocities need to be considered. Phase 11 includes a diversion swale greater than 600 ft in length.

Level spreader outlets from stormwater detention basins 8, 10 and 12 occur at or very near the property boundary. Impacts from these discharge points may result in soil erosion, or alterations to downgradient drainage patterns. Demonstration that the applicant has obtained or will obtain rights to drain or discharge onto adjacent property is not included in the application

Level spreader outlets are located outside the perimeter chain link fence in some drainage areas. Provisions to inspect and maintain these structures are required.

The construction sequence and phasing described in the application documents are not included in the site plans.

Project screening – the property is located in a low density residential district (RU-120). Industrial zoned parcels border the site to the east and south but are presently undeveloped. Development of the facility includes clearing and grading right to the property boundary in places. Site cross sections indicate the proposed facility will be screened by forest beyond the property boundaries and outside the control of the developer. Any required or proposed vegetative screening should occur within the property boundaries. Identification of vegetative visual buffers on adjacent properties is not supported without specific deed restrictions or easements on those properties.

#### Erosion and Sediment Control narrative - EC-17 –

The Town's Conservation Commission agent is identified as the agent to inspect the clearing limits prior to start of construction and to inspect the stabilization of the site prior to removal of erosion and sediment control measures. The Town does not have permitting authority. The authorized permitting authority needs to be identified in this narrative.

The E&S narrative notes indicate the Town may require a bond for site stabilization. The Town supports that the regulatory authority, be it the Siting Council or the CT DEEP, require a site stabilization bond and stormwater basin performance bond for post-construction inspection and maintenance until site soils are stable. Again, the Town is not the permitting authority nor is it in a position to accept and administer a bond for this project.

The Town of Waterford requests and recommends that a 3<sup>rd</sup> party erosion and sediment control specialist be required as part of the construction project to inspect and supervise installation, maintenance and repair of temporary and permanent erosion and sediment control measures. Inspection reports should be required and the Town requests copies of these reports to be submitted to the Town Planning & Development department. A minimum 2-year post-construction inspection and reporting requirement is recommended.

#### Stormwater Operation & Maintenance Plan –

The plan does not identify the responsible party and qualifications thereof for post-construction inspection and maintenance. The Stormwater O&M plan needs to address inspection and repair of erosion within the stormwater basin, swales, level spreader outlets and down-gradient areas receiving stormwater discharge.