

**Petition No. 1310A**  
**Quinebaug Solar, LLC**  
**Partial Development and Management Plan**  
**Site Clearing, Substation and Switching Station**  
**north of Wauregan Road, Canterbury & south of Ruskstela Road and Allen Hill Road, Brooklyn**  
**DRAFT Staff Report**  
**March 19, 2021**

On April 24, 2020, the Connecticut Siting Council (Council) issued a declaratory ruling to Quinebaug Solar, LLC (Quinebaug), pursuant to Connecticut General Statutes §4-176 and §16-50k, for the construction, maintenance, and operation of an approximately 49.36 MW solar photovoltaic electric generating facility located generally north of Wauregan Road in Canterbury and near Ruskstela Road and Allen Hill Road in Brooklyn, and associated electrical interconnection including the Quinebaug Collector Substation (QCS), Eversource's Canterbury Switching Station (CSS), connections to existing electric transmission facilities, and upgrades to existing electric transmission facilities in the City of Norwich.

On October 8, 2020, Quinebaug submitted the first phase of its Development and Management (D&M) Plan (Partial D&M Plan I) for tree clearing and the construction of the QCS and CSS. Partial D&M Plan I was approved by the Council on November 20, 2020. On February 2, 2021, in compliance with the Council's D&M Plan regulations, Quinebaug submitted notice of intent to commence site clearing and construction on or about February 16, 2021. On January 19, 2021, Quinebaug submitted a second partial D&M Plan (Partial D&M Plan II) for the remainder of the solar project.

The project is located on an approximately 220 acre site. The site consists of gently sloping hills, large level areas, and a few moderately to steeply sloping areas that currently contain a combination of previously developed areas, overgrown former pasture lands, mixed second-growth woodlands, active gravel mines, and agricultural fields. Existing access traverses the project area.

The Declaratory Ruling requires the following information to be included in the D&M Plan:

- a) **A final site plan including, but not limited to, the solar arrays, landscape plantings, fence design, location of locked indoor area for storage of fuel, oil, paint and other hazardous materials, and the electrical connection to and including the Quinebaug Collector Substation and Eversource Canterbury Switching Station;**

The final site plans illustrate the site design, solar array arrangement, landscape plantings, and fence design. The QCS and CSS and their electrical interconnections were addressed in Partial D&M Plan I.

Two of the original site parcels were eliminated from the project area. One of the parcels is owned by Canterbury Sand and Gravel LLC, and the other is owned by Strategic Commercial Realty Inc. This reduces the total limits of work area from 227 acres to approximately 220 acres.

The original project solar panels were 410 Watt monofacial panels. In Partial D&M Plan II, the project solar panels were upgraded to 445 Watt bifacial panels. Inter-row spacing is approximately 8 feet. The width of the panel rows is approximately 13 feet.

The total interior access road length has increased slightly from 3.3 miles to 3.4 miles to accommodate solar array modifications for electrical efficiency purposes. Grading at the site was adjusted to accommodate the access road modifications.

A six-foot high chain link fence with a foot of barbed wire on top, compliant with the National Electrical Code, will enclose the solar array areas. A six inch wildlife gap will be included under the fence.

Approximately sixteen equipment pads with dimensions of about 32 feet by 14-feet will be located throughout the solar array areas.

Quinebaug will install approximately 5,980 linear feet of vegetative screening along Wauregan Road (in the vicinity of Liepis Road); along Liepis Road in the southeastern portion of the site; and along portions of Allen Hill Road and Rukstella Road in the northern portion of the site. Three layers or tiers of plantings will be included and are listed below:

- i. Tier 1 – Perennials – Purple coneflower, cardinal flower, scarlet beebalm, largeflower tickseed, black-eyed Susan;
- ii. Tier 2 – Medium Shrubs – Prague virburnum, munstead lavender, and winterberry; and
- iii. Tier 3 – Evergreen Shrubs – Eastern red cedar and common juniper.

Staff suggests including a condition that the location of any storage for fuel, oil, paint and other hazardous materials associated with Partial D&M Plan II be submitted to the Council.

**b) Final construction hours and days of the week;**

Construction hours will be Monday through Saturday between 7:00 a.m. and 7:00 p.m. Work on Sundays would occur on an as-needed basis, between the hours of 8:00 a.m. and 5:00 p.m. Construction is expected to be complete by December 2021, but punch list items and final establishment of vegetation cover may be completed in spring 2022.

**c) Construction traffic control plan;**

Access to the project site will be from existing access points located off of Wauregan Road and Rukstella Road. Project contractors will be responsible for access and traffic control measures including working with representatives of the Towns of Brooklyn and Canterbury as necessary.

Since the project does not propose any work within a travel lane or shoulder, traffic control patterns are not expected to be necessary. Signs will be erected to identify active construction zones and will be consistent with federal, state and local standards.

Contractors will be responsible for providing notice to the municipalities of any projected heavy truck traffic days, e.g. material deliveries involving semi-trucks, large concrete pours or removal of excess cut material.

**d) Copies of the DEEP General Permits from QS and Eversource;**

Quinebaug currently holds an active Stormwater Permit identified as #GSN003657 for this project.<sup>1</sup> Staff suggests including a condition that a copy of the DEEP Stormwater Permit be submitted to the Council prior to commencement of any work identified in Partial D&M Plan II.

**e) Erosion and sedimentation control plan consistent with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control including, but not limited to, seeding the site for stabilization purposes prior to installation of racking systems and panels, and utilization of silt socks or similar manufactured product in conjunction with silt fence in areas of disturbance close to wetlands;**

Quinebaug included its erosion and sedimentation (E&S) control measures consistent with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control on November 12, 2020 as part of Partial D&M Plan I. E&S control plans were submitted to DEEP as part of the stormwater permit review process prior to securing the Stormwater Permit.

**f) Site clearing, grubbing, stabilization, and stormwater controls phasing plan including, but not limited to, delineation between cleared areas with grubbing and areas where stumps are to remain and elevations of all spillways for consistency with design details;**

Site clearing was addressed in Partial D&M Plan I. Areas where stumps will not be removed are identified in Partial D&M Plan II drawings.

The project will be constructed in phases to minimize disturbance: four major phases and 58 sub-phases. Within each major phase, sub-phases are designed to be less than 10 acres, and each will have a temporary sediment trap or basin as required.

As identified in Partial D&M Plan II, work will be performed according the following major phases:

- I. Access Road Construction and Staging
- II. Stump Removal for Previously Wooded Areas (that were cleared via Partial D&M Plan I work)
- III. Grass Area Array Construction; and
- IV. Wooded Area Array Construction.

**g) DEEP-approved stormwater management plan consistent with the 2004 Connecticut Stormwater Quality Manual, including an analysis on the potential impact of driveways on stormwater flows, including but not limited to, potential diversion of stormwater away from wetlands;**

Quinebaug holds an active Stormwater Permit. Attachment C of Partial D&M Plan II includes the incorrect Stormwater Pollution Control Plan<sup>2</sup>. Staff suggests including a condition that the final DEEP-approved Stormwater Pollution Control Plan with its associated appendices be submitted to the Council prior to commencement of any work identified in Partial D&M Plan II.

---

<sup>1</sup> <https://filings.deep.ct.gov/DEEPPortal/PublicSearch/PSSearchView>

<sup>2</sup> The attached Stormwater Pollution Control Plan with its appendices is for a project in the Town of Plainfield.

**h) Final plans to comply with the March 5, 2020 DEEP NDDB Determination;**

Partial D&M Plan I included compliance measures relative to the March 5, 2020 DEEP NDDB Determination including, but not limited to, a seasonal restriction on tree clearing to protect roosting bat species; no tree clearing near mapped resource protection areas; an on-site environmental monitor to monitor the activity of and protective measures for the American kestrel, a State-listed Species of Special Concern; exclusion fencing to protect amphibians; on-site vernal pool monitoring; and eastern spadefoot protection plans.

Additional wildlife protection measures were included in Partial D&M Plan II. Specifically, redundant stormwater controls were included in erosion prone areas upslope of watercourses that may contain the eastern pearlshell or other sensitive aquatic species. Eastern spadefoot protection measures were also provided including, but not limited to, avoiding Breeding Pool C; protection of habitat proximate to Breeding Pool C; environmental monitoring during construction; and post-construction monitoring. The Herpetofauna Protection Area will remain as originally proposed.

A revised Avoidance and Mitigation Plan taking into account the latest wildlife protection measures is included in Partial D&M Plan II.

**i) Plans to comply with the recommendations from DEEP outlined in “Stormwater Management at Solar Farm Construction Projects” dated September 8, 2017 and new DEEP Stormwater guidance on storm farm development, as applicable;**

Quinebaug holds an active Stormwater Permit identified as #GSN003657, as previously mentioned.

**j) Final Vegetation Management Plan including, but not limited to, provisions for frequency of mowing and vegetation maintenance that incorporate any DEEP-required seasonal restrictions, post-construction site inspections, and removal of any accumulated sediment and debris that could affect stormwater patterns;**

Quinebaug included its final Vegetation Management Plan. Specifically, Quinebaug and/or its subcontractors will maintain or remove incompatible vegetation during the operation of the facility to ensure safe operation of project components and reliable operation and to protect sensitive natural resources areas. During the first year of operation, Quinebaug will replace or reseed any dead vegetation and reseed any bare areas that have the potential to wash out. Inspections will occur at least twice per year with additional inspections as necessary.

Mowing will occur twice per year within the solar array fence line and the infiltration basins. Vegetation located immediately outside the perimeter fence will be inspected and mowed as necessary. Trees and shrubs located outside of the fence line will be trimmed and/or removed to prevent shading as necessary.

Permanent signage will be in place around eastern spadefoot Breeding Pool C to alert personnel about this sensitive resource area.

**k) Invasive Species Management Plan; and**

An invasive species management plan was included in the Partial D&M Plan II. Specifically, preference will be given to mechanical removal of invasive species, and herbicides will only be used as needed in spot

treatments in compliance with DEEP's Pesticide Management Plan. Notwithstanding, Quinebaug notes that nonnative, invasive plant species are ubiquitous throughout the site, and thus, the primary objective is to limit the introduction of new species to the site and the export of species off-site. General construction procedures to prevent the spread of invasive species on and off site include, but are not limited to, the following:

- i. Inspect contractor equipment and vehicles upon arrival to the facility area;
- ii. Clean equipment prior to leaving the site;
- iii. Restore and seed workspace areas within prescribed timeframes to minimize the amount of time that disturbed soils remain and bare and susceptible to invasive species; and
- iv. Mulching with straw, hay, wood fiber hydro-mulch, erosion control fabric, or the equivalent to prevent introduction to invasive weeds.

**1) Final plans for pollinator species including landscape plantings and identification of the final seed mix under and around the solar panels.**

Of the vegetative screening plantings identified in Section (a), the following plantings are identified as pollinator friendly: purple coneflower, cardinal flower, scarlet beebalm, black-eyed Susan, winterberry, and eastern red cedar.

Seed mixes applied at the site will include vegetative species that germinate and grow quickly and develop deep root systems to facilitate site stabilization. Secondly, some vegetative species within the selected seed mixes may also provide a benefit to pollinator species.

Staff suggests including a condition that the name(s) of the final seed mix(es) for under and around the solar panels be submitted to the Council.

**Recommendations**

If approved, staff recommends the following conditions:

1. Submit a copy of the final DEEP Stormwater Permit prior to commencement of any work identified in Partial D&M Plan II;
2. Resubmit a copy of the final DEEP-approved Stormwater Pollution Control Plan with associated appendices (i.e. Attachment C of Partial D&M Plan II) prior to commencement of any work identified in Partial D&M Plan II;
3. Submit the final location(s) of any storage for fuel, oil, paint and other hazardous materials associated with Partial D&M Plan II; and
4. Submit the name(s) of the final seed mix(es) for under and around the solar panels.

## Site Layout

