



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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March 12, 2018

TO: Parties and Intervenors

FROM: Melanie Bachman, Executive Director *MAB*

RE: **PETITION NO. 1339** – Wallingford Renewable Energy 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 19.99 MW AC ground-mounted solar photovoltaic electric generating facility located on approximately 158 acres of 3 contiguous parcels consisting of the former Wallingford Landfill and 2 parcels owned by the Materials Innovation and Recycling Authority west of Pent Road and associated electrical interconnection to Wallingford Electric Division's Wallingford Substation in Wallingford, Connecticut.

Comments have been received from the Department of Energy and Environmental Protection, dated March 9, 2018. A copy of the comments is attached for your review.

MB/MP/lm

c: Council Members



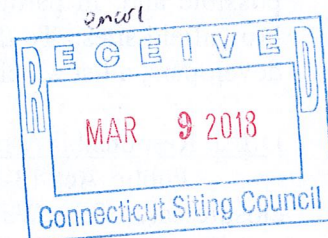
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March 9, 2018

Robert Stein, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051



RE: 19.99-MW Solar Photo-voltaic Generating Facility
Wallingford Renewable Energy, LLC
Wallingford, Connecticut
Petition No. 1339

Dear Chairman Stein:

Staff of this department have reviewed the above-referenced petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need will be required for the construction of the proposed photo-voltaic generating facility to be constructed at the Wallingford Landfill and on adjoining property owned by the Materials Innovation and Recycling Authority (MIRA) immediately south of the landfill. A field review of the site was conducted on March 3, 2018. Based on these efforts, the following comments are offered to the Council for your use in this proceeding.

New England Clean Energy Multi-State Project Solicitation

Wallingford Renewable Energy submitted this project into the New England Clean Energy Request for Proposals (RFP), a three state solicitation by DEEP, in conjunction with Massachusetts and Rhode Island. Connecticut solicited and selected renewable energy projects issued pursuant to Section 1(c) of Connecticut Public Act 15-107, *An Act Concerning Affordable and Reliable Energy* (P.A. 15-107) and Sections 6 and 7 of Connecticut Public Act 13-303, *An Act Concerning Connecticut's Clean Energy Goals* (P.A. 13-303). The RFP process represents an important step forward in the implementation of Governor Malloy's vision for a cheaper, cleaner, and more reliable energy future for the ratepayers of Connecticut. Bringing more grid-scale renewable energy projects on line is instrumental in furthering this vision as these resources help diversify the regional fuel mix, assist the state in meeting its commitment to procure 20% of its electricity from Class I renewable sources by 2020, and also, contribute to the state's goal of reducing carbon emissions by 80% below 2001 levels by 2050. In reviewing the bids, DEEP applied both a quantitative and a qualitative analysis to arrive at a final score for each bid. After reviewing all the projects bid into the RFP process, DEEP selected the Wallingford Renewable Energy proposal as one of the projects authorized to enter into a long-term power purchase agreement, in this case with both Eversource Energy and United Illuminating.

Project Siting

The proposed Wallingford Renewable Energy solar facility is sited upon two properties, the now-closed Wallingford Landfill and property owned by MIRA and dedicated to the attenuation of the leachate plume from the landfill. As such, there are significant limitations for the beneficial reuse of these sites. DEEP encourages the beneficial reuse of such properties where possible and, in particular, has sought to direct solar farm development toward landfills and brownfield sites. To this end, the department maintains a list of landfill sites seeking solar farm developers, a list which includes the Wallingford Landfill.

DEEP Responsibility for Wallingford Landfill and MIRA Property

Public Act 13-247, Section 236 assigned DEEP the responsibility to manage the post-closure care of the Wallingford Landfill. To fulfill the requirements of the Act, the Department and the Connecticut Resources Recovery Authority (CRRA) entered into a Memorandum of Understanding (MOU) dated April 24, 2014, and a separate and subsequent MOU between the Department and the Towns of Wallingford, Cheshire and Hamden, who supplied the waste within the landfill. The MOUs allow the department to access the landfill and the adjacent parcel owned by Materials Innovation and Recycling Authority (MIRA), the successor to CRRA.

As part of the landfill post-closure care assignment, DEEP Site Operations staff and department contractors need to routinely access the landfill and the adjacent MIRA property to perform maintenance and environmental monitoring to comply with applicable environmental permits for the landfill that are assigned to the department. These permits include Stewardship Permit DEP/HWM/CS-148-004 and a Stormwater Discharge Permit (# 002694).

DEEP Management Concerns and Issues Related to the WRE Proposal

DEEP Site Operations staff have had numerous discussions with the applicant and its representatives concerning this proposed solar facility. Overall, the proposal is compatible with our maintenance responsibilities at the site and with protecting the integrity of the landfill cap. There are, however, several areas of the proposal that pose potential environmental concerns. Some of these have already been discussed with the applicant while others have not yet been addressed with WRE.

The Site Operations group is generally in favor of using the two environmentally impaired properties for a solar array, provided measures are taken to protect the cap, promote conveyance of stormwater off landfilled areas as efficiently as possible, and that the department's ability to comply with the environmental permits or otherwise manage the landfill is not hindered. Inherent in this is ensuring that stormwater infiltration and leachate generation within the landfill footprint is minimized, and that stormwater and leachate emanating from the landfill are properly managed and treated to minimize adverse water quality impacts to adjacent wetlands and surface waters. Our concerns are as follows:

- All debris from trees and other woody vegetation cut from the landfill must be entirely removed. All tree stumps having a minimum diameter of 4" or greater must be removed by grinding. All woody debris produced by grinding must be removed and the root ball area must be backfilled to grade with clean soil with a suitable grain size for a landfill cap. A

thin layer of clean topsoil and grass seed mix must be applied. Reapplication of grass seed is needed until all restored areas have established grass cover.

- DEEP Site Operations staff must be consulted prior to the application of any pesticide or herbicide by WRE or its agents.
- A locking gate (minimum 12' wide) should be constructed to limit vehicle access to the metal hydroxide landfill area to prevent any construction equipment or vehicles from inadvertently entering this area of the landfill. Unless otherwise approved by Site Operations staff, gate support posts should be encased in ballasted posts placed on the ground surface.
- Details of the proposed new access road on the north side of the landfill (Drawing C-104) must be shared with Site Operations staff following geotechnical evaluations of existing soil conditions. The design of the proposed road must incorporate stormwater management features to prevent ponding of water on the landfill and must convey uncontaminated or treated stormwater to existing outfalls.
- Drawing C-103 identifies solar panel placement within a landfill stormwater drainage channel, and proposed "express feeder" and proposed "tap feeder" located very close to or within a drainage channel along the north boundary of the landfill. Drawing C-108 also shows solar panel placement within a stormwater drainage channel, and text on page E-7 concerning drainage swale 2 says "some panels may extend over this feature". All existing stormwater drainage channels must remain accessible and undisturbed so that surface water runoff can be efficiently directed away from landfilled areas. It is requested that a 14' wide corridor, centered on drainage channels, remain open.
- Unless otherwise approved by the Department, all existing stormwater discharge basins and discharge points must remain as identified in the Department's Stormwater Pollution Prevention Plan for the landfill, dated November 2014.
- Drawings indicate that existing and new 7' high chain-link fencing will surround the solar panel groupings. It is suggested that new fencing supports overlying landfilled areas be ballasted with surface mounted bases.
- A waste management plan will be needed prior to any excavation work overlying landfilled areas. The Department's Waste Engineering and Enforcement Division may also require that WRE submit an application for a disruption authorization.
- The lack of sunlight under solar panels may promote grass mortality. What measures will be taken to replace/maintain grass cover beneath the panels?
- Soil erosion may occur along the drip edge of solar panels. What measures will be taken to minimize soil erosion under the panels?
- The proposal indicates that the concrete ballasts for each solar panel may be mixed on-site. Any on-site mixing of concrete will require a plan to manage waste water. Ballasts that are precast off-site are preferred.
- Access routes to each groundwater monitoring well must be maintained. It is requested that a 10' wide clear corridor be provided to each monitoring well, with a 20' radius around

each monitoring well. The attached map identifies the existing monitor well locations at the landfill and the MIRA property.

Ray Frigon and Scott Wing of the Site Operations Unit may be contacted at (860) 424-3797 and (860) 424-3778, respectively.

Construction Stormwater Management

Construction projects involving one or more acres of land disturbance require either an individual NPDES discharge permit from DEEP, or they may be eligible for coverage under the Department's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015).

The large footprint of solar farm projects and the resultant large areas of land disturbance have occasioned some difficulties in both the review of permit submittals and the failure of stormwater control measures in the field. To address these problems, DEEP has recently developed additional direction to applicants to assist in achieving a successful outcome to both the permit process and the results on the ground. For the benefit of both the petitioner and the Council, attached to these comments please find the recently developed background information and recommended oversight measures for stormwater management at solar farm construction projects, dated September 8, 2017

In the case of the WRE proposal, the location of the northern portion of the solar facility upon the Wallingford Landfill will require that the applicant maintain the established permanent vegetation cover upon the landfill cap and maintain or restore the vegetative cover, or other form of permanent stabilization acceptable to the Commissioner, in those areas used for vehicular access. The locations of all buried cables and other infrastructure installed as part of the facility, both on the landfill and on the MIRA property, must be clearly displayed in the application filing for the proposed construction activities.

Though there is an existing Industrial Stormwater General Permit registration for the Wallingford Landfill, the MIRA property is not covered by this registration. The solar array pilings and the buried cables that will be placed within the MIRA property constitute soil disturbance and will necessitate that the work on the MIRA property also be covered by a Construction Stormwater Permit registration. Though WRE representatives did meet with Oswald Inglese and other representatives of the DEEP Stormwater Program on January 31 and were encouraged at that time to get their stormwater registration in to the department as soon as possible, no contact by WRE has been made since that time.

Though the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities specifies a BMP limit of five acres of soil disturbance at any one time, the department is willing to entertain phasing for site preparation and facility construction activities which may employ phasing exceeding five acres if the applicant can provide a rationale and assurance for the effective management of stormwater if larger areas are cleared and developed during the construction sequence. The applicant is encouraged to contact Mr. Inglese, DEEP Water Permitting and Enforcement Division, at (860) 424-3725 at their earliest convenience. Any

further DEEP guidance and review of WRE's stormwater management plans will be provided though the General Permit registration process rather than through the Siting Council's proceeding.

Natural Diversity Data Base

Appendix N of the Petition includes two letters of April 7, 2017 from the DEEP Natural Diversity Data Base Program providing preliminary assessments of State-listed species for the project site. In response to these letters, Oxbow Associates prepared a Habitat Assessment report dated December 18, 2017 on behalf of Wallingford Renewable Energy and which is included as Appendix O of the Petition.

By letter of March 9, 2018, the DEEP Natural Diversity Data Base Program responded to the Oxbow Associates assessment. A copy of this letter is attached to these comments. The salient points of the NDDB response letter are a need for further survey work for low frostweed (*Crocantthemum propinquum*) in the sand barren area as a seasonally appropriate time (the plant flowers in mid-to-late June) and submission of a conservation plan for this species if found, the submission of a conservation plan to protect false mermaid-weed (*Floerkea proserpinacoides*) if any project work will occur in the Quinnipiac River floodplain, the inclusion of a list of conservation strategies to protect wood turtles (*Glyptemys insculpta*) and box turtles (*Terrapene carolina carolina*), and a request of further survey work in the sand barren habitat.

DEEP appreciates the proactive approach taken with respect to the protection of roosting bats potentially within the project area by avoiding any tree clearing work between May 1 and August 15. (Note: The statement on page 38 of the Petition in section 6.10.3 is erroneous. The seasonal restriction on tree clearing work to protect roosting bats runs from May 1 to August 15. The text of page 38 states that the clearing will only be done between those dates.)

Quinnipiac River State Park

DEEP's Quinnipiac River State Park lies immediately west of the project site along the west bank of the Quinnipiac River. The main activities occurring within this park are hiking, bird and wildlife viewing, and hunting. A trail system within the park is maintained through the assistance of the North Haven Trails Association, a volunteer group. Though the trail system lies south of the area of the park which is directly across from the project site, should the solar facility be visible in any meaningful way from the trail, the department would consider the placement of an interpretive educational sign explaining the nature and purpose of the facility to the trail's users. The Quinnipiac River Linear Trail Advisory Committee, a Wallingford Group, is planning for and hoping to eventually develop a trail coming south from Wallingford to meet the existing trail system in North Haven. From DEEP's perspective, no negative impacts on any activities at Quinnipiac River State Park are foreseen to arise from the construction or operation of the proposed solar facility.

DEEP Site Review

As mentioned earlier, a field review of the host site was conducted on March 3. A few observations from that visit are shared below.

The ambient noise at the site is dominated by traffic noise from the Wilbur Cross Parkway. This is true for all portions of the project site.

The visual impacts of the proposed facility will be substantially screened by the numerous industrial land uses to the north, east and south. The retained floodplain riparian forests to the west of the solar array will also screen the facility from views across the Quinnipiac River. The nearest home to the facility is located at 47 John Street to the north of the landfill. A significant portion of the view of the landfill from this home is blocked by deciduous trees, at least when in foliage, but there will still be some visibility from this location. While the applicant's response to Siting Council interrogatory #7 refers to Figure 18 which indicates no visibility from the nearest residence, the landfill form can be seen from the sidewalk directly in front of 47 John Street.

The twenty acres of forest to be cleared on the MIRA property consist of a mix of deciduous species of which red maple is the most numerous. Most of the largest trees on this property are tulip poplar, up to 30' dbh, as would be expected as this species forms the fastest growing portion of the forest canopy.

The existing, abandoned road between wetlands B-3 and B-4 was being overflowed with less than an inch of flow on March 3, consistent with the description in Appendix M, page 16, that cites this roadway as frequently overflowed. The impacts of improving this road and using it as a permanent wetland crossing would be very minor and certainly preferable to constructing a new crossing in a different location.

The small sand barren in the southeastern corner of the project site, described in the Petition as a stripped barren, is an interesting feature. On page 37 of the Petition, this area is described as having been stripped or mined for underlying material. The area contains a good quantity of construction quality sand but does not appear to have been excavated either for its sand or for any other material. The area appears to be at its original contours, sloped steeply to the west, and not appearing as a pit or excavation. This area may simply be a remnant of the much larger sand barrens, known as the North Haven Sand Plains, which once covered the area but are now present only in isolated pockets.

The chain link fence along the southern boundary of the MIRA property was under construction and largely in place as of the March 3 DEEP visit. Unlike the description in the Petition (Page E-14) and in the response to Council interrogatory # 34, the fencing extended flush to the ground rather than providing for a 6" gap for turtle and other small animal passage. The undulating contours of the ground along the fence does provide for irregularly spaced gaps of up to 6" at various points along the fence but these are sporadic, not continuous.

Three whitetail deer were seen bounding along the Algonquin pipeline right-of-way at the south edge of Oliver Creek Road. Ample deer visitation to the landfill is evidenced by both hoof prints and scat on the landfill form.

Miscellaneous Commentary

In the zoning map in Figure 2, the map and the legend for North Haven's R-20 and R-40 zones are not in agreement but rather are reversed.

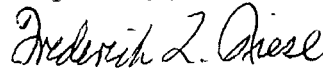
In Table 3 on page 34 of Appendix E, the peak discharge rates for drainage area 5 for the 1-year, 2-year, 10-year and 100-year storms are shown as decreasing once the project is constructed compared to under current conditions. Why would this be?

The analysis of wetland functions and values toward the end of Appendix M contains an inconsistency in that the B-system wetlands are described as being large in area relative to their watershed on page 2 of 14 for the Flow Attenuation function, but as not being large in area relative to their watershed on page 5 of 14 in the checklist for the Nutrient Removal and Retention function. Given that the areal extent of the B-system wetlands and of its watershed are the same regardless of the wetland function being evaluated, the two tables should be in agreement on their respective line 1 classifications.

Lastly, invasive species control is always a beneficial activity. The intent to undertake such efforts is mentioned on page 35 of the Petition, in section 6.10. What specific activities are envisioned to be done for the control of invasive species at the project site.

Thank you for the opportunity to review this petition and to submit these comments to the Council. Should you, other Council members or Council staff have any questions, please feel free to contact me at (860) 424-4110 or at frederick.riese@ct.gov.

Respectfully yours,



Frederick L. Riese

Senior Environmental Analyst

Attachment: (1)

cc: Commissioner Robert Klee

Dept. Commissioner Robert Kaliszewski

Dept. Commissioner Susan Whalen

Dept. Commissioner Mary Sotos

Attachments: (3)

Stormwater Management at Solar Farm Construction Projects September 8, 2017

Solar farms are on-the-ground installations of arrays of photovoltaic cell panels, supporting structures and related equipment for the production of electricity. As with other types of construction projects, the construction of solar farms can involve land clearing, grading, excavation, trenching, dewatering and similar activities that create land disturbances which potentially result in soil erosion and sediment discharges polluting wetlands, streams and other surface waters. Construction-related land disturbances of 0.5 acres or larger are regulated in Connecticut pursuant to the Connecticut Soil Erosion and Sediment Control Act under Sections 22a-325 to 22a-329, inclusive, of the Connecticut General Statutes (“CGS”).

Construction-related land disturbances of one (1) acre or larger are also regulated under CGS Section 22a-430 and under Section 402(p) of the federal Clean Water Act and the National Pollutant Discharge Elimination System (“NPDES”) program. Prior to the start of such regulated activities, authorization is required from local authorities and, for larger projects, the Connecticut Department of Energy and Environmental Protection (“Department”). Construction projects involving five (5) or more acres of land disturbance require an individual NPDES discharge permit from the Department, or may be eligible to register for coverage under the Department’s NPDES General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit).

The Department has encountered repeated problems associated with solar farm construction projects covered under the general permit, from the registration process through construction activities. Although in no way an exhaustive list, the following are common problems associated with solar farm general permit registration applications and ways to address such problems:

- Applicants have been submitting registration applications that lack the requisite information or the requirements necessary for authorization under the general permit. The Department requires a complete and sufficient application when a registration application is filed, and may reject any registration application it deems to be incomplete or insufficient.
- Applicants are not adhering to the sixty (60) day/ninety (90) day time frame for Department review as required by Section 3(c) of the general permit. While the Department has on occasion shortened the review timeframe, Applicants are expected to allocate no less than the requisite time frame for the registration application review process and must plan accordingly.
- Registration applications for solar farm projects often fail to identify the project’s contractor and sub-contractors. Section 5(b)(1)(viii) of the general permit mandates that this information be included in the registration application.

- Applicants have been repackaging the Siting Council submittal, which is not acceptable. Section 3(c)(2)(D) of the general permit mandates that the application submittal include only materials required to support the Stormwater Pollution Control Plan (“SWPCP”). This information must be up-to-date and accurate. Any superfluous information delays the registration application review process.
- SWPCPs for solar farm projects are often lacking sufficient detail and information. An approvable SWPCP shall include, but not be limited to, the location of all erosion, sediment and stormwater control measures including detailed design cut sheets with supporting calculations, construction means and methods, project phasing (i.e., site planning, pre-construction, construction, and post-construction stabilization, etc.), construction sequencing and a construction schedule.
- The Applicant’s design professional must be well-versed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (“E&S Guidelines”), specifically the techniques found in Chapter 4, Large Construction Sites, the 2004 Connecticut Stormwater Quality Manual, as well as *current* best management practices (BMPs) recognized by the International Erosion Control Association (IECA), provided such BMPs are equal to or better than the E&S Guidelines.
- From the Department’s perspective, an approvable SWPCP will include methods for avoiding compaction of soils, disconnection and reduction of runoff associated with solar panel arrays, avoidance of concentration of stormwater, and other measures necessary to maintain or improve pre-construction hydrologic conditions.
- Applicants need to follow the SWPCP review checklist when preparing the SWPCP, giving specific attention to post-construction stormwater controls and the development of a detailed long-term maintenance plan to ensure that the SWPCP meets the terms and conditions of the general permit.

Subsequent to authorization for coverage under the general permit, the Registrant is responsible for ensuring compliance with all terms and conditions of the general permit and the approved SWPCP once construction has been initiated. However, for solar farm projects, Registrants often fail to comply with the terms and conditions of the general permit, including the approved SWPCP. In particular, Department staff have observed the following issues that a routine inspection protocol and proper oversight, as required under the general permit, would have prevented, including but not limited to:

- pre-construction site planning and management deficiencies (e.g., existing vegetation, scheduling, training, phasing/sequencing, tree protection, etc.)
- ineffective placement, maintenance, and/or repair of administrative/procedural, vegetative, and structural BMPs (e.g., erosion, sediment and stormwater runoff controls, good housekeeping, materials management, and training)
- lack of thorough inspections
- ineffective or untimely corrective action
- ineffective stabilization practices
- ineffective permanent post-construction controls (i.e., store, treat and direct stormwater quality and quantity to pre-construction levels)

Such issues at solar farm construction projects raise concerns, since such projects often create areas of land disruption larger than the generally accepted BMPs of five (5) acres anticipated under the general permit. As a result, any applicant seeking coverage under the general permit for a solar farm construction project should take care to address the issues noted above. While

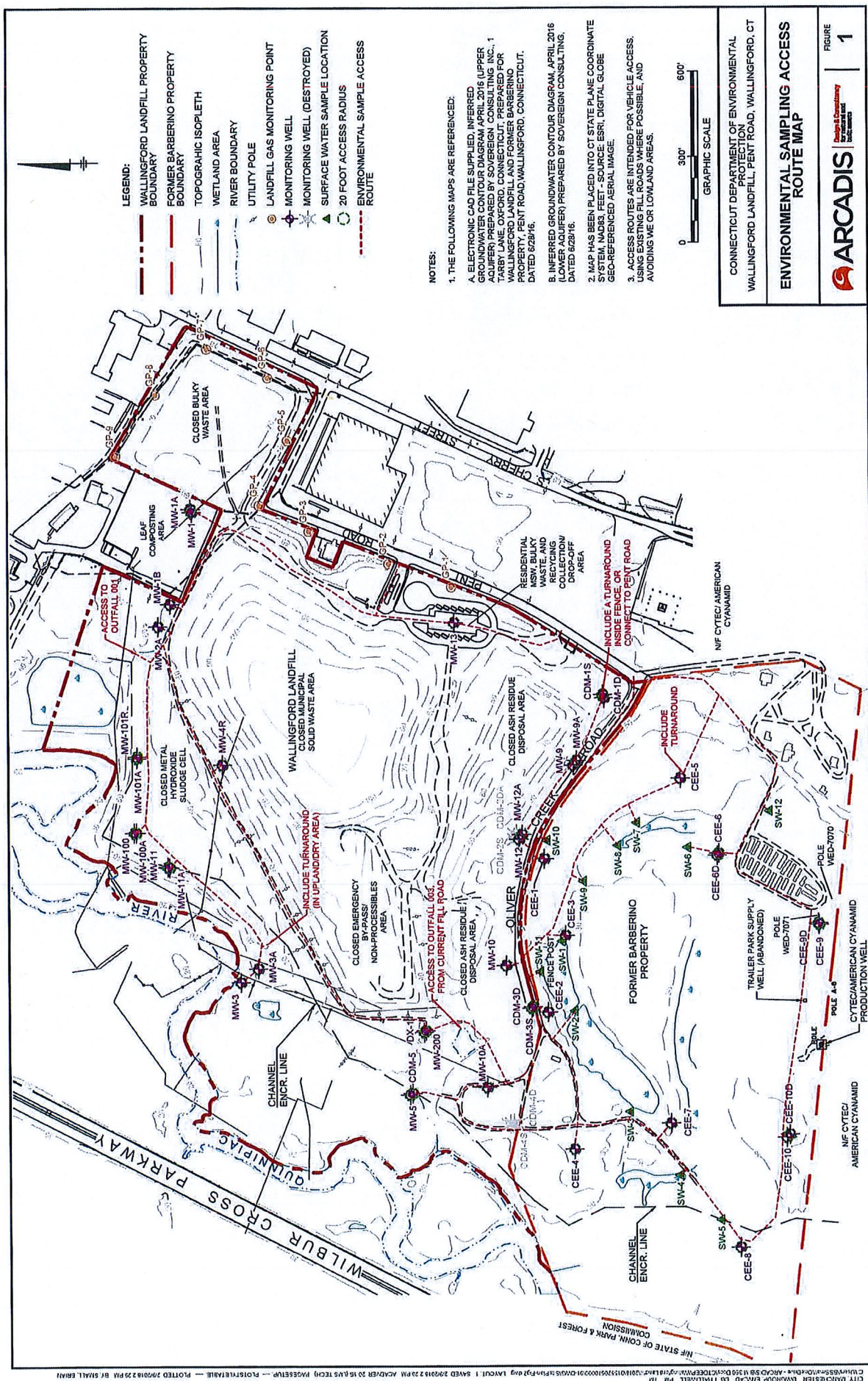
by no means exclusive, some recommendations that should be incorporated into a SWPCP to address these issues include:

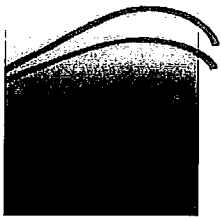
- Ensuring that only a Professional Engineer and/or Landscape Architect, as defined in Section 2 of the general permit, who meets the qualifications described in Section 5(b)(4)(A)(ii) and who has been approved in writing by the Commissioner, serve as the Commissioner's agent to inspect the site and also serve as the qualified inspector for the purposes of Section 5(b)(4) of the general permit ("authorized professional"). Such authorized professional must remain in good standing with the Connecticut Department of Consumer Protection and be technically and ethically qualified to inspect the site and be retained for the duration of the construction project until the Notice of Termination acceptable to the Commissioner has been filed as described below.
- Ensuring that the authorized professional prepare a proposed inspection checklist to assure the construction project is being conducted in compliance with the terms and conditions of the general permit, and the approved SWPCP is implemented in accordance with the general permit. The inspection checklist shall comply with Section 5(b)(4)(B)(iii) of the general permit, and include a space for the authorized professional's signature and professional stamp.
- Ensuring that the credentials for the authorized professional proposed by the Applicant and the proposed inspection checklist prepared by such authorized professional be submitted for the review and approval of the Commissioner and be included with the registration application for the general permit. No other professional may serve as the authorized professional without the prior submittal of relevant credentials and inspection checklist for the Commissioner's review and written approval.
- Ensuring that the authorized professional personally perform all pre-construction, construction, and post-construction site inspections; perform inspections at the end of any storm event whether or not such storm generates a discharge; and prepare and submit all inspection reports including the supporting inspection checklists in compliance with Sections 5(b)(4)(A) and 5(b)(4)(B) of the general permit.
- Ensuring that the authorized professional report any violations of the terms and conditions of the general permit or the SWPCP to the Commissioner's designee within two (2) hours of becoming aware of such violation, or at the start of the next business day of becoming aware of such violation outside normal business hours and shall, within five (5) days, prepare and submit a signed and stamped written report, which documents the cause of the violation, duration including dates and times, and corrective action taken or planned to prevent future occurrences.
- Ensuring that if circumstances necessitate a revision to the SWPCP, the authorized professional works with the Permittee's design professional to ensure compliance with the terms and conditions of the general permit, and any such change to the SWPCP shall be submitted for the review and written approval of the Commissioner.
- Ensure that the authorized professional reviews all stormwater monitoring reports to evaluate the effectiveness of the SWPCP and to document any adverse impacts that any stormwater controls on the construction site or discharges from the construction site may have on wetlands, streams, any other receiving waterbodies. Such evaluation shall be documented in the inspection reports and inspection checklists performed pursuant to Section 5(b)(4) of the general permit.
- Ensuring that, in the event the authorized professional identifies a violation of the terms and conditions of the general permit, the SWPCP, or otherwise identifies adverse impacts on wetlands, streams or any other receiving waterbodies, that construction

activity shall immediately cease and the site stabilized until such violation or adverse impacts have been corrected.

- Ensuring that reporting and record-keeping of all inspection checklists and inspection reports comply with the requirements of Section 5(d) of the general permit, except that a copy shall also be submitted electronically to the Department within ten (10) days from the date such inspection was performed.
- Ensuring that all inspection checklists and inspection reports comply with the requirements for Certification of Documents in Section 5(i) of the general permit, including the requirement that such checklists and reports shall also be prepared, stamped and signed by the authorized professional.
- After completion of a construction project, ensuring that a Notice of Termination is filed in compliance with Section 6 of the general permit, including the requirement that such Notice of Termination be stamped and signed by the authorized professional certifying that such authorized professional has personally inspected and verified that the site has been stabilized following the first full growing season (i.e., April through October) in the year following completion of the construction project.
- Ensuring that any transfer of the registration comply with the requirements of Section 5(m) of the general permit.

These recommendations are by no means intended to be exclusive. To help address the issues noted above, the Commissioner will also be considering the posting of a performance bond or other security, in accordance with Section 22a-6(a)(7) of the Connecticut General Statutes, to assure the solar farm construction project maintains compliance with the terms and conditions of the general permit and the SWPCP.





Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

March 9, 2018

Ms. Lynn Gresock Tetra Tech, Inc.
2 Lan Drive, Suite 210 Westford,
MA 01886
lynn.gresock@tetrattech.com

Project: Installation of a Solar Energy Facility "Wallingford Renewable Energy" near 25 Pent Road and Oliver Creek Road, 155 John Rd (Cherry St), Wallingford, Connecticut, Connecticut
NDDB Follow Up Comments for NDDB No. 201801464 (Formerly NDDB Preliminary Assessment #201702360)

Dear Lynn Gresock,

I have re-reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed Installation of a Solar Energy Facility "Wallingford Renewable Energy" near 25 Pent Road and Oliver Creek Road, 155 John Rd (Cherry St), Wallingford, Connecticut, Connecticut. Thank you for including the Oxbow Associates, Inc. "Habitat Assessment" report dated December 18, 2017 that provided an assessment of habitats on the property and conservation and protection strategies for plants that may occur at the project site.

This letter describes additional survey and reporting steps that will be required before a final determination of no adverse impacts to state-listed species resulting from this project can be issued. Please note that these additional steps are put forth for species potentially occurring in the 0.83 acre sand barren habitat found in the northeastern portion of the MIRA parcel. Should this portion of the project area be removed from consideration for panel installation, these additional survey and reporting requirements will be unnecessary and a final determination of no adverse impacts will be issued.

Conservation measures for potentially occurring State Special Concern *Crocanthemum propinquum* (Low Frostweed) and the sand barren habitat on the MIRA Parcel

Habitat surveys were conducted for State Special Concern *Crocanthemum propinquum* (Low Frostweed) in the sand barren habitat and several specimens of *Crocanthemum* were observed (it was unconfirmed that these were in fact *Crocanthemum propinquum*). In order to protect the State Special Concern *Crocanthemum propinquum* from project impacts:

- Additional surveys should be conducted for this plant in this sand barren habitat during the appropriate time of year (the plant blooms mid-late June).
- If State Special Concern *Crocanthemum propinquum* (Low Frostweed) is encountered during the field studies of the sand barren habitat, a conservation plan should be developed. The conservation plan should address the specific project and how the plant will be protected from project activities, and be developed by a botanist familiar with the ecology of the plant. Please include the botanist's qualifications to develop a conservation plan for the plant. The conservation plan, along with the qualifications of the botanist developing the plan, should be sent to our program at deep.nddbrequest@ct.gov so we can evaluate your conservation strategies. This plan should be developed and sent to our program before work may begin in the areas where these plants occur.

Sand Barren Habitat on the MIRA Parcel and State Listed Insects

I do not agree with the habitat assessment report regarding the sand barren habitat described as “stripped barren habitat”. The habitat assessment report presents no evidence that this sand barren habitat is “a remnant of former land stripping or mining and has limited value”.

It is my opinion that this small parcel is part of a larger North Haven Sand Plain that stretched northward along the east side of the Quinnipiac River Valley for nearly 16 miles from New Haven to Meriden. This narrow strip of land was once a continuous sand plain and the area has now been crossed by small streams, developments and divided into a series of fragmented sand plains. This small parcel on the MIRA parcel most likely is a sandplain grassland (aka sand barren), one of the most imperiled ecosystems in Connecticut. The sandplain is a dry deposit of sandy soil left by glacial deposits and was historically maintained by fire. The habitat assessment report is correct in asserting that a bigger sand barren occurs 1,600 feet to the southeast of the MIRA parcel. However, I recommend that this particular sand barren habitat be studied further and surveyed by an entomologist (insect expert) for these sand dwelling invertebrate species:

- Ground beetle (*Amara chalcea*)
- Big sand tiger beetle (*Cicindela formosa generosa*)
- Dark-bellied tiger beetle (*Cicindela tranquebarica*)
- False heather underwing (*Drasteria garaphica atlantica*)
- Violet dart moth (*Euxoa violaris*)
- Ground beetle (*Helluomorphoides praeustus bicolor*)
- Scribbled sawfly moth (*Sympistis perscripta*)
- Spinose flower moth (*Schinia spinosae*)
- Grassland thaumatopsis (*Thaumatopsis edonis*)
- Northern dusk-singing cicada (*Tibicen auletes*)
- Yellow-horned beaded lacewing (*Lomaamyia flavicornis*)
- Black-eyed zale (*Zale curema*)
- Oblique zale (*Zale obliqua*)

At the very minimum, an ecologist qualified to assess sand barren (sandplain grasslands) habitats should develop a conservation plan to assess and document this imperiled community. Even though this is a small parcel, this habitat should be studied carefully before solar panels are placed on this 0.8 acres of the MIRA parcel. I cannot make a final determination on this project without the follow-up information on the sand barren species. If the sponsor would like to reconsider the placement of solar panels on this small area then we may be able to eliminate these extra studies.

Conservation measures for State Endangered *Floerkea proserpinacoides* (false mermaid-weed) To protect the state endangered *Floerkea proserpinacoides*:

- No work should occur in any of the active floodplain habitat where State Endangered *Floerkea proserpinacoides* (false mermaid-weed) was observed.
- If any work will occur (including fencing the facility) where *Floerkea proserpinacoides* occurs, you must re-contact our program and provide a conservation plan for this plant. The conservation plan should address the specific project and how the plant will be protected from project activities and be developed by a botanist familiar with the ecology of the plant. Please include the botanist's qualifications to develop a conservation plan for the plant. The conservation plan along with the qualifications of the botanist developing the plan should be sent to our program at deep.nddbrequest@ct.gov so we can evaluate your conservation strategies. This plan should be developed and sent to our program before work may begin in the areas where these plants occur.

Animals:

State Listed Bats

Thank you for including time of year restrictions to protect tree roosting bat species. Tree cutting should be prohibited between May 1st and August 15th. Establishing wooded buffer adjacent to the wetland area will help maintain potential roosting habitat. Retaining larger diameter trees (12-inch DBH and larger) wherever possible on-site may additionally minimize the potential for negative impacts to bats. Trees with loose, rough bark such as maples, hickories, and oaks are more desirable than other tree species due to the increased cover that the loose bark provides. Large trees with cavities are also utilized by different bat species. Like most eastern bats, the northern long-eared bat roosts in trees during summer. Install a Bat Box if possible. Bat houses installed in the area where trees will be removed will help in the conservation of bats. Dead and dying trees are usually not left standing, so trees suitable for roosting may be in short supply and bat houses or boxes may provide additional roost sites.

State Listed Turtles

Although State Special Concern Wood (*Glyptemys insculpta*) and Box Turtles (*Terrapene carolina carolina*) were not included on the DEEP-NDDB Program Preliminary Assessment letter dated April 7, 2017, the Habitat Assessment Report you provided included habitat descriptions that suggest that these turtles may occur on this project site. The report also indicated that vernal pools were still being explored and Spotted Turtles may be found in that type of habitat.

Conservation strategies to protect these three turtles include:

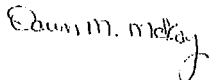
- Hiring a qualified herpetologist to be on site to ensure these protection guidelines remain in effect and prevent turtles from being run over when moving heavy equipment. This is especially important in the month of June when turtles are selecting nesting sites.
- Exclusionary practices will be required to prevent any turtle access into construction areas. These measures will need to be installed at the limits of disturbance.
- Exclusionary fencing must be at least 20" tall and must be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animal pass through. Do not use plastic or netted silt-fence.
- All staging and storage areas, outside of previously paved locations, regardless of the duration of time they will be utilized, must be reviewed to remove individuals and exclude them from reentry.
- All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of a listed species, and instructed to relocate turtles found inside work areas or notify the appropriate authorities to relocate individuals.
- Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and remove access point.
- In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.
- No heavy machinery or vehicles may be parked in any turtle habitat.
- Special precautions must be taken to avoid degradation of wetland habitats including any wet meadows and seasonal pools.
- The contractor and consulting herpetologist must search the work area each morning prior to any work being done.
- When felling trees adjacent to brooks and streams, please cut them to fall away from the waterway and do not drag trees across the waterway or remove stumps from banks.
- Avoid and limit any equipment use within 50 feet of streams and brooks.
- Any confirmed sightings of box, wood or spotted turtles should be reported and documented with the NDDB (nddbrequestdep@ct.gov) on the appropriate special animal form found at (http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323460&depNav_GID=1641)

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the

years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

A handwritten signature in cursive script that reads "Dawn M. McKay".

Dawn M. McKay
Environmental Analyst 3

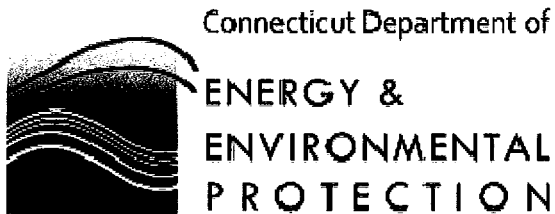
Mathews, Lisa A

From: Riese, Frederick
Sent: Friday, March 09, 2018 4:41 PM
To: CSC-DL Siting Council
Cc: Bachman, Melanie
Subject: DEEP Comments on Petition 1339, Wallingford Renewable Energy
Attachments: Petition 1339.pdf

Friday, March 09, 2018

Dear Chairman Stein, Melanie and Council Members,
Attached are DEEP's comments on Petition 1339 for the installation of a 19.99 MW solar farm proposed by Wallingford Renewable Energy. Feel free to contact me if you should have any questions.
Fred Riese

Frederick Riese
Senior Environmental Analyst
Office of Environmental Review
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
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www.ct.gov/deep

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Ensuring a clean, affordable, reliable, and sustainable energy supply.***