



**Save the River-Save the Hills, Inc.**  
**P.O. Box 505**  
**Waterford, CT 06385**

February 12, 2020

Melanie A. Bachman, Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

RE: Proposed Photovoltaic Installation  
177 Oil Mill Road – Waterford, CT  
CT Siting Council Petition No. 1347

Dear Ms. Bachman and Members of the CT Siting Council:

As you know, Save the River-Save the Hill, Inc. (STR-STH) is a Waterford, CT based grassroots environmental organization with the mission of preserving the health of the Niantic River Estuary. We are writing in response to the Council's request to comment on the Petitioner's (GRE GACRUX LLC) request to reopen Petition 1347 for a ground-mounted photovoltaic energy installation in Waterford. STR-STH is firmly opposed to reopening this Petition. The Council wisely denied Petition 1347 in December 2018 for a number of good reasons. STR-STH remains strongly opposed to a solar installation of this size being developed on this sensitive and important parcel.

Save the River-Save the Hills respectfully submits to the Council that there are simply some places that are inappropriate for a large ground mounted solar installation. It was heartbreaking and very frustrating to sit through the DEEP presentation of the new stormwater regulations as slide after slide showed the destruction to wetlands and streams that many of the large ground mounted solar installations have caused. The presentation with the pictures and reasons ground mounted solar needs stricter stormwater regulations can be found at this link:

[https://www.ct.gov/deep/lib/deep/water\\_regulating\\_and\\_discharges/stormwater/construction/200108\\_GSN\\_Public\\_Information\\_Meeting.pdf](https://www.ct.gov/deep/lib/deep/water_regulating_and_discharges/stormwater/construction/200108_GSN_Public_Information_Meeting.pdf)

What is even more frustrating is solar companies who tout themselves as "environmental" either not complying with current regulations, not trying to learn from their mistakes on past construction projects nor incorporating minimum necessary protections for stormwater. STR-STH would like to see Low Impact Development standards used in coastal towns as the stormwater issues affect sensitive coastal estuaries and other sensitive brackish areas and all their unique habitat.

The site chosen for Petition 1347 is an inappropriate site for a large solar installation for a number of reasons:



- 1) **The parcel has been a forested parcel, indeed a core forest, since at least 1934 as seen in flyover pictures taken by the state and on record. It is zoned RU-120, residential zone.** We would first like to point out that the Petitioner repeatedly tries to mislead the Council in their Motion by referencing the parcel where the site is proposed as “industrial”. Indeed, they go further by saying in their motion (p. 2) “...and foster the redevelopment and reuse of underutilized industrial property” trying to lead the Council to believe that the site has been developed in the past. In fact, it is not zoned for industrial use. The parcel and most land to the west and north are zoned RU-120. And although there are parcels directly south and to the east are currently zoned Industrial/General, they are also currently forested parcels – **making the site the center of a core forest of at least 750 acres**, an oft-cited figure in this proceeding. One of the parcels to the east has been donated to the Waterford Land Trust. In the Petitioner’s Figure 2 – Zoning Map, the preserved parcel is the one that has the label “Zone: I-G” typed on it.

In 2017, the Connecticut General Assembly passed Public Act 17-218, An Act Concerning the Installation of Certain Solar Facilities on Productive Farmlands to protect both farmlands and core forests. STR-STH realizes that the application for this Petition was filed with an RFP that predates the law, but respectfully submits **that protecting core forest sites like the one in this Petition is exactly the reason that the law was passed.** This Petition calls for the clear cutting of 75 acres of core forest and the disruption of over 90 acres.

- 2) The Petitioner claims that if it were to be developed as it is zoned, it would be worse for the environment. That is factually wrong. Any development of the RU-120 parcel would have to follow the town’s current regulations and certainly 75 acres would not be allowed to be disturbed at once! The town of Waterford uses Low Impact Development practices to inform its regulations, as it is a coastal town. The parcel could only be developed with much stricter stormwater regulations and under the watchful eye of the Waterford Town Planning office.
- 3) The Petitioner has a poor track record of creating solar installations that don’t “have a substantial adverse environmental effect in the state” (CGS Sec. 16-50k(a)). STR-STH’s review of the new proposed stormwater mitigation plan revealed that the Petitioner is still assuming the solar panels are pervious, thus the plans are still grossly underestimating the amount of runoff that will be generated by the panels – just like they did in the East Lyme construction disaster with resulting post-construction erosion adversely affecting downstream lands - (See pictures in **Attachment 1**). STR-STH is very disappointed that the Petitioner has not studied the stormwater failure that occurred in East Lyme at their Antares Solar Farm (Petition No. 1056). Much can be learned from reviewing the damage done there. Had the Petitioner chose to study the site and fix the stormwater issues there instead of spending their money on attorneys to fight a lawsuit from a downstream landowner, STR-STH might believe that they are genuinely trying to find solutions to stormwater issues in the Waterford Petition. We have attached the East Lyme site review



letters written by Mr. Steve Trinkaus, PE, who was retained by the downstream landowner in the lawsuit. Engineer Trinkaus had been allowed to walk the site to assess the post-construction runoff issues as described by the downstream landowner. His assessment of the issues and suggestions to remediate the East Lyme site were captured by deposition but were ignored by the Petitioner as the company was not forced to fix the problems by the court. There are still post-construction runoff issues at the Antares site. We would like the Council to see how the East Lyme site might have been remediated to keep stormwater from adversely affecting downstream land, as the downstream landowner has alleged. (Please see **Attachments 2 and 3**). Yes, this case was dismissed in court, but not on its merits. The case was dismissed because the downstream landowner ran out of money fighting the Petitioner and could not afford to have an attorney present at the trial. This is one reason why STR-STH does not trust that the Petitioner will in good faith protect the adjacent trout-supporting streams and the Niantic River Estuary from runoff.

Another reason STR-STH does not trust the Petitioner is that STR-STH was notified by a group that owns land adjacent to the proposed Waterford solar site. This adjacent property contains Stony Brook and several of its tributaries as well as wetlands. The group reported that the Petitioner was asking them if they would sell acres of their land or grant an easement on their land for “stormwater mitigation purposes”. STR-STH would like to know why the Petitioner would need to reach beyond their selected parcel to mitigate stormwater from its site. Would it be because the Petitioner knows the stormwater will not be mitigated **on** the proposed solar field site? Our review of the current design proposed by the petitioner discovered that it does not address the significant increases in runoff volume that would be generated by the proposal. Additionally, instead of the overland flow that occurs in the forest today, the petitioner will create multiple points of discharge where concentrated flow will occur. Concentrated flow has higher velocities and thus can more quickly erode upland and wetland soils. **The design of the stormwater management has not materially changed from the original application.** It is not in compliance with the CT DEP 2004 Storm Water Quality Manual nor sound engineering practices. It is frustrating for STR-STH to watch as solar companies claim to be following regulations when they could be doing more to prevent stormwater runoff by changing their underlying assumptions. Assumptions that are obviously wrong to the untrained eye when you see the actual amount of runoff in the pictures shown in the DEEP presentation.

- 4) The site is merely 4,000 feet from the Niantic River Estuary (which is currently listed by CT DEEP as “impaired” due to water quality issues) and sits between two tributaries to the river, Oil Mill and Stony Brooks. (See **Attachments 4 & 5** for maps with waterways marked). Of great importance is the increase in nutrient discharges, particularly nitrogen, and silt that would come from the site as a result of its deforestation, construction and operation, and stormwater handling. In particular, discharges of nutrients and silt would deleteriously affect eelgrass in the river.



Eelgrass is an important keystone species providing habitat for many fishes and invertebrates, including the bay scallop. Juvenile bay scallops are currently being seeded into the river in efforts to restore a once prominent fishery and this species is of important recreational and economic interest to the Towns of Waterford and East Lyme.

- 5) The stormwater runoff from the site will negatively impact two trout-supporting tributaries to the Niantic River – one on each side of the site.
  - a. One problem for a trout stream is any silting that might occur. Spawning trout need clean gravel sediments in which to deposit their eggs on the bottom of a stream. In the disaster in East Lyme associated with stormwater-induced erosion at the Antares Solar Farm, as the Council knows considerable sediments were discharged into receiving streams (unnamed stream draining the site, Cranberry Meadow Brook, and Latimer Brook), much of which ultimately ended up in the Niantic River Estuary. The site in Waterford is three times the size of the Antares site. Any amount of sediment discharged into the two trout streams or their tributaries within or below the Waterford site will be devastating as it would be in the Niantic River Estuary.
  - b. A second issue is the warming of the water in the stream by runoff from the solar arrays. A study of the water temperature of the stream at points above and below the Antares Solar Project in East Lyme showed a consistent one-degree temperature increase in the stream downstream of the site. Cool-water trout habitat is fragile and adding warmer water to a trout (both brook and brown) stream would adversely affect the ability of these trouts to inhabit these streams. Again, the proposed site in Waterford is three times larger, resulting in a much larger volume of runoff affecting the receiving streams. In his report (Appendix H, p. 9), the Petitioner’s wildlife consultant (Davidson Environmental) stated “Available data shows the presence of wild brook trout (*Salvelinus fontinalis*) in the downstream sections of both Oil Mill Brook and Stony Brook. Brook trout are an indicator of high water quality, requiring cold well-oxygenated waters, with temperatures not exceeding the upper 60s Fahrenheit.” Thus, potential effects to trout (brown trout are also found in Oil Mill Brook) should be recognized by the Petitioner and considered in its handling of stormwater and necessary buffer areas to protect these streams and their biota. Further aquatic surveys are needed to assess the fish and macroinvertebrate populations in Oil Mill and Stony Brooks as well as available trout spawning habitat.
  
- 6) The Petitioner and its consultants provided additional materials in their Motion to Reopen and Modify the decision in Petition No. 1347 Due to Changed Conditions with respect to the primary reason given by the Council in its October 26, 2018 decision to deny the initial petition for a declaratory ruling without prejudice, namely CT DEEP concerns over a more detailed wildlife survey. Although the Petitioner partially complied by having its consultants perform additional onsite terrestrial wildlife studies, the material was again deficient in addressing the biota and



environment of the two streams bracketing the site and issues potentially occurring downstream in the Niantic River Estuary. The Council needs to consider potential environmental effects that might occur offsite of these solar energy facilities as site modifications (e.g., clear-cutting forests) and stormwater discharges most assuredly will affect offsite, downstream areas. For example, the consultants should have reviewed, considered, and cited reports that are readily available to them, including, but not limited to, *The Niantic River Watershed Protection Plan - Watershed-wide Strategies to Prevent Nonpoint Source Pollution* (see [www.nianticriverwatershed.org/the-watershed/nrwac](http://www.nianticriverwatershed.org/the-watershed/nrwac) or [http://www.ct.gov/deep/cwp/view.asp?a=2719&q=379296&deepNav\\_GID=1654#nianticriver](http://www.ct.gov/deep/cwp/view.asp?a=2719&q=379296&deepNav_GID=1654#nianticriver)) and the Town of Waterford's management plan for the Stony Brook watershed (see [http://www.waterfordct.org/sites/waterfordct/files/file/file/stony\\_brook\\_watershed\\_management\\_plan\\_part\\_1.pdf](http://www.waterfordct.org/sites/waterfordct/files/file/file/stony_brook_watershed_management_plan_part_1.pdf) and [http://www.waterfordct.org/sites/waterfordct/files/file/file/stony\\_brook\\_watershed\\_management\\_plan\\_part\\_2.pdf](http://www.waterfordct.org/sites/waterfordct/files/file/file/stony_brook_watershed_management_plan_part_2.pdf)). The effects to the offsite environment cannot be dismissed for large ground-mounted photovoltaic energy projects as amply illustrated by the examples in East Lyme, Pomfret and other sites photographed for the above referenced DEEP stormwater regulations presentation.

- 7) Further examination of the Petitioner's required wildlife study (Davidson Environmental, Appendix H) indicates potential environmental effects glossed over or ignored by the Petitioner. These include:
- a. "For many species, this wildlife assessment is habitat-based, with no detailed surveys conducted." (p. 4). Since one of the primary reasons for the rejection of the first petition was the lack of an acceptable biological survey, this admission that a detailed survey had subsequently not been made is disturbing.
  - b. Similarly, "This assessment does not address all biota that inhabit the site (e.g., bats, insects). Rather, the goal of the study was to focus on those species most likely to be adversely impacted from a change in land use. These include amphibians and reptiles which have low mobility and dispersal capabilities, as well as breeding birds of conservation concern within the State." (pp. 4-5). Bat surveys were conducted as requested by CT DEEP. However, there was little analysis performed about how this project would affect amphibians residing on the site. Protection of the site's wetlands should occur, but no analysis was performed indicating how the loss of woodlands and the development of this project would affect the salamanders, frogs, and toads using the wetland pools for breeding. These species require more than just wetland pools for their habitat as they reside for most of the year in upland areas.
  - c. The biological report states "While no targeted breeding season bird surveys were conducted, all species observed from late April through mid-May were recorded as noted in Table 5. Many of these species can reasonably be expected to breed on the site due to the presence of suitable habitat. For the remainder of species noted in Table 5, they are



considered potential breeders, developed utilizing a habitat-based catalog of known breeding birds in Connecticut.” (p. 7). Again, the wildlife survey was limited in scope to a relatively short period of time and conjectures were made about what bird species would be found on the site and nesting. No fall migrants or winter residents were assessed. A perusal of the 47 bird species listed in Table 5 indicates that the Conservation Status of nearly half of them were Very Important (6), Most Important (5), or Important (10). The consultant goes on to state: “The total limits of tree clearing are 90 acres. The resulting habitat loss will render the site largely uninhabitable for forest-dwelling birds. Beyond the areas converted from forest to solar field, forest within approximately 300-feet of the proposed clearing limits will be diminished with respect to supporting forest-dwelling birds because of the impacts associated with the edge affect. Additionally, the overall 750-acre forest block will be fragmented, and the habitat value diminished. This is exacerbated by the fact that the site lies roughly within the center of the overall 750-acre forest block, which will have a particular affect on the portions of the forest block that lie to the west (west of the site towards I-95, north to Oil Mill Road) as this area will be fragmented into a small forest patch less than 100 acres.” This is a strong statement by the Petitioner’s own consultant indicating likely environmental effects to birds believed to be breeding on-site and is further indication of the need for stronger environmental studies and assessments and protection of parcels such as this one in Waterford.

- d. The consultant states “I would recommend a minimum 200-foot buffer around wetlands, with the first 100-feet being a no disturbance zone where existing forest remains intact. The second 100-feet should remain nonimpervious [sic] (i.e., no solar panels) but can include stormwater management features and associated grading.” (p. 9). Although the Petitioner has indicated that “No tree clearing will take place within 100-ft of designated inland wetlands and watercourses, with the exception of minor selective clearing in locations where the existing dirt access road will be improved” (Petition, p. 13), there is no indication that the recommendation that a further 100-foot non-pervious area will be adhered to in the design and construction phases.
  - e. Finally, the consultant noted that “All clearing should occur between October 15th and March 1st, to prevent impacts to wildlife.” (p. 10). This is a sound recommendation. However, the Petitioner noted that “Project construction is anticipated to begin in Spring 2020 pending regulatory approvals. Initial work will involve site clearing and the installation of erosion control measures, including installation of sediment basins.” (Petition, p. 14). Thus, the Petitioner would like to commence site work during a period likely to cause the most disruption to resident wildlife, a time when most annual reproductive activities are taking place. This is not acceptable.
- 8) The site has large areas of currently undisturbed land that has potential Cultural significance. The Petitioner has not had the recommended Phase 1B assessment done and the Connecticut Office of the Arts and State Historic Preservation Office has stated that they have not seen the Cultural Assessment 1A done for the original Petition. STR-STH respectfully asks the Council to send the



Cultural Assessment done for this parcel to the Connecticut Office of the Arts and State Historic Preservation Office as the assessment has identified areas of moderate/high sensitivity areas in their report and we understand that the Council may request this review. Petitioner states in the Motion to Reopen that it has dug "...approximately 100 test pit investigation holes... across the Site since 2018..." We hope they have not disturbed potentially productive areas of historical significance. The Tribal Historic Preservation Officer of the Mashantucket Pequot Tribal Nation asked Save the River-Save the Hills to ask for a public hearing as they would like to actively participate in a review of the site. Here is the recommendation from the Cultural Assessment 1A that the Petitioner submitted (from the Abstract page):

"... approximately 24.9 acres has been classified as moderate/high sensitivity areas for producing archaeological deposits. Although the forest has been removed from these areas, the stumps have not been pulled, leaving the depositional integrity relatively undisturbed. Three moderate/high sensitivity areas possess relatively low slopes, well drained soils, and are positioned closer to Oil Mill and Stony Brook than the rest of the study area; they are situated in the northernmost and northeastern portions of the study area. In addition, while it is known that the moderate/high sensitivity areas have undergone some level of previous disturbance by the recent timbering, it is possible that undisturbed subsoil may remain in these areas and may contain intact archaeological deposits. Thus, it is recommended that Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas that will be impacted by construction be conducted."

- 9) In the newly submitted Petition, the petitioners noted that "Greenskies has full control of the parcel via a 20-year lease with the property owner. Greenskies can also extend the lease by an additional 15 years *if needed* (emphasis ours; page 10)". Yet on page 17 they note "[t]he project is proposed with at least a 35 year design life." Following this page is an analysis of Project Benefits (pp. 18-19 and Appendix E). The carbon debt analyses found in Appendix E, presumably an important factor in the cost-benefit decision favoring this project, assumes a 30-year period of project life (Appendix E, p. 2). Notwithstanding the internal inconsistencies of the Petitioner's own statements (is the solar development to have a 30- or 35-year lifespan?), if the Waterford project is to have some environmental and economic value, then should the Petitioner not have control over the site for more than the initial 20-year lease period? This is another example of the inconsistencies associated with this Petition. No one can assume what might happen with respect to a lease that needs renewing in 20 years to fulfill the stated project potential as the future positions of both the Petitioner or the landowners cannot be stated at this time.
- 10) Greenskies is owned by Clean Focus which is owned by a Taiwanese company Neo Solar Power (NSP) Company. Neo Solar Power Energy Corp., also known as NSP, is a Taiwan-based solar cell and module manufacturer with its Headquarters in Hsinchu, Taiwan. When the incentive monies are awarded, what percentage of US taxpayer money goes to Taiwan?



- 11) The Petitioner is asking to reopen the Petition without specifying which types of solar panels they are proposing to use at the site. In his testimony, Jean-Paul LaMarche stated “This results in the original 20.16 MW DC... being reduced to at least 18. MW DC..., depending on the type of panels that are selected...” and, “the technology of the panels has improved so that Greenskies anticipates using 400 to 425 watt panels on the Project.” What is the make-up of the new panels? Will the new solar panels have cadmium in them? How can the Council make a decision about declaratory ruling about potential environmental impacts without knowing what construction materials the Petitioner is proposing?

The Council wisely denied the Petition for Reconsideration for Petition No. 1347 on December 11, 2018 for a number of good reasons. Among these were potential impacts to water quality, the absence of a geotechnical analysis for stormwater control designs, and the lack of a recommended wildlife survey. We believe that this latest Petition still fails to properly address water quality and stormwater issues and still lacks details regarding wildlife, which should include aquatic species. And, further, there remains a lack of information and analysis on impacts this development would have on downstream environments and biota, namely in the significantly important Niantic River Estuary.

We understand that the Council does not have the jurisdiction over stormwater issues as stated on the Council website. We do believe, however, that given the issues with the lack of clarity on solar installation stormwater governance by DEEP (see Attachment 5 – CEQ’s Digging Connecticut... while Protecting Its Waters and History: Recommendations for Reducing Impacts of Earthmoving), that the Council can act to protect environmentally sensitive areas by denying the Petitioner a declaration that this Petition would not adversely impact the environment.

**For all the foregoing reasons, Save the River-Save the Hills, Inc. respectfully requests that the CT Siting Council deny reopening the Petition.**

Finally, should the Council decide to reopen Petition 1347, **STR-STH respectfully requests that the Council schedule a Public Hearing in Waterford to allow the public to review and comment on the Petitioner’s application.** We would also request that if the Council reopens the Petition it would be to modify the Council’s decision to a full denial of this Petition.

Respectfully submitted by:

*D. Moshier-Dunn*

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Deb Moshier-Dunn, Vice President  
Save the River-Save the Hills, Inc.

*12 Feb 2020*

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Date





**Attachment 1 – Pictures of Destruction of Stormwater Runoff Detention System in East Lyme Greenskies Antares Solar Project**





**Attachment 1 (con't) – Pictures of Destruction of Stormwater Runoff Detention System in East Lyme Greenskies Antares Solar Project**





**Attachment 1 (con't) – Pictures of Destruction of Stormwater Runoff Detention System in East Lyme Greenskies Antares Solar Project**





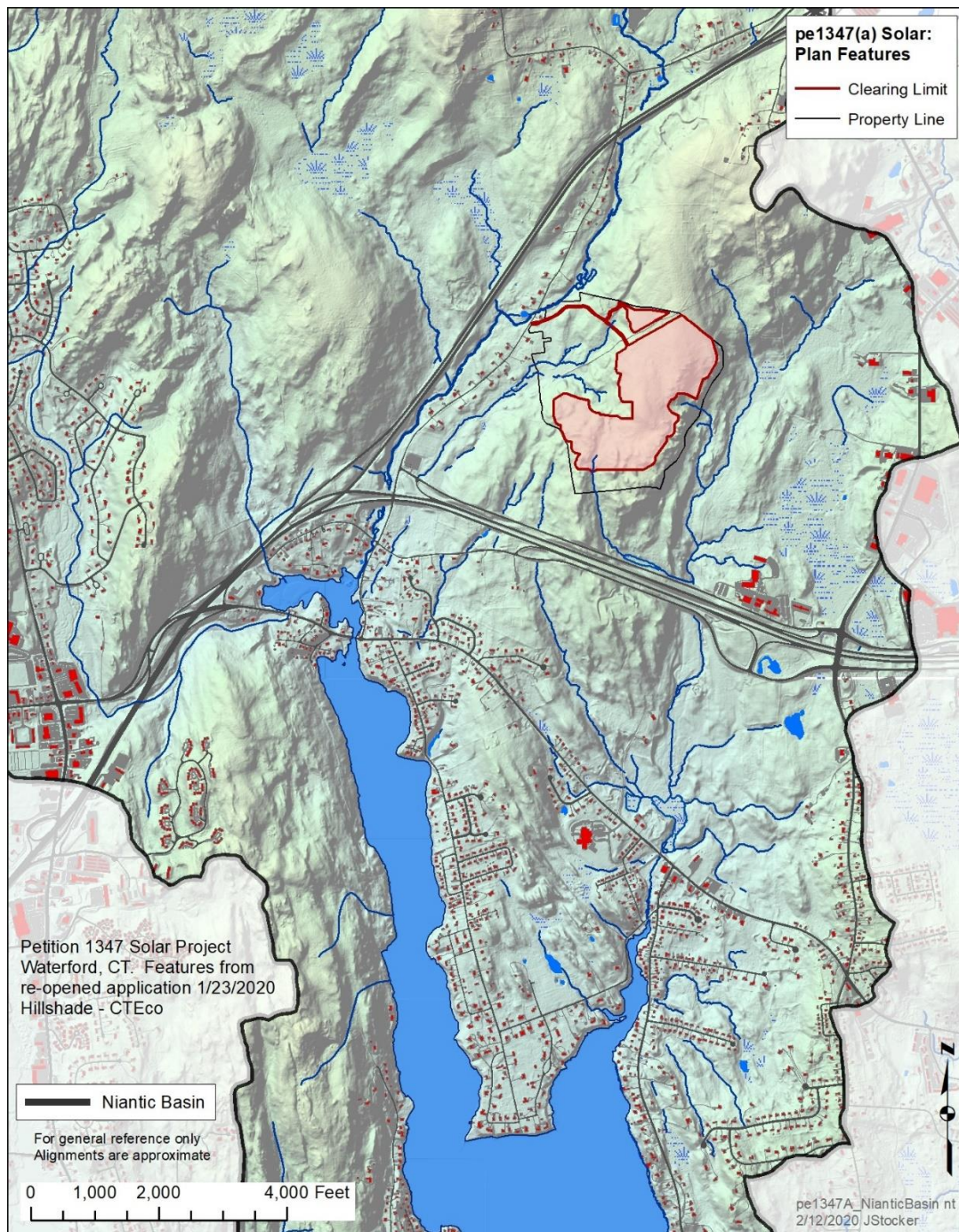
**Attachment 2 – Letter from Steve Trinkaus, PE to Attorney Leslie King regarding Greenskies’ Antares Solar Farm stormwater issues post construction**



**Attachment 3 – Letter from Steve Trinkaus, PE to Attorney Leslie King regarding Greenskies' Antares Solar Farm stormwater issues post construction**

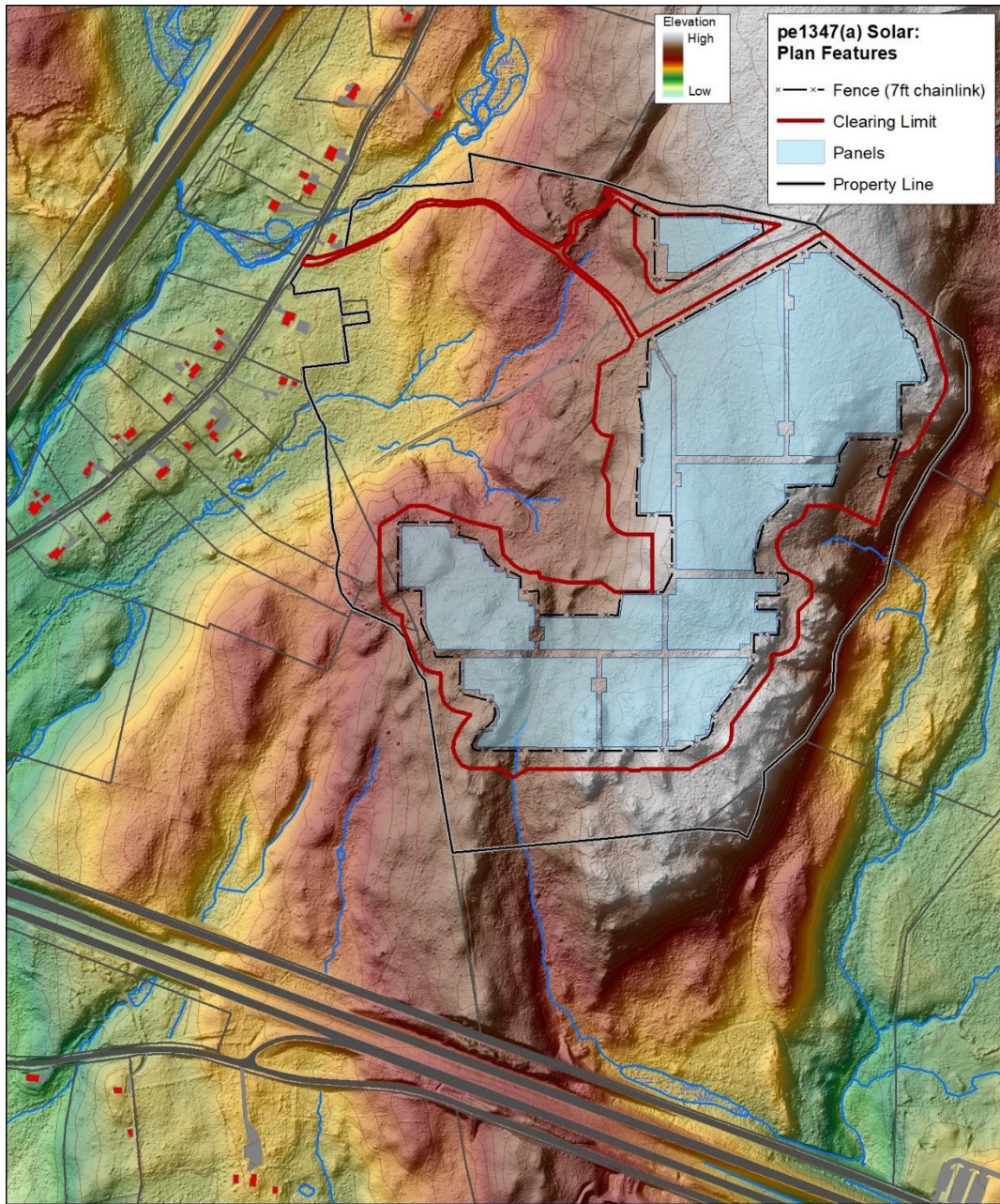


**Attachment 4 - Map of Area Surrounding the Proposed Site – showing proximity to Niantic River Estuary and Properly Delineating Streams & Wetlands Within and Around the Site**






**Attachment 5 – LIDAR Map of Area Surrounding the Proposed Site – Properly Delineating Streams & Wetlands Within and Around the Site**



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 For general reference only  
 Alignments are approximate


 Petition 1347 Solar Project, Waterford, CT  
 Digitized Layout - features from re-opened application 1/23/2020  
 Base image: LIDAR Elevation - CTEco