

August 2, 2023

***VIA FEDERAL EXPRESS
AND ELECTRONIC MAIL***

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

Re: PETITION NO. 1580 – CT Solar PDF, 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 1.45-megawatt AC solar photovoltaic electric generating facility located at two parcels on the Medtronic campus at 86 Quinnipiac Avenue and 195 McDermott Road, North Haven, Connecticut, and associated electrical interconnection.

Dear Attorney Bachman:

On behalf of CT Solar PDF LLC (“Petitioner”), please accept the enclosed responses to the interrogatories provided by the Connecticut Siting Council (“Council”) on July 19, 2023.

Consistent with Council requirements, Petitioner submits one electronic version, an original, and fifteen hard copies of all necessary documents.

Please do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matthew Melewski', with a long horizontal flourish extending to the right.

Matthew Melewski
General Counsel
Nokomis Energy, owner of CT Solar PDF LLC
2836 Lyndale Ave, Suite 132, Minneapolis, MN 55408
matthew@nokomisenergy.com
nokomisenergy.com
612-470-3223

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
PETITION FOR A DECLARATORY RULING, : PETITION NO. 1580
PURSUANT TO CONNECT GENERAL :
STATUTES, §4-176 AND §16-50k, FOR THE :
PROPOSED CONSTRUCTION, MAINTENANCE :
AND OPERATION OF A 1.45-MEGAWATT AC :
SOLAR PHOTOVOLTAIC ELECTRIC :
GENERATING FACILITY LOCATED AT TWO :
PARCELS ON THE MEDTRONIC CAMPUS AT :
86 QUINNIPIAC AVENUE AND 195 :
MCDERMOTT ROAD, NORTH HAVEN, :
CONNECTICUT, AND ASSOCIATED :
INTERCONNECTION. : AUGUST 2, 2023

**RESPONSES OF CT SOLAR PDF LLC TO CONNECTICUT SITING COUNCIL
INTERROGATORIES**

On July 19, 2023, the Connecticut Siting Council (“Council”) issued Interrogatories to CT Solar PDF, LLC relating to Petition No. 1580. Below are Petitioner’s responses.

Project Development

- 1. What is the estimated cost of the project?**

RESPONSE: The estimated cost of the project is \$8,000,000.

- 2. Is the project, or any portion of the project, proposed to be undertaken by state departments, institutions or agencies, or to be funded in whole or in part by the state through any contract or grant?**

RESPONSE: No.

- 3. Would the project participate, or was the project selected, in a state or public utility-sponsored program?**

RESPONSE: Yes. The project was awarded an LREC contract from United Illuminating Company.

4. **Referencing Petition page 5, has CT Solar PDF, LLC (CTSP) received any comments since the petition was submitted to the Council? If yes, summarize the comments and state how these comments were addressed.**

RESPONSE: No, the project has not received any comments since the petition was submitted to the Council.

5. **Referencing Petition Appendix G – Public Outreach, the March 13, 2023 letter references “... a 1.7 MW AC solar photovoltaic electric generating facility...” Explain.**

RESPONSE: At the time of the March 13, 2023, public outreach letter, the facility design was 1.7 MW AC. A subsequent design change – made before the petition was submitted to the Council – altered the system to a 1.45 MW AC facility.

6. **If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?**

RESPONSE: If the project is approved, the following permits will be necessary:

- a. Connecticut Department of Energy and Environmental Protection (“CTDEEP”), General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity.
- b. Town of North Haven, Building Permit.
- c. Town of North Haven, Electrical Permit.

CT Solar PDF LLC (CTSP) will hold these permits

7. **If CTSP transfers the facility to another entity, would CTSP provide the Council with a written agreement as to the entity responsible for any outstanding conditions of the Declaratory Ruling and quarterly assessment charges under CGS §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee?**

RESPONSE: Yes.

Proposed Site

8. **Submit a map clearly depicting the boundaries of the solar facility site and the boundaries of the host parcel(s). Under Regulations of Connecticut State Agencies (RCSA) §16-50j-2a(29), “Site” means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and**

easements on which a facility and associated equipment is located, shall be located or is proposed to be located.

RESPONSE: See Exhibit A.

9. **In the lease agreement with the property owner, are there any provisions related to decommissioning or site restoration at the end of the project's useful life? If so, describe and/or provide any such provisions.**

RESPONSE: Yes. The following excerpt is from the Lease Agreement with the property owner:

Upon the expiration or earlier termination of this Lease (unless otherwise agreed in writing by the Parties), Tenant shall, at its expense (unless expressly provided otherwise in this Lease), remove all of the Improvements and Alterations from the Land by a mutually acceptable completion date, but in no event later than one hundred eighty (180) days after the termination of this Lease. The Land shall be returned substantially to its original condition (excluding ordinary wear and tear), including the removal of Solar Facility mounting pads or other support structures to two feet below grade. Landlord must provide sufficient access, space and cooperation as reasonably necessary to facilitate removal of the Improvements, including the temporary storage and staging of tools, materials and equipment and for the parking of construction crew vehicles and temporary construction trailers and facilities reasonably necessary during Solar Facility removal. If Tenant fails to remove or commence substantial efforts to remove the Solar Facility by such agreed upon date, such items shall be deemed to have been abandoned by Tenant and Landlord shall have the right, at its option, to remove the Solar Facility to a public warehouse and restore the Land to its original condition (other than ordinary wear and tear) at Tenant's cost.

10. **Provide the distance, direction and address of the nearest property line and nearest residence from the proposed facility.**

RESPONSE: The nearest residence and property line from the proposed facility is 92 Quinnipiac Avenue, North Haven, CT, 06473, which is approximately 0.16 miles northeast from the proposed facility.

Energy Output

- 11. What is the anticipated capacity factor of the facility? Would the capacity of the system decline over time? If so, estimate annual losses.**

RESPONSE: The facility is estimated to have a capacity factor of approximately 14.5%. The capacity of the system will decline over time. The system capacity is estimated to decline by approximately 0.5% per year based on the solar panel manufacturer's test results.

- 12. Would the proposed facility provide baseload power, backup power or both for Medtronic? Referencing Petition p. 2, approximately what percentage of the Medtronic campus annual electric load would be served by the facility?**

RESPONSE: The facility will provide baseload power for Medtronic. The facility will provide approximately 17% of Medtronic campus annual electric load.

- 13. Would any surplus power be sold to the grid? Does CTSP have a contract to sell the electricity and/or renewable energy certificates (RECs) it expects to generate from the proposed facility?**

RESPONSE: Yes to both questions. CTSP will have a Net Metering agreement with the Utility to facilitate the sale of surplus power to the grid, and an LREC contract with the Utility for RECs that CTSP expects the facility to generate.

- 14. Would the facility operate as an emergency generating device or under a demand response program?**

RESPONSE: No

- 15. If one section of the solar array experiences electrical problems causing the section to shut down, could other sections of the system still operate? By what mechanism are sections electrically isolated from each other?**

RESPONSE: Yes. The facility has two (2) switchgear line-ups that electrically isolate the other section(s) of the solar array (one for the roof mount and one for the ground and canopy). If one section experiences electrical problems causing it to shut down, the other section(s) with the other switchgear line-up could continue to operate.

- 16. If electrical service from United Illuminating experiences an outage, will the solar arrays be able to provide power to the Medtronic campus? If yes, in what areas of the campus will the power be utilized?**

RESPONSE: No, if the electrical service from United Illuminating experiences an outage, the solar arrays will not be able to provide power to the Medtronic campus.

Proposed Facility and Associated Equipment

17. **How many acres comprise each of the three array areas? How many acres comprise the interconnection corridor?**

RESPONSE: The acreage for each of the three array areas and the interconnection corridor are as follows:

- Rooftop = 1.79 acres
- Ground Mount = 0.85 acres
- Canopy = 1.2 acres
- Interconnection corridor = 0.3 acres.

18. **For the ground-mounted solar array, is the wiring from the panels to the inverters installed on the racking system? If wiring is external, how would it be protected from potential damage from weather exposure, vegetation maintenance, or animals?**

RESPONSE: A majority of the wiring from the panels to the inverters will be installed on the racking system. Where wiring is not run on the racking system, it will be run in conduit. All wiring from the panels to the inverters is weatherproof and rated up to 194 degrees Fahrenheit.

19. **For the parking canopy array;**
- a. **provide a drawing that provides detail of the proposed canopy design.**
 - b. **submit a photograph of the similar canopy design.**
 - c. **are the solar panels attached to a steel canopy roof? If so, is the steel roof pitched for sheet drainage or is runoff collected and directed to drainpipes?**
 - d. **To what depth would the canopy support columns be installed?**

RESPONSE:

- a. See Exhibit B.
- b. See Exhibit C.
- c. No, the solar panels will not be attached to a steel canopy roof.
- d. 12 feet.

20. **For the rooftop solar array;**
- a. **will the panels be installed on an angle? If yes, what are the maximum and minimum heights of the panels above the roofline?**
 - b. **what is the height of the building roof above grade?**
 - c. **where is the interconnection point?**
 - d. **would the proposed installation affect existing rooftop stormwater drainage? If yes, would upgrades to the roof's drainage system be necessary?**
 - e. **how is rooftop stormwater captured and where is it discharged?**

RESPONSE:

- a. Yes, the panels will be installed on an angle, specifically with a 5-degree tilt. The maximum height of the panel above the roofline is 11” and the minimum height is 6”.
- b. The building roof is approximately 39'-3" above grade.
- c. The interconnection point is at the customer's medium voltage equipment, located in the block house.
- d. No. The panels will be situated such that water will sheet flow over panels and mimic rainfall at the dripline. A 10’ setback to existing roof drains will allow for sheet flow similar to existing conditions after the array is installed. Since no increase in stormwater runoff is anticipated, no upgrades to the roof drainage system are necessary.
- e. Rooftop stormwater is captured with existing roof drains and discharged in the existing stormwater management system.

Interconnection

21. **Referring to Petition p. 3, what is the status of the interconnection agreement with United Illuminating? Is the project interconnection required to be reviewed by ISO-NE?**

RESPONSE: United Illuminating is processing the Interconnection Application and is on schedule to issue an Interconnection Agreement in October 2023. During their review they will determine if a review of the Interconnection by ISO-NE is needed. The Interconnection is not expected to require a review by ISO-NE.

22. **Are any utility poles proposed for the interconnection? If yes, provide detail.**

RESPONSE: No utility poles are currently proposed for the interconnection.

Public Safety

23. **Would the Project comply with the current Connecticut State Building Code and National Electrical Code?**

RESPONSE: Yes. The Project will comply with the current Connecticut State Building Code and National Electric Code.

24. **Was a building structural engineering analysis conducted for the rooftop solar array? Are roof/building modifications necessary to install the array?**

RESPONSE: Yes, a building structural engineering analysis was conducted and no modifications are necessary to install the array.

- 25. Would training be provided for local emergency responders regarding site operation and safety for all three array types in the event of a fire or other emergency at the site?**

RESPONSE: Yes. Petitioner is prepared to provide assistance and/or training to local emergency responders if requested.

- 26. In the event of a brush or electrical fire, how are potential electric hazards that could be encountered by emergency response personnel mitigated?**

RESPONSE: To mitigate potential electric hazards that could be encountered by emergency response personnel, the project will have comprehensive signage throughout the project area, including at the main entrance gate, on the exterior fencing, and on the solar equipment. Signage will include the locations of all disconnecting devices. The disconnecting devices should be put in the open position before entering the facility.

- 27. What type media and/or specialized equipment would be necessary to extinguish a solar panel/electrical component fire? If there is a structure fire or rooftop fire, what substances (water, foam, etc.) can be used on the solar array to extinguish the fire?**

RESPONSE: No specific media or specialized equipment is necessary to extinguish a solar panel/electrical component fire. Any substance the fire department deems appropriate can be used on the solar array to extinguish the fire, including water, foam, or other approved substances.

- 28. How would emergency personnel access the top of the solar canopies and the rooftop array?**

RESPONSE: Emergency responders would access the solar canopies and the rooftop array in the same manner as would be used to access a building rooftop in an emergency (fire truck ladders, etc.) There is no specialized equipment needed because of the solar facility.

- 29. Describe procedures for manual shutdown of all three types of arrays if required by emergency responders.**

RESPONSE: All three arrays will have an emergency shut off switch at ground level with appropriate signage that will be accessible to emergency personnel. Once switched, the emergency shut off switch will complete manual shutdown of the array.

- 30. For the parking canopy array;**
- a. what construction codes/standards are applicable to reduce or prevent damage to the structure/solar modules in the event of a vehicle fire under the canopy?**
 - b. describe how the project design allows for unencumbered access to emergency vehicles such as a fire truck or ambulance?**

- c. is lighting proposed under the canopy array? If yes, provide detail and the governing lighting code.**

RESPONSE:

- a. The National Electric Code and Connecticut State Building Code are applicable. The canopy height will be higher than the minimum standard to further reduce or prevent damage to the structure/solar modules in the event of a vehicle fire under the canopy.
- b. To allow for unencumbered access to emergency vehicles, the project design has increased the canopy height on drive aisles to 14' and set back the canopy 15' from the building edge. The project design also includes a 15' drive aisle between the canopy and the ground mount fence
- c. No lighting is proposed under the canopy array.

- 31. Does the transformer have a containment system in the event of a leak? Can the remote-monitoring system detect an insulating oil leak?**

RESPONSE: No, the transformer does not have a containment system, but the fluid in the transformer is FR3, which doesn't contain any petroleum and is nonhazardous. The data acquisition system will be connected to the transformer to monitor its status.

- 32. Where is the nearest federally-obligated airport? Is an aviation glare analysis required for this facility to comply with FAA policy?**

RESPONSE: The nearest federally-obligated airport is Tweed New Haven airport, which is approximately 6 miles from the project. The FAA has fully reviewed the project and does not require an aviation glare analysis.

Environmental Effects and Mitigation Measures

- 33. Were subsurface soils evaluated for hazardous contaminants? Would excavated soils require disposal at a hazardous materials facility?**

RESPONSE: A Phase I Environmental Site Assessment is currently in progress, and the project will complete any recommended evaluations and follow the recommendations provided in the report.

- 34. Referring to Site Plan C6.03, can additional pollinator-friendly species be incorporated into the seed mix?**

RESPONSE: Yes, additional pollinator-friendly species can be incorporated into the seed mix.

35. **Petition p. 8 states no tree clearing is necessary for the project; however, Site Plan C1.02 shows tree clearing. Clarify. How many acres of trees will be removed to develop the site?**

RESPONSE: Pursuant to the current design, a maximum of 0.24 acres of trees would be cleared to develop the site.

Facility Construction

36. **Referring to the Stormwater Report;**

- a. **p. 5 states the total area of the project is approximately 3.88 acres, and the total area of disturbance is 1.4 acres. What specific areas are included in the 1.4-acre area?**
- b. **p. 6 includes pre- and post-development condition tables that total 1.1 acres instead of 1.4 acres. Clarify.**

RESPONSE:

- a. The 1.4 acres includes the pad, foundations, and trenching to support the facilities as well as the interconnection pathway.
- b. The pre- and post-development condition tables on p.6 that total 1.1 acres did not include the interconnection pathway, which adds 0.3 acres, for a total of 1.4 acres. See updated table below:

<i>PRE-DEVELOPMENT CONDITIONS</i>			<i>POST-DEVELOPMENT CONDITIONS</i>		
<i>Cover Description</i>	<i>CN</i>	<i>Area (sf.)</i>	<i>Cover Description</i>	<i>CN</i>	<i>Area (sf.)</i>
75% Grass Cover Good (HSG D)	80	61,071	75% Grass Cover Good (HSG D)	80	47,834
			Equipment Pad (HSG D)	98	245
			Interconnection Pathway 75% Grass Cover Good (HSG D)	80	12,981
Total:		61,071 sf.	Total:		61,071 sf.

37. **Has CTSP submitted an application for a stormwater permit? If yes, what is the status of such permit?**

RESPONSE: No. The project has a pre-application meeting scheduled with CT DEEP on August 2, 2023, and will be submitting an application for a stormwater permit after receiving feedback and guidance from that meeting.

38. **Referring to Site Plan C1.02;**

- a. **will clearing for the utility trench occur up to the edge of the Little River?**

- b. what type of erosion and sedimentation controls will be installed on the steep bank of the Little River?**

RESPONSE:

- a. No, clearing for the utility trench will not occur up to the edge of the Little River.
- b. Where disturbance will occur on the steep bank, the proposed erosion and sediment control to be installed is filter socks. Nokomis will be working closely with DEEP on erosion and sedimentation controls.

39. Referring to Site Plan C6.02;

- a. will the fence along the southside of the utility trench limit of disturbance be removed? If yes, will it be replaced?**
- b. will installation of the utility trench require cut and/or fill along the bank of the Little River to create a level surface for installation of the underground conduit? If not, to what depth will the conduit be installed along the steep bank?**
- c. after installation of the underground conduit, can native shrubs be planted within the disturbed areas along the Little River?**

RESPONSE:

- a. Yes, the fence will be removed temporarily but it will be replaced.
- b. No, installation of the utility trench will not require cut and/or fill along the bank of the Little River. The conduit will be installed along the steep bank at an approximate depth of 24" below grade.
- c. Yes, native shrubs can be planted within the disturbed area along the Little River.

40. Submit photographic site documentation with notations linked to the site plans or a detailed aerial image that identify locations of site-specific and representative site features. The submission should include photographs of the site from public road(s) or publicly accessible area(s) as well as Site-specific locations depicting site features including, but not necessarily limited to, the following locations as applicable:

For each photo, please indicate the photo viewpoint direction and stake or flag the locations of site-specific and representative site features. Site-specific and representative site features include, but are not limited to, as applicable:

- 1. wetlands, watercourses and vernal pools;**
- 2. forest/forest edge areas;**
- 3. agricultural soil areas;**
- 4. sloping terrain;**
- 5. proposed stormwater control features;**
- 6. nearest residences;**
- 7. Site access and interior access road(s);**
- 8. utility pads/electrical interconnection(s);**
- 9. clearing limits/property lines;**
- 10. mitigation areas; and**
- 11. any other noteworthy features relative to the project.**

A photolog graphic must accompany the submission, using a site plan or a detailed aerial image, depicting each numbered photograph for reference. For each photo, indicate the photo location number and viewpoint direction, and clearly identify the locations of site-specific and representative site features show (e.g., physical staking/flagging or other means of marking the subject area).

The submission shall be delivered electronically in a legible portable document format (PDF) with a maximum file size of <20MB. If necessary, multiple files may be submitted and clearly marked in terms of sequence.

RESPONSE: See Exhibit D.

Facility Maintenance/Decommissioning

- 41. Referring to p. 4 of the Decommissioning Plan, what is the approximate maximum lifespan of each array area?**

RESPONSE: Each array is designed to a 35-year lifespan.

- 42. Would replacement modules be stored on-site in the event solar panels are damaged or are not functioning properly? If yes, in what location?**

RESPONSE: No, replacement modules would not be stored on-site.

- 43. Would the design of the parking canopy array cause snow/and or ice to accumulate and stay in place during prolonged incidents of cold weather? Is there a plan to remove snow/ice to prevent an ice fall hazard? If yes, describe snow/ice removal methods and site access.**

RESPONSE: The design of the parking canopy array will not cause snow or ice to accumulate and stay in place and there is no plan to remove snow/ice. Instead, the design of the parking canopy array is designed to alleviate any such concerns. The parking canopy array will have a 7° tilt that will help shed any snow or ice during cold weather. As the modules warm up, the snow and ice will melt and shed off the canopies.

- 44. Would the underside of the parking canopy array have the potential to act as shelters or nesting areas for wildlife? Would nests/droppings be periodically removed from the parking areas/columns?**

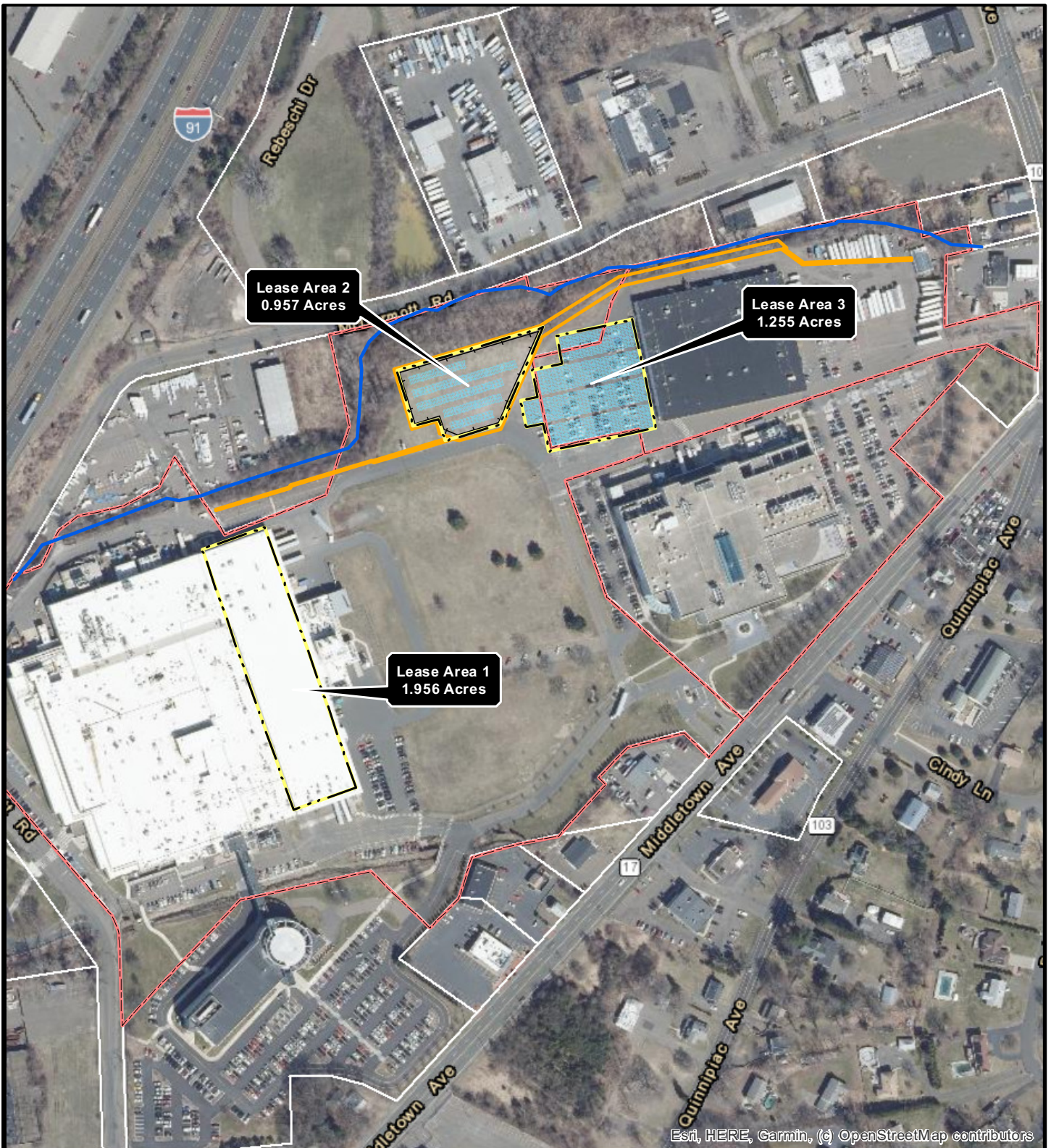
RESPONSE: The underside of the parking canopy array could have the potential to act as shelters or resting areas for wildlife. The parking areas/columns would be well maintained and any debris potentially left by wildlife would be removed regularly.

- 45. Has the manufacturer of the proposed solar panels conducted Toxicity Characteristic Leaching Procedure (TCLP) testing to determine if the panels would**

be characterized as hazardous waste at the time of disposal under current regulatory criteria? If so, submit information that indicates the proposed solar modules would not be characterized as hazardous waste. If not, would CTSP agree to install solar panels that are not classified as hazardous waste through TCLP testing?

RESPONSE: CTSP has not made a final selection of panels for the project. However, CTSP agrees to install solar modules that are not classified as hazardous waste through TCLP testing.

EXHIBIT A: SITE BOUNDARY MAP



Esri, HERE, Garmin, (c) OpenStreetMap contributors

Lease Area Exhibit

Legend

- Lease Boundaries
- Limit of Disturbance
- Project Fence
- Panels
- Parcel Boundaries
- Stream (Little River)

CT SOLAR PDF LLC - Nokomis Energy
 Medtronic Robotics
 North Haven, CT, 06473
 New Haven County

Map Details:

Base Map Source: CTECO 2019, Spring, 6 inch, Aerial Imagery
 Data Source(s) Include: New Haven Zoning, North Haven Zoning,
 East Haven Zoning, CTDEEP, Nokomis Energy, VT
 Map Scale: 1 inch = 300 feet
 Map Date: July 28, 2023

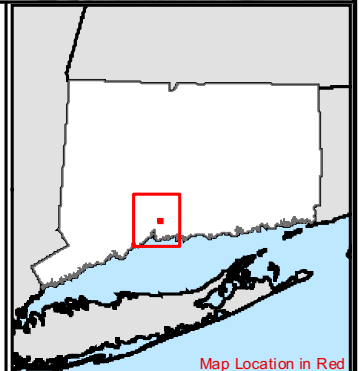
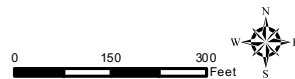


EXHIBIT B: PROPOSED CANOPY DESIGN DRAWING

EXHIBIT C: PHOTOGRAPHS OF SIMILAR CANOPY DESIGN



terrasmart



terrasmart



terrasmart



terrasmart

EXHIBIT D: PHOTOGRAPHIC SITE DOCUMENTATION

Photographic Site Documentation Response to Council Interrogatory #40

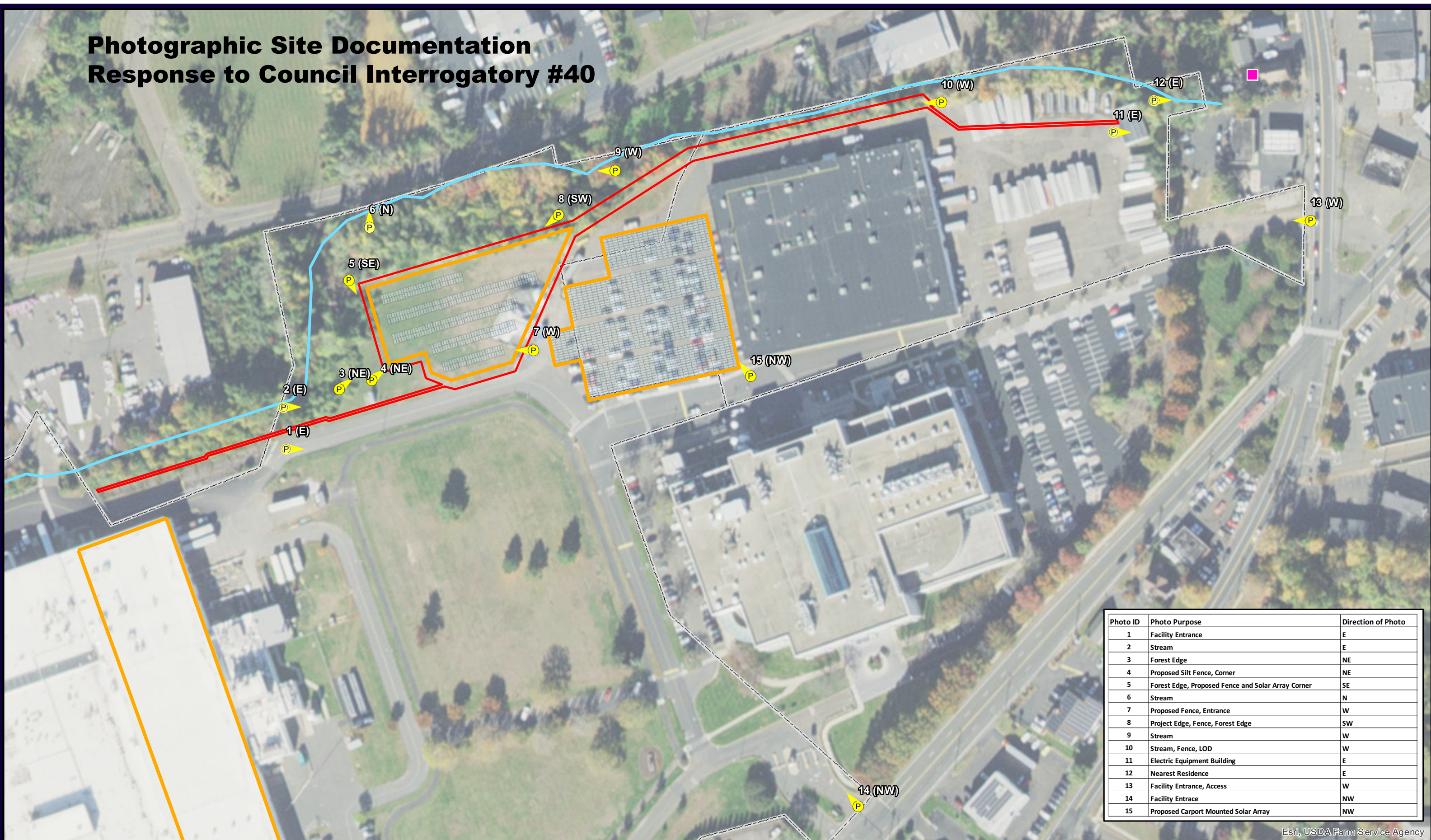


Photo ID	Photo Purpose	Direction of Photo
1	Facility Entrance	E
2	Stream	E
3	Forest Edge	NE
4	Proposed Silt Fence, Corner	NE
5	Forest Edge, Proposed Fence and Solar Array Corner	SE
6	Stream	N
7	Proposed Fence, Entrance	W
8	Project Edge, Fence, Forest Edge	SW
9	Stream	W
10	Stream, Fence, LOD	W
11	Electric Equipment Building	E
12	Nearest Residence	E
13	Facility Entrance, Access	W
14	Facility Entrance	NW
15	Proposed Carport Mounted Solar Array	NW

Esri, USDA Farm Service Agency

Location
New Haven County,
Connecticut

0 50 100
Feet
7/27/2023

Legend

- ▬ Facility Boundary
- ▬ Limit of Disturbance
- Photo Location (and Direction)
- ▬ Stream Location
- Nearest Residence
- Facility Parcel Boundaries

VERDANTERRA

Data Sources include: Nokomis Energy, VT
Orthophotography: ESRI Imagery

Sources: Esri, HERE, Garmin,
Map Location in Red

Figure 1. Photo Locations
CT SOLAR PDF LLC - Nokomis Energy
Medtronic Robotics
North Haven, CT, 06473
New Haven County

The information on this map has been compiled by staff from a variety of sources and is subject to change without notice. Verdanterra makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information.

Photographic Site Documentation
Response to Council Interrogatory #40



Photo 1: View of Site Access facing East



Photo 2: View of Site Access facing East



Photo 3: View from Edge of Wooded Area facing Northeast



Photo 4: View of Proposed Ground Mount Area facing Northeast



Photo 5: View of Ground Mount Area facing Southeast



Photo 6: View toward Little River facing North

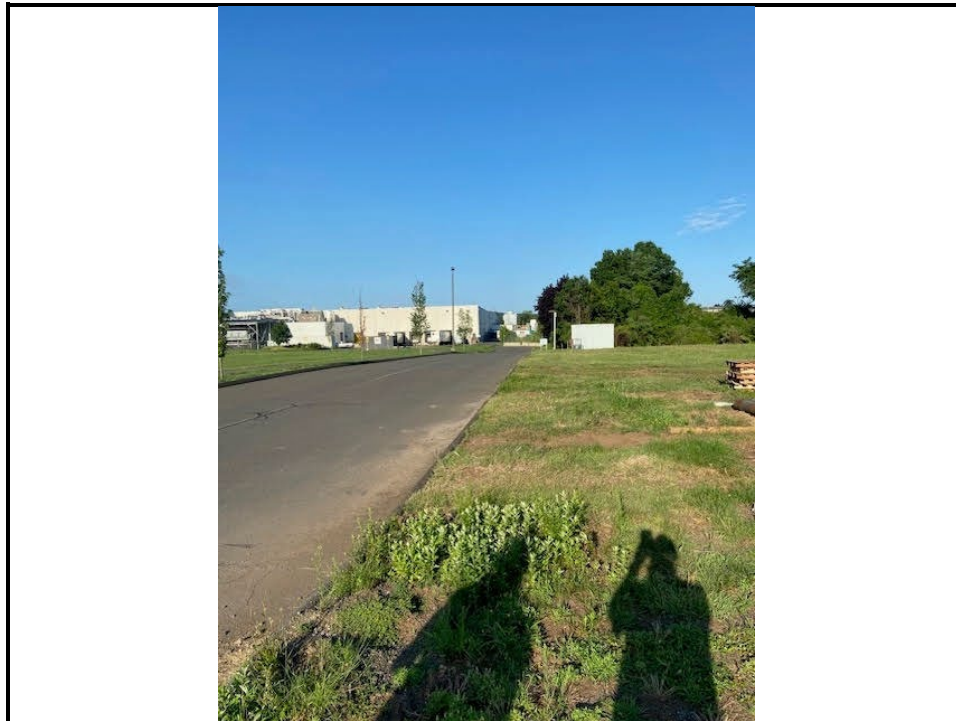


Photo 7: View of Ground Mount Area and Existing Drive facing West



Photo 8: View of Ground Mount Area facing Southwest



Photo 9: View toward Little River facing West



Photo 10: View of Interconnection Corridor facing West



Photo 11: View of Point of Interconnection facing East



Photo 12: View of Property Line facing East



Photo 13: View of Facility Entrance facing West

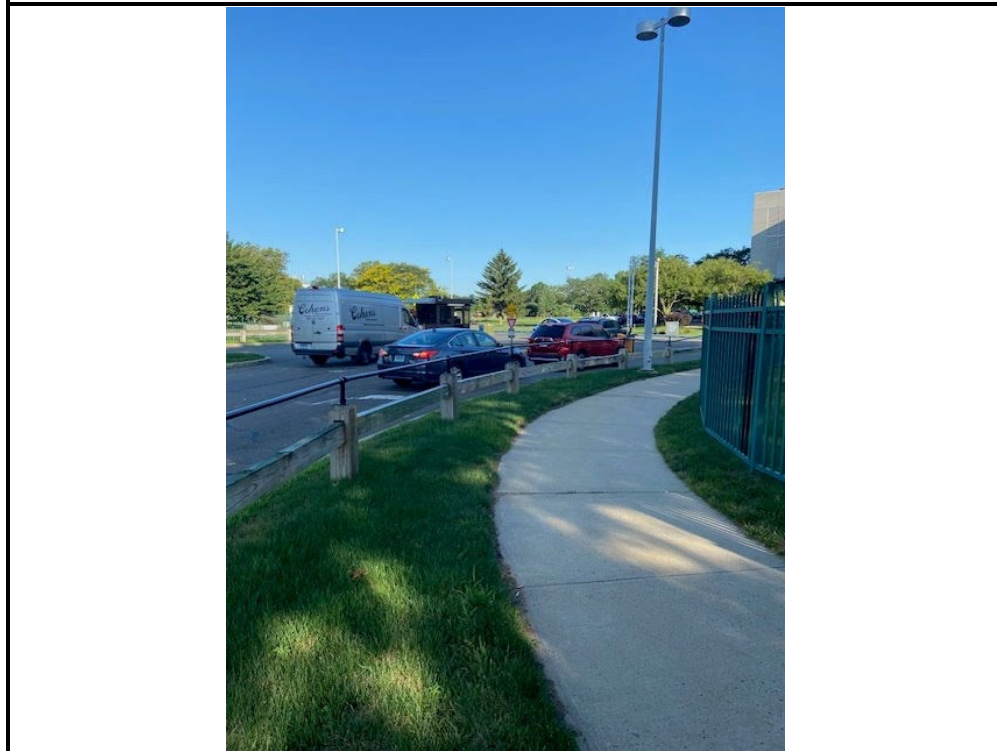


Photo 14: View of Facility Entrance facing Northwest

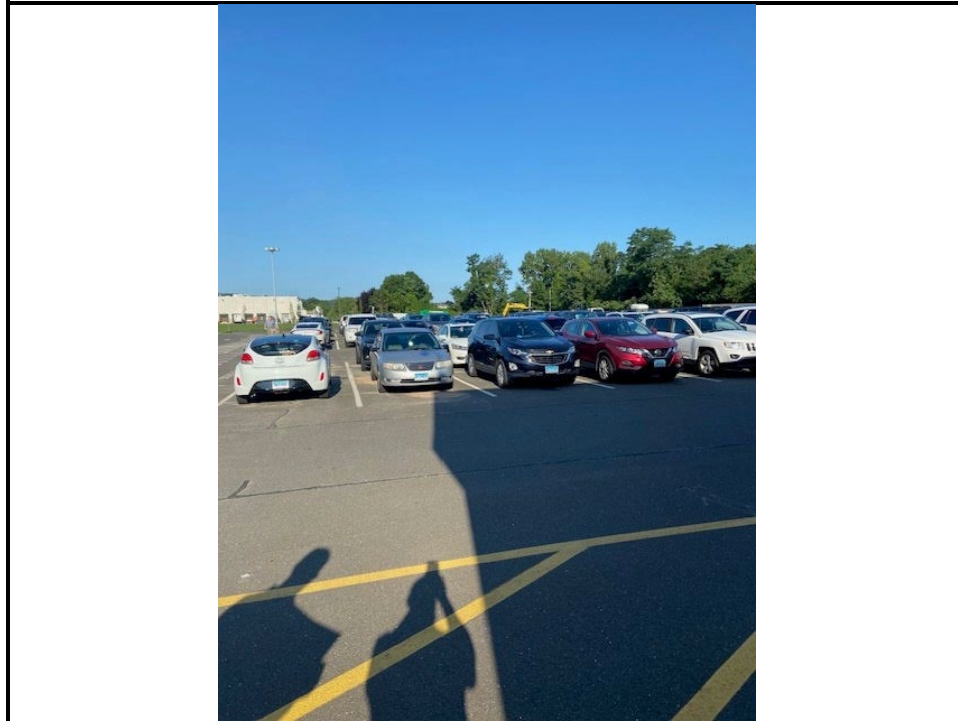


Photo 15: View of Canopy Array Area facing Northwest