

December 21, 2022

VIA ELECTRONIC DELIVERY

Attorney Melanie Bachman Executive Director Connecticut Siting Council 10 Franklin Square New Britain, CT 06051

RE: Petitioner #1544 -- LSE Pyxis LLC ("Lodestar") for a Declaratory Ruling that No Certificate of Environmental Compatibility and Public Need is Required for the Construction, Operation and Maintenance of Solar Photovoltaic Facility in Norfolk, Connecticut

Dear Attorney Bachman:

In connection with the above-captioned petition, please find the original and fifteen (15) copies of petitioner LSE Pyxis's interrogatory responses to interrogatories issued by the Council on December 2, 2022. Please contact me directly if you have any questions.

Sincerely,

Carrie L. Ortolano

Carrie L. Ortolano General Counsel

Enclosures

STATE OF CONNECTICUT SITING COUNCIL

PETITION OF LSE PYXIS LLC
FOR A DECLARATORY RULING
THAT NO CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AND PUBLIC NEED IS
REQUIRED FOR THE CONSTRUCTION,
OPERATION, AND MAINTENANCE OF
A 4 MW AC SOLAR PHOTOVOLTAIC
FACILITY IN NORFOLK, CONNECTICUT

PETITION NO. 1544

DECEMBER 21, 2022

PETITIONER LSE PYXIS LLC'S RESPONSES TO SITING COUNCIL INTERROGATORIES SET ONE DATED DECEMBER 2, 2022

Project Development

1. What is the estimated cost of the project?

RESPONSE: The estimated cost of the project is \$8,400,000 inclusive of interconnection, equipment procurement and permitting.

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 portion of the project will be undertaken or funded by state departments, institutions or agencies.

3. Referencing Petition page 11, have the Towns of Norfolk or Colebrook and/or any abutters provided comments on the project since the Petition filing? If so, please summarize the comments and how these comments were addressed.

RESPONSE: Petitioner has not received any comments or inquiries as of the date hereof.

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

RESPONSE: The project will require a DEEP stormwater general permit along with a DEEP Authorization for Disruption of a Solid Waste Disposal Area and a DEEP Change to Post-Closure Use. The project will also require building and electrical permits from the Town of Norfolk. Petitioner will be the holder of all of these permits.

Proposed Site

5. Please submit a map clearly depicting the boundaries of the solar project "site" and the boundaries of the host parcel. Under Regulations of Connecticut State Agencies §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: Please see Overall Site Boundary Plan attached hereto as Exhibit 1.

6. 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, including, but not limited to, removal of the gravel access roads referenced in Petition Attachment 4 Decommissioning Plan? If so, please describe and/or provide any such provisions.

RESPONSE: Pursuant to Petitioner's lease agreement with the Town of Norfolk, Petitioner is required to decommission the Project and restore the array area.

7. Provide the distance, direction and address of the nearest property line and nearest offsite residence from the solar field perimeter fence.

RESPONSE: The nearest abutting property to the solar site is 112 Rock Hill Road in Colebrook located approximately 66 feet to the east of array 1. This parcel is zoned commercial adjacent to the Property, but changes to residentially zoned further to the east. This property is occupied by a commercial banquet facility located approximately 840 feet east of Array 1. The closest residential house is located at 542 Greenwoods Road East approximately 1,120 feet southwest of the array 2 on the opposite side of Greenwoods Road East.

Energy Output

8. What is the anticipated capacity factor of the project? Would the capacity of the system decline over time? If so, estimate annual losses.

RESPONSE: The capacity factor of the system is 20.6%. Yes, it would decline over time at a rate of 0.4% per annum.

9. Is the project being designed to accommodate a potential future battery storage system? If so, please indicate the anticipated size of the system, where it may be located on the site, and the impact it may have on the SCEF contract(s).

RESPONSE: There is no current plan for battery installation because such technology is not currently provided for under the existing regulatory regime. In the event that the regulatory environment changes, Petitioner may later seek to install batteries at the Project and, if so, would seek the required regulatory approvals to do so, including any approvals required by the Siting Council. Petitioner would also require additional lease rights from the Town of Norfolk for such use.

10. If one section of the solar array experiences electrical problems causing the section to shut down, could other sections of the system still operate and transmit power to the grid?

RESPONSE: In the event there is an issue with a portion of the array, the inverter dedicated to this portion will issue a fault and safely restrict power flow. The operations and maintenance team will receive an alert that this inverter requires attention and will repair as necessary. The remainder of the inverters will remain operational during this repair/diagnostic period. A single inverter represents only 3.1% of the system.

In the event there are abnormal conditions or a complete outage from the utility grid, all inverters will disconnect from the grid in unison, immediately, and automatically via the SEL vista switchgear.

11. Would the project be submitted to participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)?

RESPONSE: No, the Petitioner will not submit this Project in the ISO-NE Forward Capacity Auction.

Site Components and Solar Equipment

12. Is the wiring from the Solar Array 2 panels to the inverters installed on the racking? If wiring is external, how would it be protected from potential damage from weather exposure, vegetation maintenance, or animals?

RESPONSE: Yes, DC wiring is to be installed on the racking directly below the modules. The racking system is designed to incorporate the wiring close to the modules with no loose conductors. According to the National Electric Code, this circuitry must be comprised of a special conductor called USE-2 also known as "photovoltaic wire." USE-2 is specifically designed for this Project. Although the circuitry is mounted below the modules and not exposed to direct sunlight, USE-2 consists of a unique insulation that is resistant to UV exposure for extended periods. In addition, USE-2 wire consists of a thicker insulation jacket that shields the circuit from animal intrusion, chafing, etc. As a fail-safe for

unanticipated events, each circuit is fuse-protected, which protects the circuit from thermal concerns and short circuits.

13. Provide more information as to how wiring from the panel rows for Solar Array 1A and 1B is installed and routed to the inverter at the edge of Solar Array 1A.

RESPONSE: All wiring from the panel rows in array 1A and 1B will be combined and fuse protected out within the arrays in DC Combiner Boxes. The combined DC strings will then be run in a DC wire tray or rigid conduit to protect them from physical damage on the way back to the central equipment pad.

14. What is the approximate size of the ballasts supporting the solar panels and perimeter fence?

RESPONSE: The precise design of the concrete ballast to support the panel racking systems has not been finalized, as several similar products are offered by racking manufacturers. The ballast design will be finalized with the racking system manufacturer design prior to construction. However, a detail of a typical ballast support is provided as Exhibit 2. The dimensions of the ballast are 18" wide x 12' long x 18" tall. The dimensions of the ballast that will support the fence are 8" wide x 30" long x 5" high.

Interconnection

15. Did the executed interconnection agreement with Eversource require a review from ISO-NE?

RESPONSE: No.

Public Safety

16. Would the project comply with the Connecticut State Building Code - 2022, National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards including, but not limited to, NFPA Code Section 11.12.3?

RESPONSE: Yes. The Project will comply with all applicable standards.

- 17. With regard to emergency response:
 - a. Would training be provided for local emergency responders in the event of a fire or other emergency at the site?
 - b. In the event of a brush or electrical fire, how would the Petitioner mitigate potential electric hazards that could be encountered by emergency response personnel?

RESPONSE: After construction completion and prior to energization, local emergency responders are provided on-Site training with the O&M team to ensure emergency response personnel are educated upon the location of specific components of the emergency response plan. The fire department is provided 24/7 access by installing their own lock on the access gate to the Site. In the event of a brush or electrical fire, the emergency shutdown procedure as outlined the revised Operations and Maintenance Plan attached hereto as Exhibit 5. Once this shutdown procedure has been executed, the site will be de-energized to mitigate potential electrical hazards for emergency personnel. In the event of a fire, the entire site can be de-energized by following the emergency shutdown procedure as outlined in Exhibit 5.

Environmental

18. Would the driving of racking posts affect the water quality of nearby wells due to subsurface sedimentation?

RESPONSE: No. Groundwater quality is not anticipated to be affected by the installation of the proposed racking system. Excepting out the landfill portion of the Project, Petitioner anticipates utilizing a combination of ballasted foundations and ground screws to install racking. The methodology will be finalized once full geotechnical analysis has been completed during the construction phase of the Project. Regardless of the methodology, Petitioner anticipates no impact to groundwater quality.

19. Referring to Petition Environmental Assessment pp. 21-22, list the acreage of tree clearing per array. Post site clearing, would the remaining forest surrounding Array 2 be classified as core or edge forest?

RESPONSE: Approximately 1.26 acres of tree clearing is required for array 1. Approximately 5.23 acres of tree clearing is required for array 2, including approximately 1.0 acre for shade management in which stumps will remain.

Post-clearing, approximately 0.17 acre of core forest would remain in the area immediately surrounding Array 2, approximately 300' southeast of the Project Area.

20. Referring to Petition Environmental Assessment pp. 24-25, smooth green snake protective measures were recommended but do not appear on the site plans. Will these measures be implemented? Explain.

RESPONSE: The Petitioner is committed to having smooth green snake protective measures implemented, and will incorporate the Resource Protection Measures to the construction process in the Site Plans attached hereto as Exhibit 3.

21. Referring to Petition Environmental Assessment p. 19 and the DEEP Natural Diversity Database letter dated October 21, 2021, what Primary Treatment Practices will be used to ensure water quality of the nearby Beckley Bog is not affected?

RESPONSE: Based on a review of regional topographic mapping, it appears that the waters in the wetlands on the east and west sides of Array 2 flow across Greenwoods Road East (Route 44) and eventually into Beckley Bog. As detailed in the drainage report, the only proposed impervious surfaces that contribute to the wetlands which need to be considered for water quality purposes are the new equipment pad and adjacent gravel access drive located at the northern edge of Array 2. This impervious area totals only 1,050 square feet. The runoff from this impervious area is not directly connected to the stormwater system or the adjacent streams, but rather sheet flows approximately 130 feet through established vegetation prior to entering the stormwater management basin on the east side of Array 2. The filtering resulting from the overland flow through the vegetation and the additional renovation provided by the stormwater management basin are considered adequate to treat and remove any pollutants that may be generated in this small impervious area.

22. Revise Array 1 Site Plan to include the on-site vernal pool. Include the 100-foot vernal pool envelope, and the distance from the vernal pool to the nearest point of the project limit of disturbance.

RESPONSE: The Site Plan has been revised to include the vernal pool location and the associated 100-foot vernal pool envelope. (Attached as <u>Exhibit 3</u>). In addition, the proposed sediment barrier/limit of disturbance has been adjusted and is now located just outside of the vernal pool envelope.

23. Referring to Petition Environmental Assessment pp. 15-16, vernal pool protective measures were recommended but do not appear on the site plans. Will these measures be implemented? Explain.

RESPONSE: As noted in response to interrogatory #22, the Site Plans have been revised to move any development outside of the 100-foot vernal pool envelope. In addition, the Petitioner has included the Resource Protection Measures included in <u>Exhibit 3</u>, which will ensure no impact to the vernal pool.

24. Referring to Petition Environmental Assessment p. 15, can the project limit of disturbance for Solar Array 1B be relocated out of the 100-foot vernal pool envelope to maintain existing habitat and its function as vernal pool species movement corridor? Explain.

RESPONSE: As noted above and as shown on <u>Exhibit 3</u>, the vernal pool and 100-foot vernal pool envelope have been added to the Site Plan, and the proposed sediment barrier/limit of disturbance has been removed from the 100-foot vernal pool envelope.

25. Referring to Petition Environmental Assessment pp. 19-20 and Figures 4 and 5, Vernal Pool Analysis – Existing and Proposed, does the existing area identified as cool season grasses offer a preferred habitat type for vernal pool species? Would vernal pool species likely traverse this area as part of a migratory corridor to reach forest and wetlands further east? Would the native wildflowers planted in the solar array area offer a similar habitat function as the cool season grasses?

RESPONSE: The cool-season grass habitat does not offer long-term terrestrial habitat for vernal pool species due to the lack of surface cover (i.e., rocks, logs), lack of a high moisture content duff layer, and high sun exposure. Although there is no long-term habitat value, these areas can be used as migratory corridors, particularly for the more mobile wood frog. However, given the distance from the breeding pool to the forest located on the east side of these grassland areas (over 600 feet), the number of individuals anticipated to travel to that forest block would be expected to be small. The likely preferred travel corridor would be north-northeast, where denser woody vegetation offering more suitable cover for amphibians would be anticipated; this travel corridor will also be bifurcated somewhat by the eastern array field. The proposed native wildflower plantings would offer similar habitat to the current grassland areas, provided there are no physical barriers to their movement through the arrays. The fence surrounding the arrays will be raised 6" off the ground, as previously suggested by DEEP, to ensure that the project presents no barriers.

26. Referring to Petition Environmental Assessment p. 25, does USFWS Information, Planning, and Conservation System ("IPaC") include migratory birds? Per USFWS procedures, would mitigation measures be necessary for migratory birds listed on the IPaC?

RESPONSE: The USFWS ("Service") IPaC is a planning tool that provides information to help determine whether a project will have effects on federally listed species or designated critical habitat, as well as other sensitive resources managed by the Service; and how certain activities may impact species protected under the Endangered Species Act. As such, it includes native migratory birds that are federally protected under the Migratory Bird Treaty Act ("MBTA"). Enacted in 1918, the MBTA makes it "unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior." The Project is subject to the restrictions of the MBTA. However, no mitigation measures are necessary for development and operation of the project.

Facility Construction

27. Did Lodestar meet with the DEEP Stormwater Program to discuss the project? What suggestions/comments did DEEP present? Indicate where these suggestions/comments were incorporated in the Project design.

RESPONSE: As noted on page 5 of Petitioner's petition, Petitioner met with DEEP Stormwater personnel on August 15, 2022. Personnel recommended that the security fence be raised 6 inches off of the ground to promote wildlife migration, which Petitioner has agreed to and is shown on the plans attached hereto as <u>Exhibit 3</u>.

28. Referring to Array 2 Site Plan, the stormwater basin outfalls #1 and # 2 are within 50 feet to the adjacent wetland. Does a distance of less than 50 feet comply with DEEP's General Permit Appendix I? Explain. Can the outfalls and related construction limit of disturbance be relocated to provide a minimum 50-foot wetland buffer?

RESPONSE: The revised site plans attached hereto as <u>Exhibit 3</u> have been modified to move the discharge pipes from basin outfalls #1 and #2 so that they are now located outside of the 50-foot wetland buffer. Similarly, the construction limit of disturbance has been relocated such that the minimum 50-foot wetland buffer is maintained.

- 29. Referencing Petition Attachment 7, Stormwater Pollution Control Plan p. 9-Construction Sequencing. Provide the following;
 - a. What array area does the construction sequencing pertain to?
 - b. Will site work for all three Project arrays be conducted concurrently?
 - c. Step 3 references a "security fence", provide more detail regarding the security fence and where and when it would be installed.

RESPONSE: The construction of the three arrays is anticipated to be conducted concurrently. Thus, the construction sequence provided pertains to the entire Project. The "security fence" references the perimeter chain link fence. A detail of the fence is provided on the Detail Sheet in Exhibit 3. The perimeter fence is anticipated to be one of the last items installed as noted in the construction sequence.

30. Describe any vehicle or construction-related work procedures necessary for work on the landfill cap.

RESPONSE: To the extent possible, work will remain above the surface, and soil disturbance will be minimized. The racking for array 1 will be mounted on ballast foundations set on the existing capped landfill ground surface. Additionally, the electrical conduits across array 1 will be installed above-grade on Durablock (or similar) concrete conduit supports.

Vehicular access by large delivery vehicles will be limited to the immediate area surrounding the transfer station, where soils are largely compacted and there is limited risk of soil disruption. A designated staging area will be set aside in this area. Smaller vehicles, including primarily tracked equipment, will be used for the remainder of the array.

Across the landfill portion of the project, Routine inspections will include observation for erosional sags in the ground surface, to avoid channelized stormwater flow. Channels, if identified will be remediated through adding clean fill materials (sand, gravel as appropriate) to level out the channel cross section to match the nearby topography, and reseeding the repaired areas as appropriate.

- 31. Referencing Petition Attachment 7, Stormwater Pollution Control Plan p. 13 lists impervious surfaces as a gravel road and invert/transform pads. Provide the following;
 - a. Would the ballasts supporting the solar modules and fencing in Solar Array 1A and 1B also be considered impervious? Explain.
 - b. What is the approximate dimension of a solar array ballast and a fence ballast?
 - c. What is the total impervious area of the solar array and fence ballasts?
 - d. How does the presence of ballasts ensure stormwater runoff remains as sheet flow across the site?

RESPONSE: As discussed in interrogatory 14 above, the design of the concrete ballast to support the panel racking systems has not been finalized. However, a detail of a typical ballast support is provided as Exhibit 2. This ballast is 1.5' wide x 12' long x 1.5' tall, and spaced at approximately 15' intervals. Based on this spacing, the total number of ballasts estimated for arrays 1A and 1B is 1,032. The resulting area is 18,576 square feet, a relatively small number compared to the contributing areas of the arrays (10.35 acres). The ballasts are located underneath the solar panels. As discussed in the drainage report, due to the row spacing, slopes, vegetation and other measures taken to maintain sheet flow of runoff, the panels need not be considered impervious, and the area of the panels is modeled as pervious area. For the same reasons, along with the fact that the bottom of the ballasts have grooves to allow runoff to flow under them, it follows that the ballast supports underneath the panels need not be considered impervious as well.

The dimensions of the ballasts that will support the fence are 8" wide x 30" long, or 1.68 square feet (sf). The fence ballasts will be spaced at approximately 10' intervals. The total length of fence surrounding Arrays 1A and 1B is 5,358 lineal feet. Thus, the total number of fence support ballasts are estimated to be 536. The estimated total area of the fence ballasts will be 900 square feet. This area is insignificant relative to the contributing area of the arrays and does not have an impact on the drainage calculations. These ballasts are also not expected to be a source of pollutants.

The support ballasts for the fence are small and not anticipated to significantly impede sheet flow across the Project. Although the support ballasts for the panel racking system are larger, as shown on the detail provided, the bottoms of the ballasts are grooved to allow water flow under them, thus maintaining sheet flow across the site.

32. What effect would runoff from the drip edge of each row of solar panels have on the landfill cap or site drainage patterns? Would channelization below the drip edge be expected?

RESPONSE: It is understood that water coming off the drip edge of the panels has the potential to channelize after a certain distance where the panels are oriented perpendicular to the contours. This potential erosion issue was discussed with personnel from the DEEP Stormwater Division, and DEEP stormwater personnel confirmed that installation of intermediate rows of woody debris along the contour (and as depicted in Exhibit 3) is a sufficient measure to re-distribute and maintain sheet flow in order to prevent channelization and erosion.

33. Has a comprehensive geotechnical study been completed for the site to determine if site conditions support the overall Project design? If so, summarize the results. If not, has the Petitioner anticipated and designed the Project with assumed subsurface conditions? What are these assumed conditions?

RESPONSE: A comprehensive geotechnical study has not been completed at the Project, in part to avoid repeatedly penetrating the landfill cap prior to finalizing the array layout after all required permits are obtained. As stated above, the racking system design has not been finalized. Generally, however, the racking ballast supports exert low ground surface pressure whereby little or no additional settlement is expected at the ballast and support structures. The weight of the ballast system will be chosen based on anticipated wind loads. The ground pressure will depend on the weight and dimensions of the ballast chosen and the weight of the panels, framing and ancillary equipment. The typical ground surface pressure for racking ballast supports is estimated at a maximum of 1,000 psf. Petitioner has submitted applications to the DEEP Solid Waste Division for a landfill disruption permit and will defer to DEEP's input on the need to lower the psf rating of the concrete footings as necessary for this project.

For array 2, Petitioner has assumed subsurface conditions similar to the soil types encountered on Petitioner's expertise gained through the development of other projects in northwestern Connecticut. The primary concern for solar projects is depth-to-bedrock, which exceeds 200cm for all of Array 2 based on USGS Soil Data, sufficient for typical solar mounting equipment.

34. Submit photographs of the proposed solar facility site construction area with descriptive captions and/or a map identifying the locations of the photographs.

RESPONSE: See attached Exhibit 4.

Maintenance/Decommissioning

35. Would replacement modules be stored on-site in the event solar panels are damaged or are not functioning properly? If so, where? How would damaged panels be detected?

RESPONSE: No, there are no plans to store modules on-site. Damaged modules would be detected visibly, via annual thermal flight reports, through voltage/amperage testing during the annual O&M inspections, or during a visit in response to a perceived site issue being monitored 24/7/365 by our O&M provider.

36. Referencing Petition Attachment 3, Operations and Maintenance Plan, p. 3, the use of pesticides and herbicides is not mentioned. Revise the plan to account for the proper use of these substances.

See revised Operations and Maintenance Plan attached hereto as Exhibit 5.

37. 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 the Petitioner agree to install solar panels that are not classified as hazardous waste through TCLP testing?

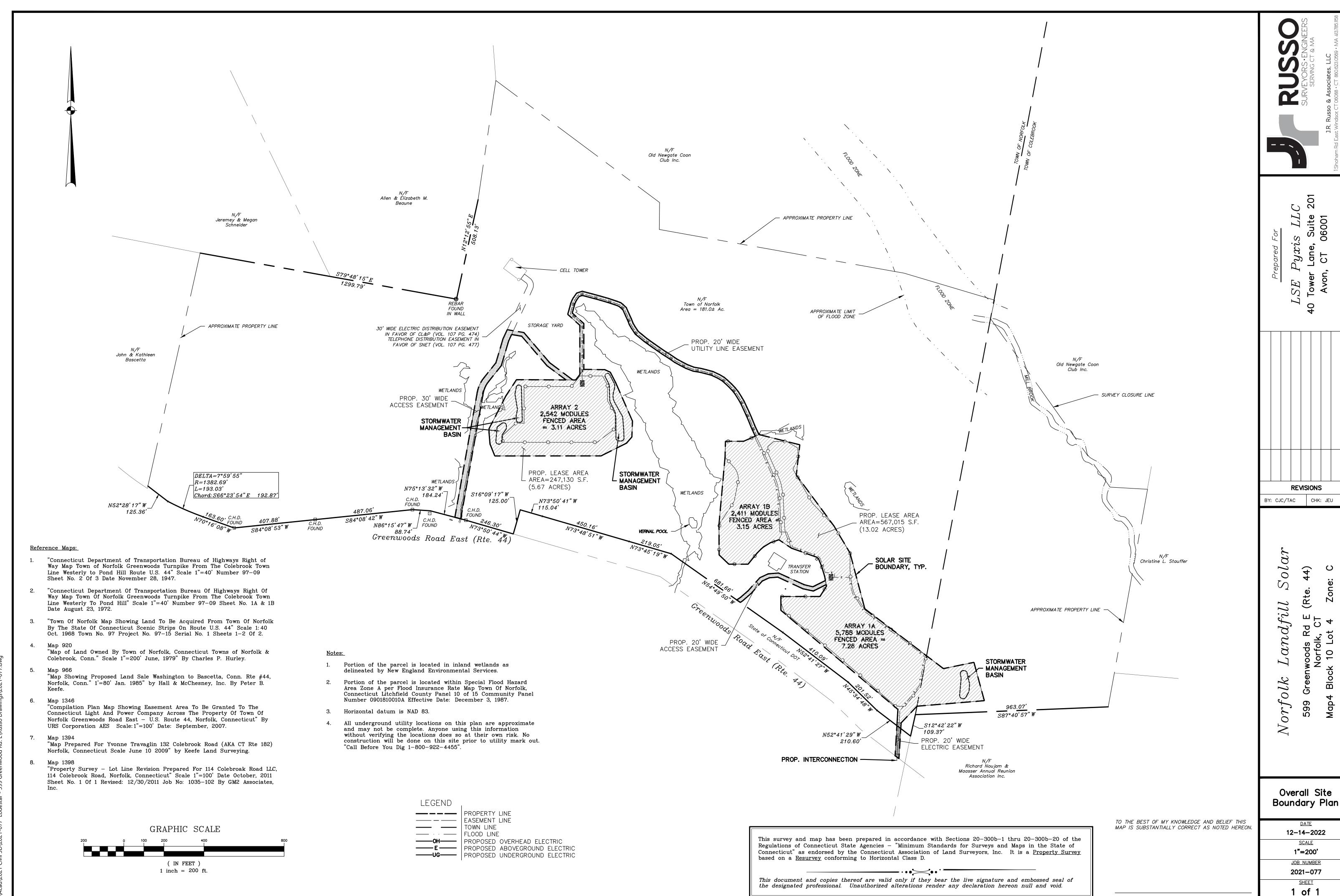
RESPONSE: Assuming availability at the time of install, Petitioner is proposing to use ZNShine, Item/Model Number: ZXM7-SHLDD144 Module Size: 540 for this project. These are the same panels used by LSE Indus LLC (petition #1469), which have been TCLP tested and determined to not contain hazardous waste. Petitioner agrees to install panels that are not classified as hazardous waste through TCLP testing.

Respectfully submitted,

Petitioner LSE PYXIS LLC

By: Carrie L. Ortolano
Jeffrey J. Macel, Manager
Carrie Larson Ortolano, General Counsel
% Lodestar Energy LLC
40 Tower Lane, Suite 201
Avon, CT 06001

EXHIBIT 1



224/2021 Civil 2PN 2021-077 | adactor = 590 Grasswood Bd EV Bursa Drawings 077 dwg

EXHIBIT 2

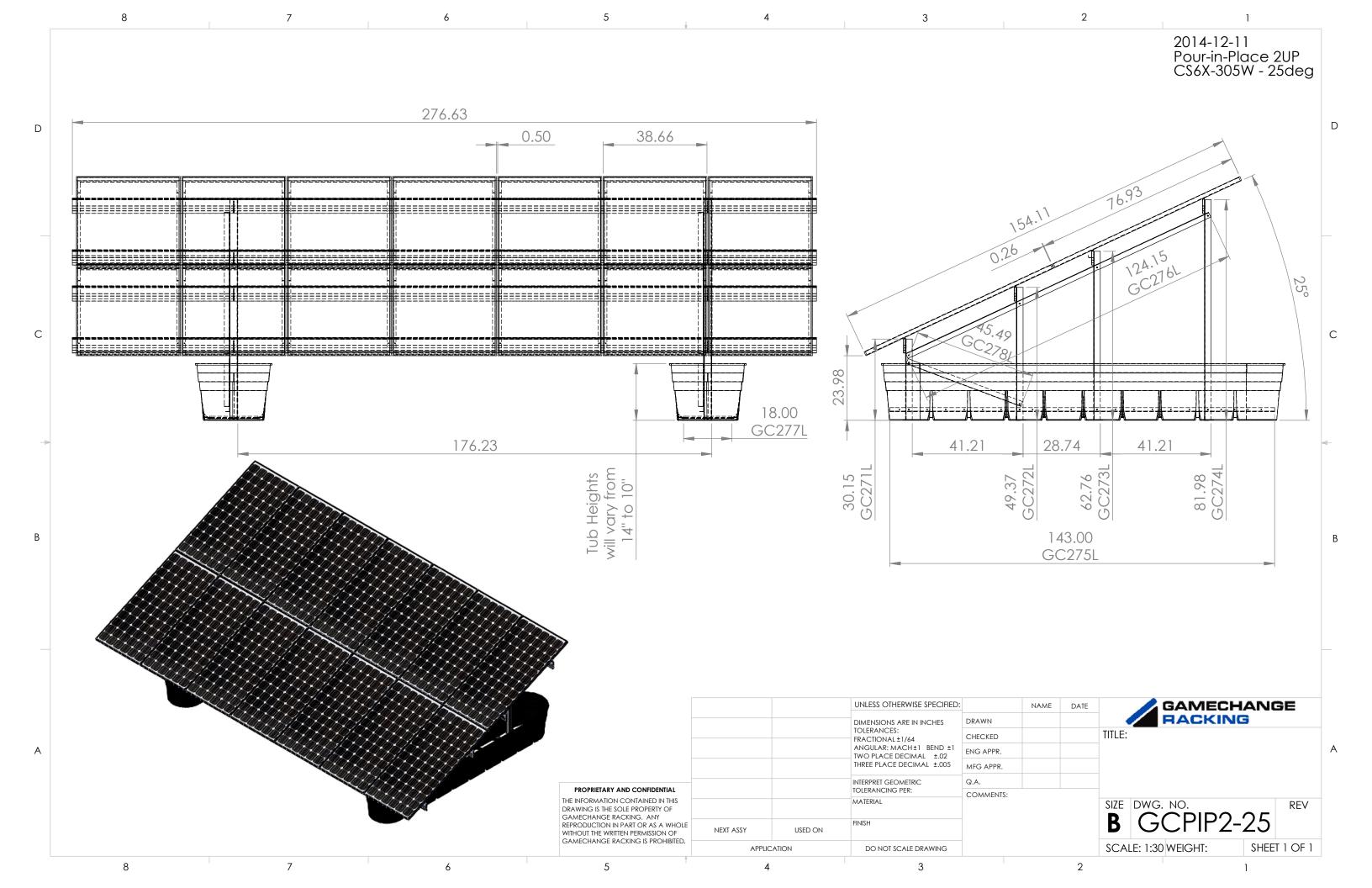
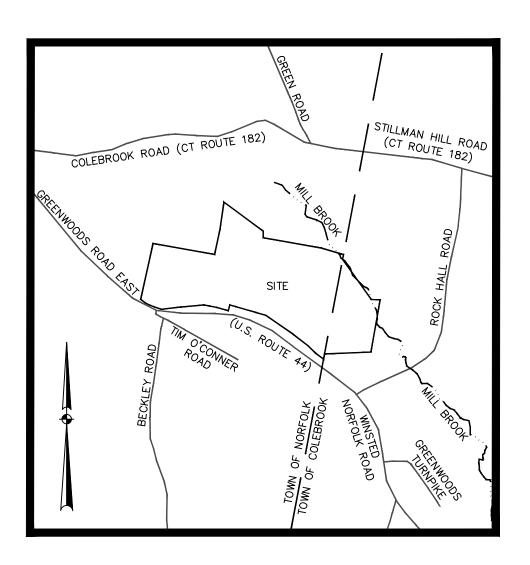


EXHIBIT 3

Morfolk Landfill Solar

Town of Norfolk
599 Greenwoods Rd E (Rte. 44)
Norfolk, Connecticut
Map 4 Block 10 Lot 4 Zone: C



KEY PLAN MAP



Applicant

LSE Pyxis LLC

40 Tower Lane, Suite 201

Avon, CT 06001

Town Of Norfolk
P.O. Box 592
Norfolk, CT 06058-0592

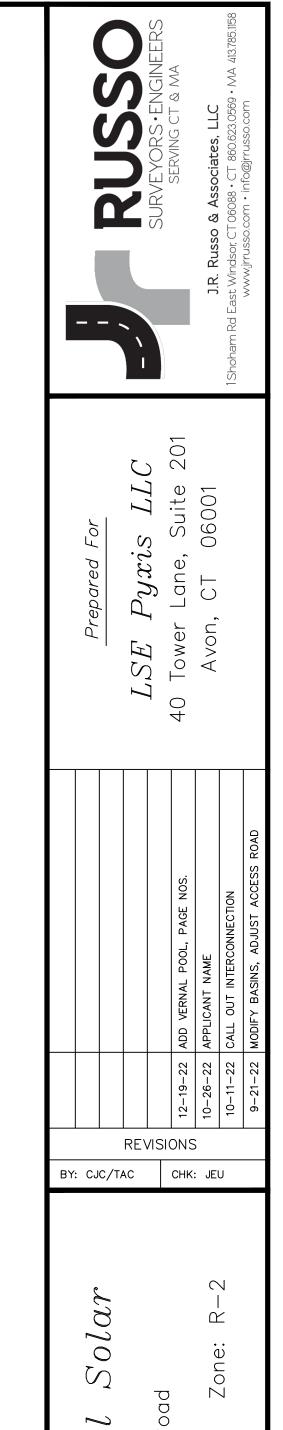
Prepared By



DRAWING INDEX

| SHEET TITLE | SHEET NO. | LATEST REVISION |
|---|--|--|
| CIVIL COVER SHEET OVERALL PLAN EXISTING CONDITIONS PLAN EXISTING CONTROL NOTES EXISTING CONTROL NOTES EXISTING CONTROL NOTES | ·1 of 9 ·2 of 9 ·3 of 9 ·4 of 9 ·5 of 9 ·6 of 9 ·7 of 9 ·8 of 9 | 12-19-2022 12-19-2022 12-19-2022 12-19-2022 12-19-2022 12-19-2022 12-19-2022 |
| DETAILS | . 9 01 9 | 12-19-2022 |

(IN FEET) 1 inch = 200 ft.



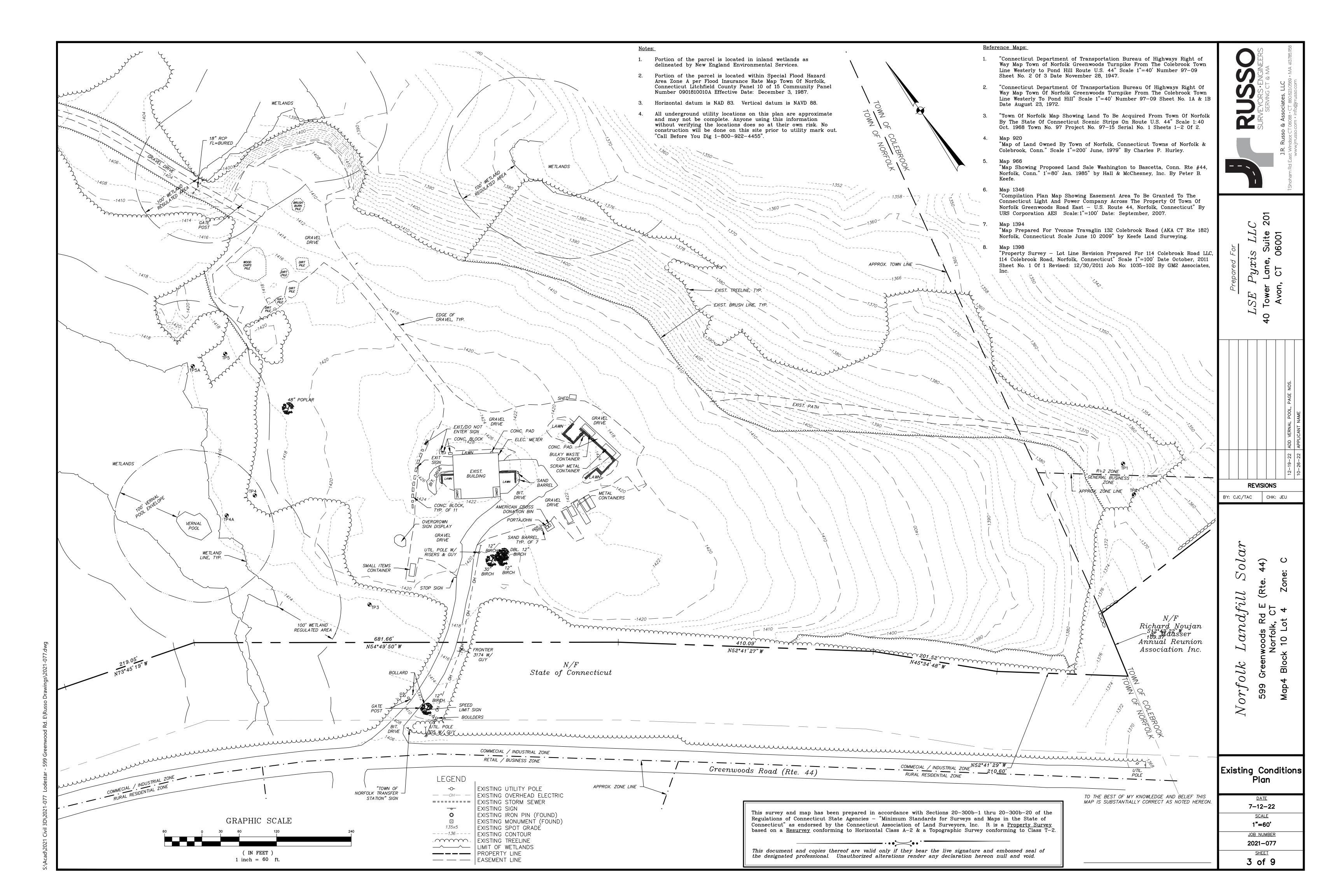
Norfolk

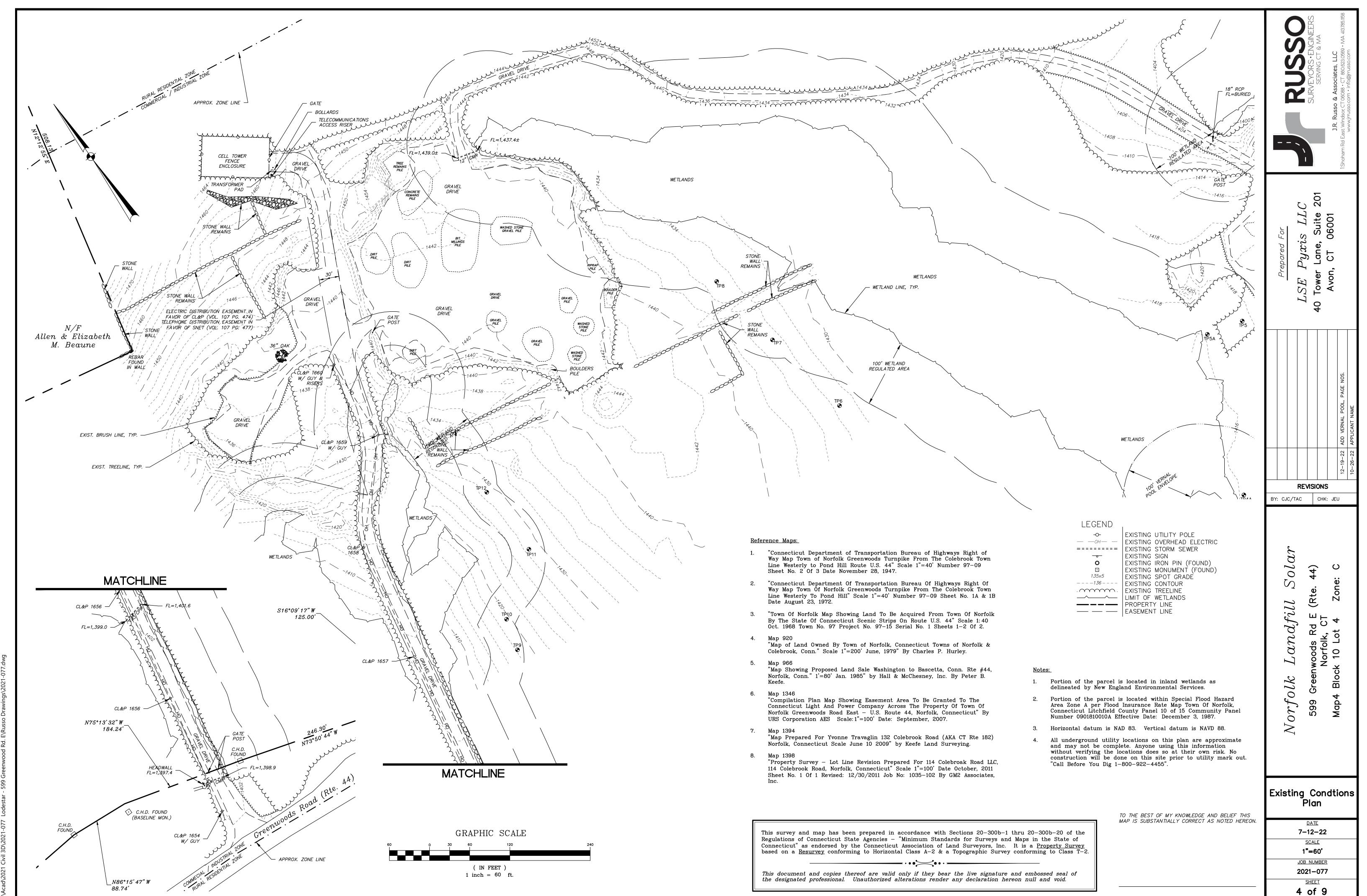
Overall Site Plan

<u>DATE</u> 7-12-22 <u>SCALE</u> 1"=200' JOB NUMBER 2021-077

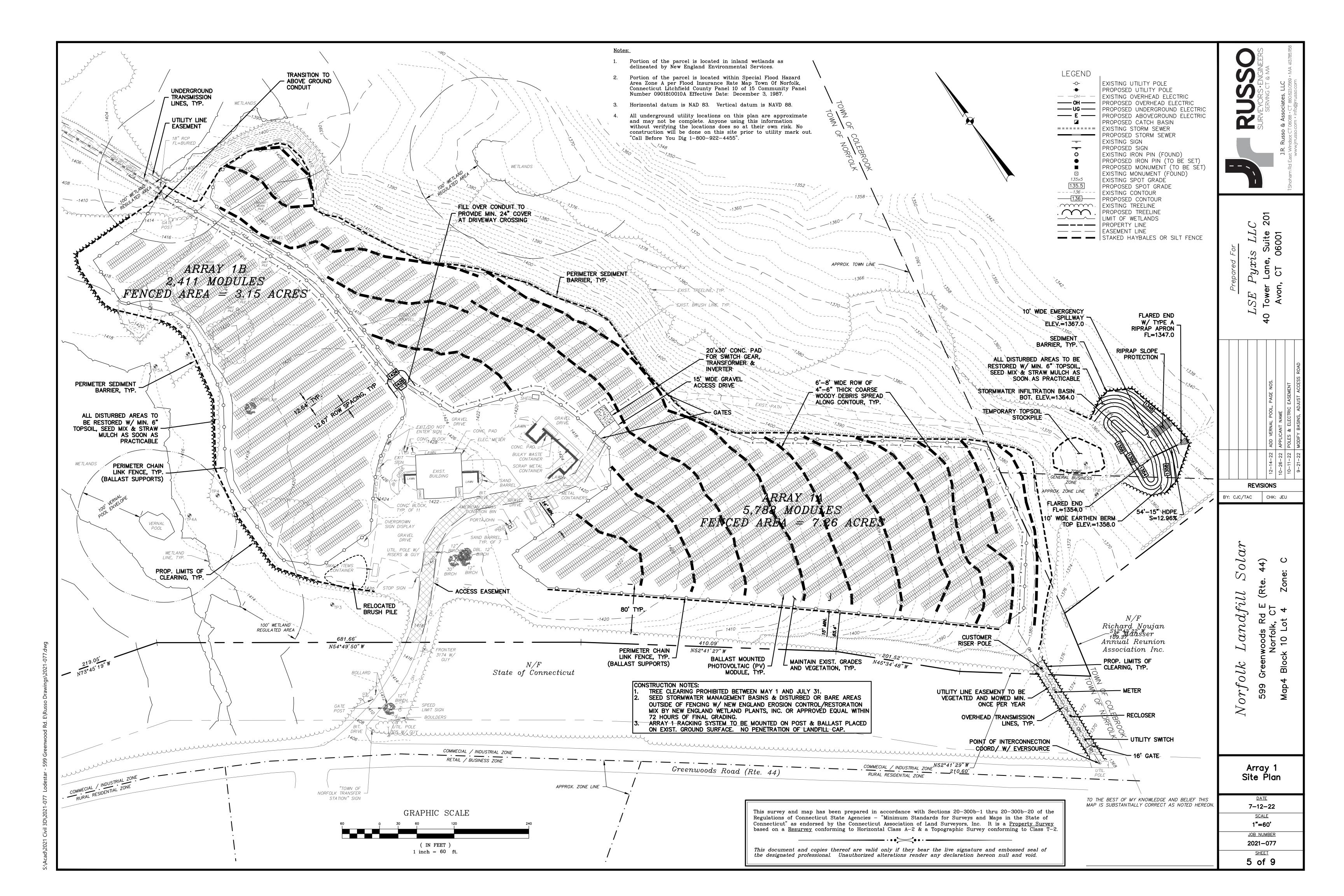
SHEET

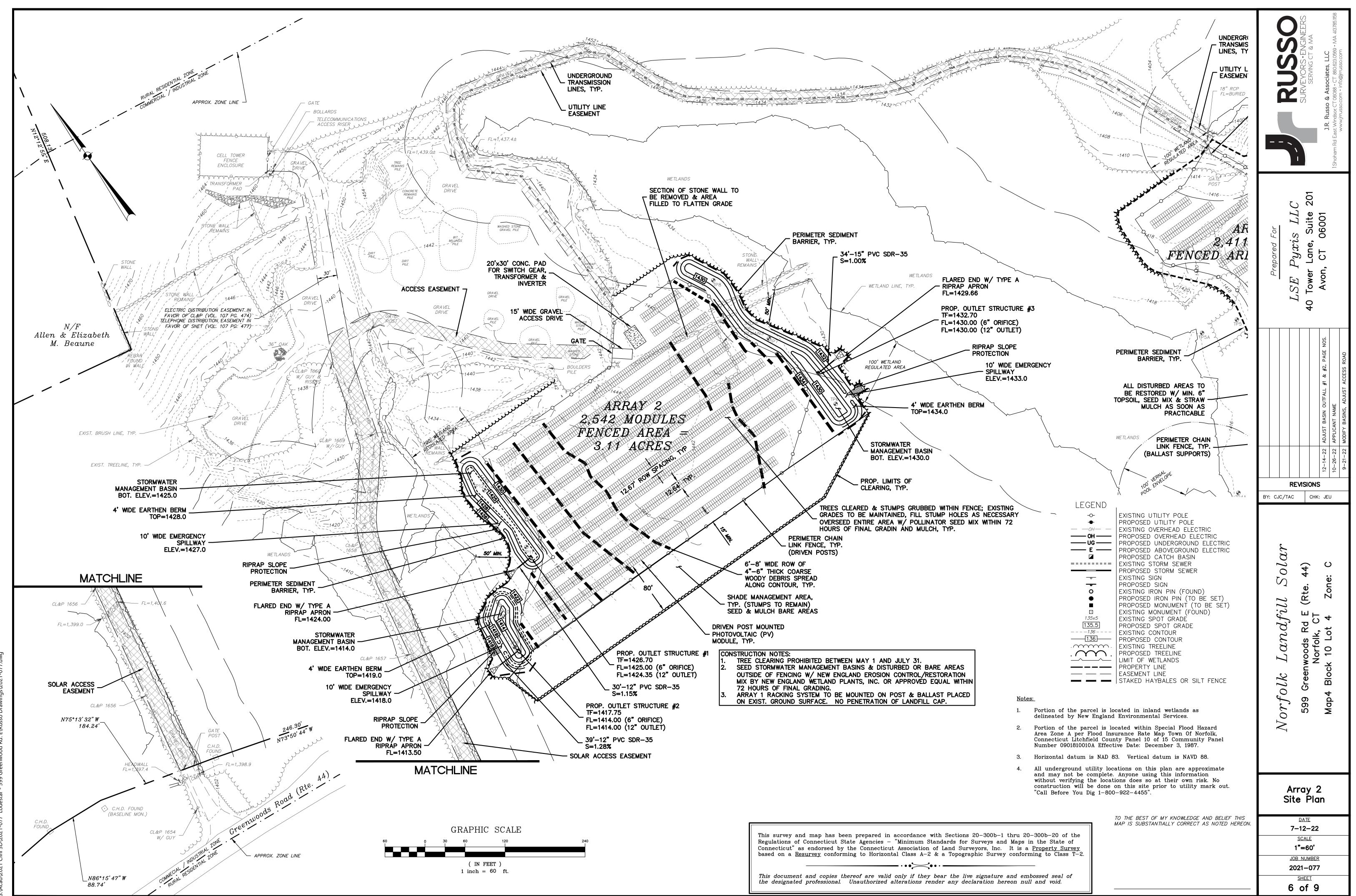
2 of 9





50 1000 (parining one of the beautiful to 000 (see the properties) 1000 (see the properties) 1000 (see the properties)





4/2021 Civil 3D\2021-077 | odestar - 599 Greenwood Bd E\B11850 |

Time Of Year

Seeding dates in Connecticut are normally April 1 through June 15 and August 15 through October 1. Spring seedings give the best results and spring seedings of all mixes with legumes is recommended. There are two exceptions to the above dates. The first exception is when seedings will be made in the areas of Connecticut known as the Coastal Slope and the Connecticut River Valley. The Coastal Slope includes the coastal towns of New London, Middlesex, New Haven, and Fairfield counties. In these areas, with the exception of crown vetch (when crown vetch is seeded in late summer, at least 35% of the seed should be hard seed (unscarified), the final fall seeding dates can be extended and additional 15 days. The second exception is frost crack or dormant seeding, the seed is applied during the time of year when no germination can be expected, normally November through February. Germination will take place when weather conditions improve, mulching is extremely important to protect the seed from wind and surface erosion and to provide erosion protection until the seeding becomes established.

Grade in accordance with the Land Grading measure which is in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

Install all necessary surface water controls.

For areas to be mowed remove all surface stones 2 inches or larger. Remove all other debris such as wire, cable tree roots, pieces of concrete, clods, lumps, or other unsuitable material.

Basins & Disturbed Areas outside of fenced array: New England Erosion Control/Restoration Mix by New England Wetland Plants Inc. or Approved Equal. <u>Disturbed Areas within fenced area:</u> Northeast Solar Pollinator Buffer Mix - ERNMX-610 by Ernst Conservation Seeds or

approved equal.

Apply topsoil, if necessary, in accordance with the Topsoiling measure which is in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

Apply ground limestone and fertilizer according to soil test recommendations (such as those offered by the University of Connecticut Soil Testing Laboratory or other reliable source).

Where soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of 10-10-10 or equivalent and limestone at 4 tons per acre or 200 pounds per 1,000 square feet.

Work lime and fertilizer into the soil to a depth of 3 to 4 inches with a disc or other suitable equipment.

Inspect seedbed just before seeding. If the soil is compacted, crusted or hardened, scarify the area prior to seeding.

Apply selected seed at rates per manufacturer's recommendations uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder (slurry including seed, fertilizer). Normal seeding depth is from 0.25 to 0.5 inch. Increase seeding rates by 10% when hydroseeding or frost crack seeding. Seed warm season grasses during the spring period

See guidelines in the Mulch For Seed measures.

MAINTENANCE

Inspect temporary soil protection area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater during the first growing season.

Where seed has been moved or where soil erosion has occurred, determine Tre proper Richer Yail SE End Inchair (15 3) eded.

SPECIFICATIONS

Site Preparation

Install needed erosion control measures such as diversions, grade stabilization structures, sedimentation basins and grassed waterways in accordance with the approved plan.

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application and mulch anchoring.

Seedbed Preparation

Loosen the soil to a depth of 3-4 inches with a slightly roughened surface. If the area has been recently loosened or disturbed, no further roughening is required. Soil preparation can be accomplished by tracking with a bulldozer, discing harrowing, raking or dragging with a section of chain link fence.

Apply ground limestone and fertilizer according to soil test recommendations (such as those offered by the University of Connecticut Soil Testing Laboratory or other reliable source).

If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of

Apply seed uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder. The temporary seed shall be Rye (grain) applied at a rate of 120 pounds per acre. Increase seeding rates by 10% when hydroseeding.

See guidelines in the Mulch For Seed measures.

10-10-10 or equivalent.

Inspect temporary seeding area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for seed and mulch movement and rill erosion.

Where seed has been moved or where soil erosion has occurred. determine the cause of the failure and repair as needed.

MULCH FOR SEED (MS)

SPECIFICATIONS

Types of Mulches within this specification include, but are not

1. Hay: The dried stems and leafy parts of plants cut and harvested, such as alfalfa, clovers, other forage legumes and the finer stemmed, leafy grasses. The average stem length should not be less than 4 inches. Hay that can be windblown should be anchored to hold it in place.

2. Straw: Cut and dried stems of herbaceous plants, such as wheat, barley, cereal rye, or brome. The average stem length should not be less than 4 inches. Straw that can be windblown should be anchored to hold it in place.

3. Cellulose Fiber: Fiber origin is either virgin wood, post-industrial/pre-consumer wood or post consumer wood complying with materials specification (collectively referred to as "wood fiber"), newspaper, kraft paper, cardboard (collectively referred to as "paper fiber") or a combination of wood and paper fiber. Paper fiber, in particular, shall not contain boron, which inhibits seed germination. The cellulose fiber must be manufactured in such a manner that after the addition to and agitation in slurry tanks with water, the fibers in the slurry become uniformly suspended to form a homogeneous product. Subsequent to hydraulic spraying on the ground, the mulch shall allow for the absorption and percolation of moisture and shall not form a tough crust such that it interferes with seed germination or growth. Generally applied with tackifier and fertilizer. Refer to manufacturer's specifications for application rates needed to attain 80%-95% coverage without interfering with seed germination or plant growth. Not recommended as a

Tackifiers within this specification include, but are not limited to: Water soluble materials that cause mulch particles to adhere to one another, generally consisting of either a natural vegetable gum blended with gelling and hardening agents or a blend of hydrophilic polymers, resins, viscosifiers, sticking aids and gums. Good for areas intended to be moved. Cellulose fiber mulch may be applied as a tackifier to other mulches, provided the application is sufficient to cause the other mulches to adhere to one another. Emulsified asphalts are specifically prohibited for use as tackifiers due to their potential for causing water pollution following its

mulch for use when seeding occurs outside of the recommended

Nettings within this specification include, but are not limited to: Prefabricated openwork fabrics made of cellulose cords, ropes, threads, or biodegradable synthetic material that is woven, knotted or molded in such a manner that it holds mulch in place until vegetation growth is sufficient to stabilize the soil. Generally used in areas where no mowing is planned.

seeding dates.

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application and mulch anchoring.

Timing: Applied immediately following seeding. Some cellulose fiber may be applied with seed to assist in marking where seed has been sprayed, but expect to apply a second application of cellulose fiber to meet the requirements of Mulch For Seed in the Connecticut Guidelines For Soil Erosion and Sediment Control

Spreading: Mulch material shall be spread uniformly by hand or machine resulting in 80%-95% coverage of the disturbed soil when seeding within the recommended seeding dates. Applications that are uneven can result in excessive mulch smothering the germinating seeds. For hay or straw anticipate an application rate of 2 tons per acre. For cellulose fiber follow manufacture's recommended application rates to provided 80%-95% coverage.

When seeding outside the recommended seeding dates, increase mulch application rate to provide between 95%-100% coverage of the disturbed soil. For hay or straw anticipate an application rate to 2.5 to 3 tons per acre.

When spreading hay mulch by hand, divide the area to be mulched into approximately 1,000 square feet and place 1.5-2 bales of hay in each section to facilitate uniform distribution.

For cellulose fiber mulch, expect several spray passes to attain adequate coverage, to eliminate shadowing, and to avoid

Anchoring: Expect the need for mulch anchoring along the shoulders of actively traveled roads, hill tops and long open slopes not protected by wind breaks.

When using netting, the most critical aspect is to ensure that the netting maintains substantial contact with the underlying mulch and the mulch, in turn, maintains continuos contact with the soil surface. Without such contact, the material is useless and erosion can be expected to occur.

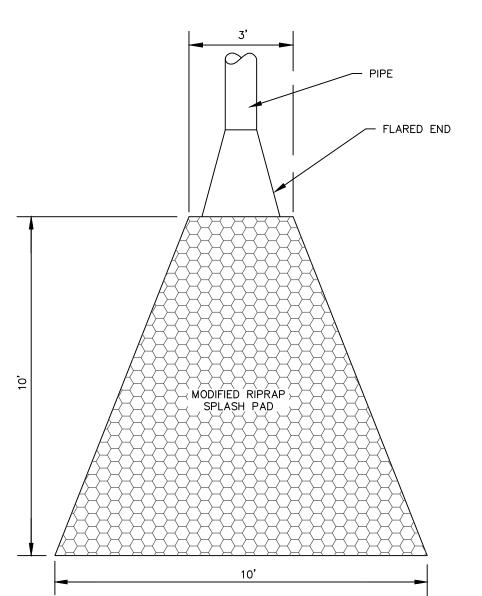
MAINTENANCE

Inspect mulch for seed area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater until the grass has germinated to determine maintenance needs.

Where mulch has been moved or where soil erosion has occurred, determine the cause of the failure and repair as

SOIL ERSOION & SEDIMENT CONTROL NOTES

- 1. All soil erosion and sediment control work shall be done in strict accordance with the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.
- addition, the developer shall be responsible for the repair/replacement and/or maintenance of all erosion control
- 3. All soil erosion and sediment control operations shall be in place prior to any grading operations and installation of proposed structures or utilities and shall be left in place until construction is
- 5. The developer shall practice effective dust control per the soil conservation service handbook during construction and until all areas are stabilized or surface treated. The developer shall be responsible for the cleaning of nearby streets of any debris from these
- All fill areas shall be compacted sufficiently for their intended purpose and as required to reduce slipping, erosion or excess saturation. Fill intended to support buildings, structures, conduits, etc., shall be compacted in accordance with local requirements or
- Topsoil is to be stripped and stockpiled in amounts necessary to stockpiled topsoil is to be located as designated on the plans. Topsoil shall not be placed while in a frozen or muddy condition. when the subgrade is excessively wet, or in a condition that may
- 8. Any and all fill material is to be free of brush, rubbish, timber, logs vegetative matter and stumps in amounts that will be detrimental to constructing stable fills. Maximum side slopes of exposed surfaces of earth to be 3:1 or as otherwise specified by local authorities.
- 9. Soil stabilization should be completed within 5 days of clearing or
- 10. Waste Materials All waste materials (including wastewater) shall be disposed of in accordance with local, state and federal law. Litter
- 11. The Contractor shall maintain on—site additional erosion control materials as a contingency in the event of a failure or when required to shore up existing BMPs. At a minimum, the on-site contingency materials should include 30 feet of silt fence and 5 straw haybales with 10 stakes.

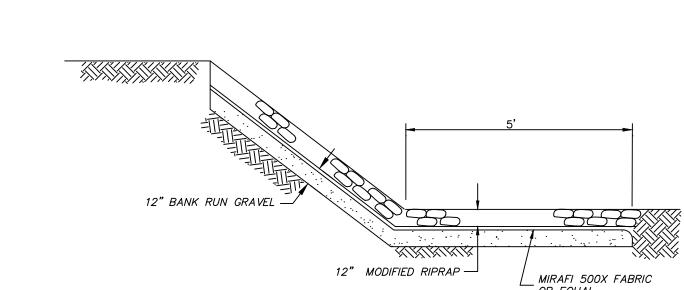


MODIFIED RIPRAP APRON (12" THICK) ON 6" GRANULAR BASE (M.02.01) ON MIRAFI 140N FABRIC OR EQUAL

TYPE A RIPRAP APRON (OP)

N.T.S.

- 2. Any additional erosion/sediment control deemed necessary by the engineer during construction, shall be installed by the developer. In measures until all disturbed areas are stabilized to the satisfaction of the town staff.
- completed and/or area is stabilized.
- 4. In all areas, removal of trees, bushes and other vegetation as well as disturbance of the soil is to be kept to an absolute minimum while allowing proper development of the site. During construction, expose as small an area of soil as possible for as short a time as possible.
- construction activities.
- complete finished grading of all exposed areas requiring topsoil. The otherwise be detrimental to proper grading or proposed sodding or seeding.
- inactivity in construction.
- shall be picked up at the end of each work day.



ANGLE 10° UPSLOPE

FOR STABILITY AND

COMPACTED

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT

GEOTEXTILE SILT FENCE (GSF)

NOTE: MAY BE USED AS ALTERNATIVE TO GEOTEXTILE SILT FENCE.

SILT SOCK

(ALTERNATE SEDIMENT BARRIER)

BACKFILL

POINTS "A" SHOULD BE

ELEVATION

SILT SOCK (12" TYPICAL)

OR APPROVED EQUAL

HIGHER THAN POINT "B

SELF CLEANING.

FLOW ——

BOTTOM OF

DRAINAGEWAY

PLAN VIEW

2"x2"x36" WOODEN

STAKE PLACED MIN.

RIPRAP SLOPE PROTECTION AT SPILLWAY

CHECKLIST FOR EROSION CONTROL PLAN

PROJECT: Norfolk Landfill Solar

LOCATION: 599 Greenwoods Road East, Norfolk, CT

PROJECT DESCRIPTION: Construction of two solar arrays

PARCEL AREA: 181.0± acres

BACKFILL THE TRENCH AND COMPACT THE

EXCAVATED SOIL.

RESPONSIBLE PERSONNEL: Kevin Midea, Lodestar Energy (410) 274-2716

EROSION AND SEDIMENT CONTROL PLAN PREPARER: J.R. Russo & Associates, LLC

CHECKLIST: Work Description Location Date Installed Date Removed Erosion & Sedimen Control Measures As shown on Install perimeter sediment barriers

| MAINTENANCE OF | | <u> </u> | | |
|----------------|-----------------------|----------|----------|--|
| Location | Description or Number | Date | Initials | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Project Dates:

Date of groundbreaking for projec

<u>Date of final stabilization</u>

PROJECT NARRATIVE AND CONSTRUCTION SEQUENCE

This project is located at 599 Greenwoods Road East in Norfolk, Connecticut. The proposed activity is the construction of two solar arrays. The suggested schedule of construction is as

- 1. Conduct a pre-construction meeting on-site with the contractor to review the design and requirements of the Stormwater Pollution Control Plan.
- 2. Install perimeter silt fence (GSF) downgradient of the construction activities as shown on
- 3. Clear trees & grub stumps within security fence. Stumps outside of fence to remain. 4. Grind brush & stumps and spread woody debris along contours across site as intermediate
- sediment barriers as shown on plans. 5. Strip topsoil in the vicinity of the proposed stormwater management basins. Stockpile suitable amount of topsoil for reuse on—site in areas shown. Stockpiles shall be surrounded
- by sediment barriers (GSF). 6. Construct stormwater management basin. Seed & mulch to establish vegetation as soon as
- practicable. Construct access road.

the project plans.

- Install foundations and solar panels.
- Install electrical equipment and distribution lines. Install security fence.
- 11. Restore all disturbed areas with topsoil, seed mix and mulch as soon as practicable. 12. Remove silt fence after site is fully stabilized.

January 2024, pending approvals. Temporary erosion control measures shall be installed prior any soil disturbance and maintained throughout construction until soils have been stabilized with permanent vegetation. The Contractor shall keep the area of disturbance to a minimum and establish vegetative cover

Construction of this site is anticipated to begin in the spring of 2023 and be complete by

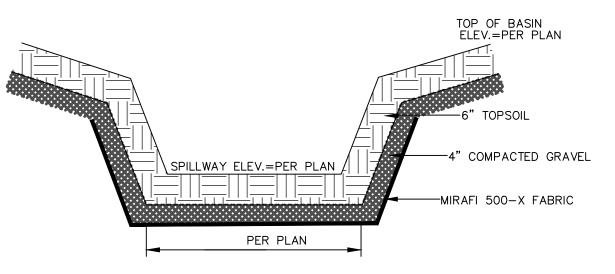
on exposed soils as soon as practical. All soil and erosion control measures shall be installed and maintained in accordance with these plans and the "Connecticut DEP Guidelines for Soil Erosion and Sediment Control", as amended. The Contractor shall verify all conditions noted on the plans and shall immediately notify the Engineer of any discrepancies.

The developer shall be responsible for the repair/replacement/maintenance of all erosion control measures until all disturbed areas are stabilized. Accumulated sediment shall be removed as required to keep silt fence functional. In all cases, deposits shall be removed when the accumulated sediment has reached one—half above the ground height of the silt fence. This material is to be spread and stabilized in areas not subject to erosion, or to be used in areas which are not to be paved or built on. Silt fence (GSF) is to be replaced as necessary to maintain proper filtering action. Silt fence (GSF) are to remain in place and shall be maintained to insure efficient sediment capture until all areas above the erosion checks are stabilized and vegetation has been established.

POST CONSTRUCTION MAINTENANCE NOTES:

The property owner shall be responsible for performing the following post construction maintenance schedule:

1. Inspect stormwater management basins annually for evidence of hydrocarbons and remove by vac—truck. Repair eroded areas and replace riprap and vegetation as required. Dredge bottom to remove accumulated sediment every 10 years or when significant volume reduction is observed. Mow basins on a regular basis to prevent woody growth.



EARTHEN SPILLWAY

201 \mathcal{C} \square

REVISIONS BY: CJC/TAC CHK: JEU

1

0 ∇ 11 dfi0 10 orfတ

Erosion Control Notes

<u>DATE</u> 7-12-22 <u>SCALE</u> As Shown JOB NUMBER 2021-077 SHEET

7 of 9

WETLAND, VERNAL POOL, AND RAPE SPECIES PROTECTION PROGRAM

The proposed solar facility is located proximate to sensitive resources including wetland resource areas, vernal pools, and rare species. As a result, the following protective measures shall be followed to help avoid degradation of nearby wetland/watercourses and to avoid incidental impact to vernal pool indicator species and rare species.

Smooth Green Snake (Opheodrys vernalis), Red Bat (Lasturus borealis), and Hoary Bat (Lasturus cinereus), all State Special Concern species afforded protection under the Connecticut Endangered Species Act, are known to occur on or in proximity to the proposed facility. These rare species protection measures are consistent with protection measures recommended by the Connecticut Department of Energy and Environmental Protection ("DEEP") NDDB letter of October 18, 2021 (NDDB No. 20210495; expiration date: October 18, 2023. Details of rare species protection measures to be implemented in association with construction of the facility are provided below.

It is of the utmost importance that the Contractor complies with the requirement for implementation of these protective measures and the education of its employees and subcontractors performing work on the project site. The wetland protection measures shall be implemented and maintained throughout the duration of construction activities until permanent stabilization of site soils has occurred. Vernal pool protection measures should be implemented during peak amphibian movement periods early spring breeding [March 1st to May 15th] and late summer dispersal [July 15th to September 15th].

All-Points Technology Corporation, P.C. ("APT") will serve as the Environmental Monitor for this project to ensure that these protection measures are implemented properly. APT will provide an education session for the Contractor prior to the start of construction activities on nearby sensitive wetland resources/vernal pools resources and rare species that may be encountered. The Contractor shall contact Dean Gustafson, Senior Biologist at APT, at least 5 business days prior to the start of any construction activities to schedule a pre-construction meeting. Mr. Gustafson can be reached by phone at (860) 552-2033 or via email at daystafson-elipointstech.com.

This protection program consists of several components education of all contractors and sub-contractors prior to initiation of work on the alter protective measures periodic inspection of the construction project; and reporting.

1. Contractor Education

- a. Prior to work on site, the Contractor shall attend an educational session at the pre-construction meeting with APT. This orientation and educational session will consist of an introductory meeting with APT to emphasize the environmentally sensitive nature of the project, the various wetland, vernal pool and rare species resources, and the requirement to diligently follow the Protective Measures as described in sections below. Workers will also be provided information regarding the identification of other turties, anakes, and common herpetofauna (amphibians and reptiles) species that could be encountered. The meeting will further emphasize the non-aggressive nature of these species, the absence of need to destroy such animals and the need to follow Protective Measures as described in following sections. The Contractor will designate one of its workers as the "Project Monitor", who will receive more intense training on the identification and protection of herpetofauna.
- b. The importance of protecting nearby wetland and vernal pool resources will also be stressed as part of this educational session.
- c. The education session will also focus on means to discriminate between rare species and other common native species to avoid unnecessary "false alarms". Encounters with any species of turties, anakes and amphibians will be documented.
- d. The Contractor will designate a member of its crew as the Project Monitor to be responsible for the periodic "sweeps" for herpetofauna within the construction zone each morning and for any ground disturbance work. This individual will receive more intense training from APT on the identification and protection of herpetofauna in order to perform sweeps. Any herpetofauna discovered would be translocated outside the work zone in the general direction the animal was oriented.
- e. The Contractor will be provided with cell phone and email contacts for APT personnel to immediately report any encounters with any rare species. Educational poster materials will be provided by APT and displayed on the job alte to maintain worker awareness as the project progresses.
- 1. APT will also post Caution Signs throughout the project alte for the duration of the construction project providing notice of the environmentally sensitive nature of the work area, the potential for encountering various amphibians and reptiles and precautions to be taken to avoid injury to or mortality of these animals.
- g. If any rare species are encountered, the Contractor shall immediately cease all work, avoid any disturbance to the species, and contact APT.

2. Isolation Measures + Sedimentation and Erosion Controls

- a. Plastic netting used in a variety of erosion control products (i.e., erosion control blankets, fiber rolls [wattles], reinforced sit fence) has been found to entangle wildlife, including reptiles, amphibians, birds, and small mammals, but particularly snakes. No permanent erosion control products or reinforced sit fence will be used on the project. Temporary erosion control products will use either erosion control blankets and fiber rolls composed of processed fibers mechanically bound together to form a continuous matrix (netless) or netting composed of planar woven natural biodegradable fiber to avoid/minimize wildlife entanglement.
- b. The extent of the erosion controls will be as shown on the site plans. The Contractor shall have additional sedimentation and erosion controls stockpiled on site should field or construction conditions warrant extending devices. In addition to the Contractor making these determinations, requests for additional controls will also be at the discretion of the Environmental Monitor.
- c. installation of sedimentation and erosion controls, required for erosion control compliance and creation of a barrier to possible migrating/dispersing turties, shall be performed by the Contractor following clearing activities and prior to any earthwork. The Environmental Monitor will inspect the work zone area prior to and following erosion control barrier installation to ensure the area is tree of amphibians and reptiles and document barriers have been satisfactorily installed. The intent of the barrier is to segregate the majority of the work zone and isolate it from neeting/foraging/migrating/dispersing turties, anakes and other herpetofauna. Oftentimes complete isolation of a work zone is not feasible due to accessibility needs and locations of staging/material storage areas, etc. Although the barriers may not completely isolate the work zone, they will be positioned to deflect migrating/dispersal routes away from the work zone to minimize potential encounters with turties, anakes and other herpetofauna.
- d. Exclusionary fencing shall be at least 20 inches tall and must be secured to and remain in contact with the ground and be regularly maintained by the contractor (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animals pass through.

- e. The Contractor is responsible for delly inspections of the sedimentation and erosion controls for tears or breeches and accumulation levels of sediment, particularly following storm events that generate a discharge as defined by and in accordance with applicable local, state and federal regulations. The Contractor shall notify the Environmental Monitor within 24 hours of any breeches of the sedimentation and erosion controls and any sediment releases beyond the perimeter controls that impact or have the potential to impact wetlands, watercourses or within 100 feet of wetlands and watercourses. The Environmental Monitor will provide periodic inspections of the sedimentation and erosion controls throughout the duration of construction activities only as it pertains to their function as isolation measures for the protection of wetlands, vernal pools, and rare species. Such inspections will generally occur once per month. The frequency of monitoring may increase depending upon site conditions, level of construction activities in proximity to sensitive receptors, or at the request of the permittee. If the Compliance Monitor is notified by the Contractor of a sediment release, an inspection will be scheduled specifically to investigate and evaluate possible impacts to wetland and/or vernal pool resources.
- f. Third party monitoring of sedimentation and erosion controls will be performed by other parties, as necessary, under applicable local, state and/or federal regulations and permit conditions.
- g. The extent of the sedimentation and erosion controls will be as shown on the site plans. The Contractor shall have additional sedimentation and erosion controls stockpiled on site should field or construction conditions warrant extending the controls as directed by APT or other regulatory agencies.
- h. No equipment, vehicles or construction materials shall be stored outside of the sedimentation and erosion controls within 100 feet of wetlands or watercourses.
- All sedimentation and erceion controls shall be removed within 30 days of completion of work and permanent stabilization of site soils so that reptile and amphibian movement between uplands and wetlands is not restricted.

3. Petroleum Materiale Storage and Spill Prevention

- a. Certain precautions are necessary to store petroleum materials, refuel and contain and properly clean up any inadvertent fuel or petroleum (i.e., oil, hydraulic fluid, etc.) spill to avoid possible impact to nearby resources.
- b. A spill containment kit consisting of a sufficient supply of absorbent pade and absorbent material will be maintained by the Contractor at the construction site throughout the duration of the project. In addition, a waste drum will be kept on site to contain any used absorbent pade/material for proper and timely disposal off-site in accordance with applicable local, state, and federal laws.
- c. The following petroleum and hazardous materials storage and refueling restrictions and spill response procedures will be adhered to by the Contractor.
- L Petroleum and Hazardous Materials Storage and Refueling
- 1. Refueling of vehicles or machinery shall occur a minimum of 100 feet from wetlands or watercourses and shall take place on an impervious pad with secondary containment designed to contain fuels.
- 2. Any fuel or hazardous materials that must be kept on site shall be stored on an impervious surface utilizing secondary containment a minimum of 100 feet from wetlands or watercourses.
- 3. The contractor shall inspect all equipment at the beginning and end of each day for any fuel or hydraulic leaks and if discovered shall take immediate steps to make repairs and clean up any discharges as detailed in the following sections.
- ii. Initial Spill Response Procedures
- 1. Stop operations and shut off equipment.
- 2. Remove any sources of spark or flame.
- 3. Contain the source of the spil.
- 4. Determine the approximate volume of the spil.
- 5. Identify the location of natural flow paths to prevent the release of the spill to sensitive nearby waterways or wetlands.

6. Ensure that fellow workers are notified of the spill.

iii. Spiii Clean Up + Containment

1. Obtain spill response materials from the on-site spill response kit. Place absorbent materials directly on the release area.

2. Limit the spread of the spill by placing absorbent materials around the perimeter of the spill.

3. Isolate and eliminate the spill source.

4. Contact the appropriate local, state and/or federal agencies, as necessary.

5. Contact a disposal company to properly dispose of contaminated materials in accordance with all local, state, and federal regulations.

iv. Reporting

1. Complete an incident report.

2. Submit a completed incident report to the Connecticut Siting Council and other applicable local, state, and federal officials.

4. Herbicide, Pesticide and Salt Usage

- a. The use of herbicides and pesticides at the facility shall be minimized. In the event herbicides and/or pesticides are required at the facility (i.e., to assist in management of invasive species within habitat enhancement areas), they will be used in accordance with integrated Pest Management ("IPM") principles with particular attention to minimizing applications within 100 feet of wetland or watercourse resources. No applications of herbicides or pesticides are allowed within actual wetland or watercourse resources.
- b. Maintenance of the facility during the winter months shall minimize the application of chloride-based delicers salt with use of more environmentally friendly alternatives to minimize impact to nearby wetland and vernal pool resources.

5. Vernal Pool Protection Measures

- a. A thorough cover search of the construction area will be performed by APT's Environmental Monitor for herpetofauna. (amphibians and reptiles) prior to and following installation of the sit fencing barrier to remove any species from the work zone prior to the initiation of construction activities. Any herpetofauna discovered would be carefully translocated outside the work zone in the general direction the animal was oriented. Periodic inspections will be performed by APT's Environmental Monitor throughout the duration of the construction.
- b. At direction by the Environmental Monitor and as deemed necessary, install small cover objects (e.g., boards, woody debris, haybales) along the face of the allt fence within the construction zone to provide refuge for trapped animals and facilitate capture and translocation outside of the construction zone.
- c. Any stormwater management features, ruts or artificial depressions that could hold water created intentionally or unintentionally by site clearing/construction activities will be properly filled in and permanently stabilized with vegetation to avoid the creation of vernal pool "decoy pools" that could intercept amphibians moving toward the vernal pools. Stormwater management features such as level spreaders will be carefully reviewed in the field to ensure that standing water does not endure for more than a 24-hour period to avoid creation of decoy pools, and may be subject to field design changes. Any such proposed design changes will be reviewed by the design engineer to ensure stormwater management functions are maintained.
- d. If stormwater management features are found to maintain standing water during the late winter and early spring for a period of more than a day or two (i.e., wet bottomed basins), an exclusionary barrier shall be installed by the contractor around the basin perimeter to prevent amphibian access. Permanent isolation barriers can consist of a low block wall (minimum 2.5 feet in height) or Animex brand permanent fencing.

6, Smooth Green Snake Protection Measures

a. Smooth green snakes are typically found in open areas where grass and shrubs are found, often near early successional wetlands. Monitoring during the removal of any existing anthropogenic cover features (i.e., log piles, rock piles, etc.), which may be used for cover by snakes already in the construction area will be performed by the Compilance Monitor. All anthropogenic cover features should be removed prior to any construction activities.

7. Rare Bats Tree Clearing Restriction

a. Tree clearing is restricted to occur only between August 15th through April 30th, during the bats' non-rocating period, when bats would not be present on the Site. Do not remove trees between May 1 through July 31.

8. **Reporting**

- a. A Compliance Monitoring Report (brief nerrative and applicable photos) documenting each APT inspection will be submitted by APT to the contractor and permittee for compliance vertilication. Any observations of rare species, vernal pool indicator species, wetland impacts, or corrective actions will be included in the reports.
- b. Following completion of the construction project, APT will provide a Final Compliance Monitoring Report to the permittee documenting implementation of this wetland, vernal pool, and rare species protection program, monitoring and any species observations. The permittee shall provide a copy of the Final Compliance Monitoring Report to the Connecticut Siting Council for compliance vertication.
- c. Any observations of rare species will be reported to DEEP by APT on the appropriate special animal reporting form, with photo-documentation (if possible) and specific information on the location and disposition of the

SERVING CT & MA



LSE Pyxis LLCTower Lane, Suite 201
Avon, CT 06001

| , 04 | | | | | | | | |
|-------------|--|--|--|---|------|----|---|--|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| REVISIONS | | | | | | | | |
| BY: CJC/TAC | | | | (| CHK: | JE | J | |

 $Landfill\ Solar$ voods Rd E (Rte. 44) Vorfolk, CT

599 Greenwoods R Norfolk,

Resource Protection Measures

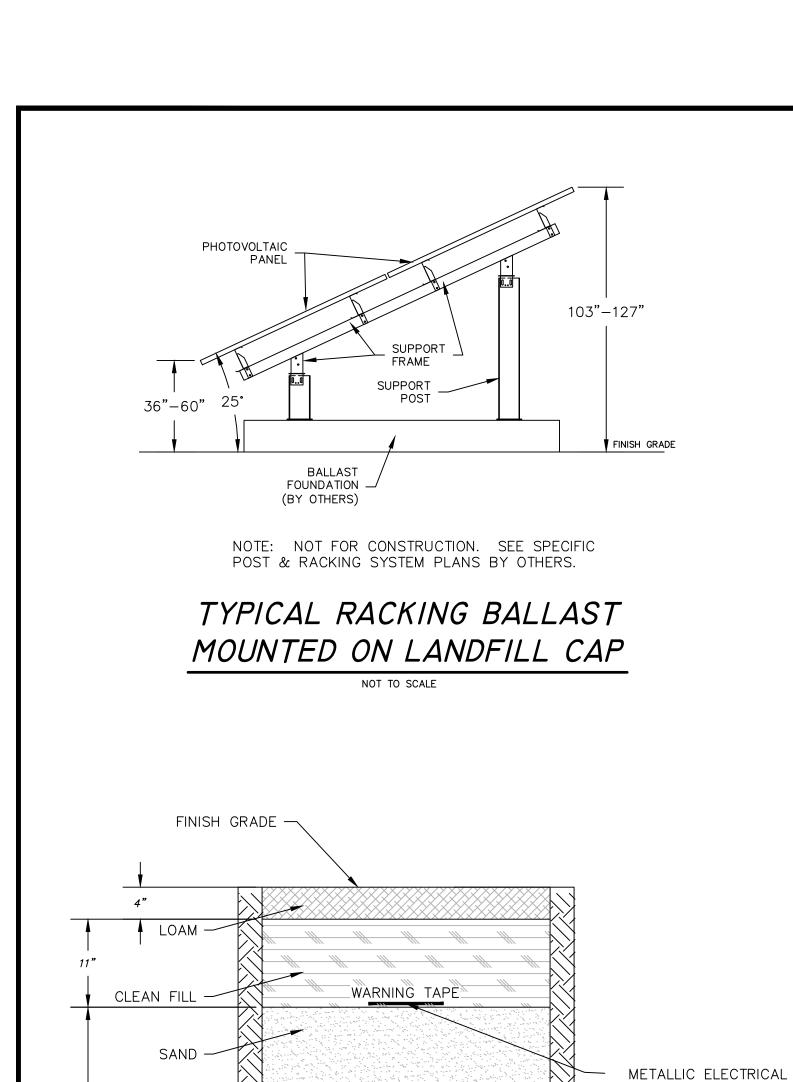
DATE
12-16-22

SCALE
As Shown

JOB NUMBER
2021-077

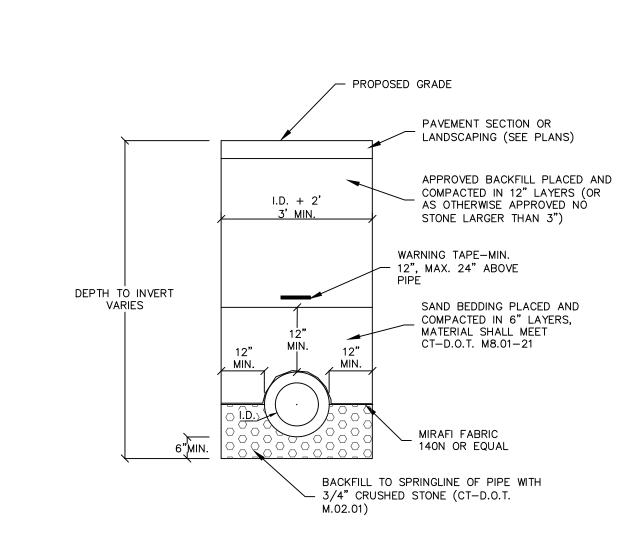
SHEET
8 of 9

S-1 Acad 2021 Civil 2 DS 2021-077 | Adatas = 500 Grammond Dd = 1 Burra Drawin



MEDIUM VOLTAGE CABLE

TRENCH DETAIL (MV)



103"-127"

FINISH GRADE

PHOTOVOLTAIC

36"-60" ²⁵°

WARNING TAPE

5" SCHEDULE 80

METALLIC ELECTRICAL

DIRECT BURY SHIELDED CAT5E

COMMUNICATIONS CABLE (SPEEDWIRE)

MAINTAIN AT LEAST 12" SEPARATION BETWEEN SPEEDWIRE AND AC CABLES

WARNING TAPE

ELECTRICAL CABLE

ELECTRICAL CONDUIT

PANEL

SUPPORT

NOTE: NOT FOR CONSTRUCTION. SEE SPECIFIC

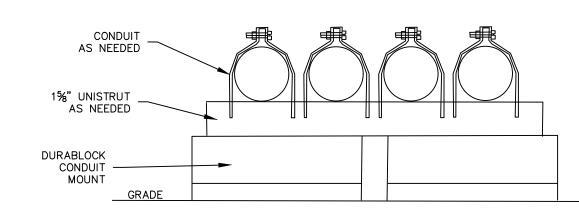
POST & RACKING SYSTEM PLANS BY OTHERS.

TYPICAL RACKING

MOUNTED ON DRIVEN POST

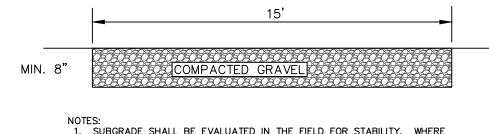
NOT TO SCALE



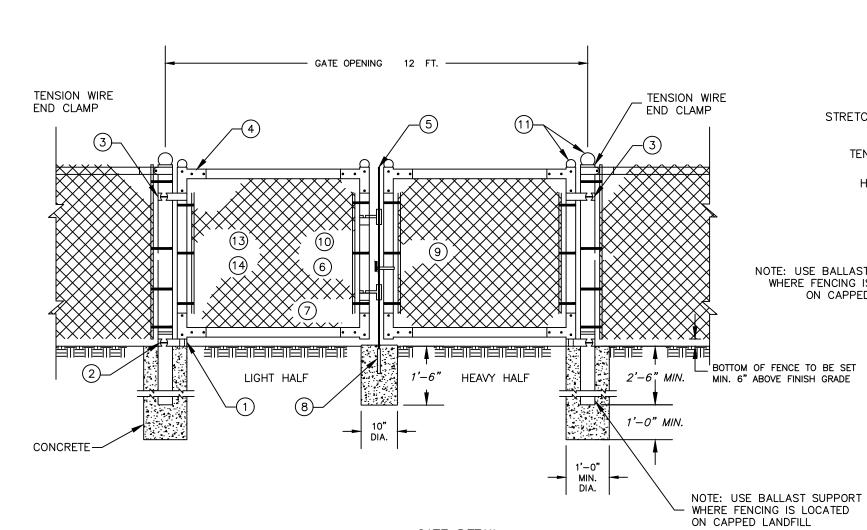


TYPICAL ABOVEGROUND CONDUIT SUPPORT

NOT TO SCALE



GRAVEL DRIVEWAY DETAIL



- TIE WIRES @ 24" @ 15" CENTERS TERMINAL - LINE POST STRETCHER BAR TENSION WIRE NOTE: ALL POSTS ARE 8'-6" MIN. HOOK BOLTS BOTTOM OF FENCE TO BE SET MIN. 6" ABOVE FINISH GRADE NOTE: USE BALLAST SUPPORT
WHERE FENCING IS LOCATED
ON CAPPED LANDFILL NOTE: LINE POSTS SHALL BE DRIVE SET TO 30" MIN. ALL TERMINAL POSTS SHALL

BE SET IN CONCRETE FENCE DETAILS GATE FRAME MEMBERS

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FENCE POSTS AND RAILS SIZE AND WEIGHT OUTSIDE GATE FRAME OUTSIDE SHAPE WEIGHT DIMENSIONS LBS./LIN. FT. DIMENSIONS | LBS./LIN. FT INCHES INCHES *ROUND ROUND *ROUND * GRADE B HIGH STRENGTH STEEL ROUND 1.90 2.72 *ROUND ROUND 2.27

GATE LEAF OUTSIDE WIDTH OF | DIMENSIONS | LBS./LIN. FT 6 FT. OR LESS INCHES ROUND 2.875 2.875 * GRADE B HIGH STRENGTH STEEL

GATE DETAIL

<u>LEGEND</u> PART NO. DESCRIPTION QUANTITY STRAIGHT PLUG BOTTOM HINGE TOP HINGE CORNER ELBOW PLUNGER ROD LATCH FORK FORK CATCH PLUNGER ROD CATCH LOCK KEEPER GUIDE LOCK KEEPER ORNAMENTAL TOPS TRUSS RODS STRETCHER BAR HOOK BOLTS

#9 GAGE FENCE FABRIC, STANDARD 2-INCH CHAIN LINK DIAMOND MESH.

NOTE: THE FENCING SHALL BE

CONSTRUCTION NOTES

TERMINAL

POSTS

LINE

POSTS

TOP & BRACE

MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS. 2. ALL POSTS SHALL BE INSTALLED VERTICALLY. WHERE POSTS ARE INSTALLED ON AN INCLINED SURFACE, THE ANGLE OF THE POST SHALL BE ADJUSTED SO THAT THE POST WILL

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND

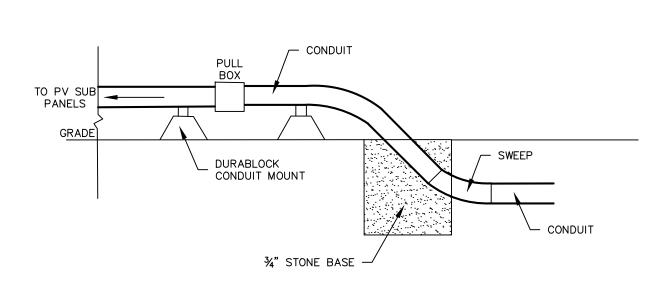
*ROUND

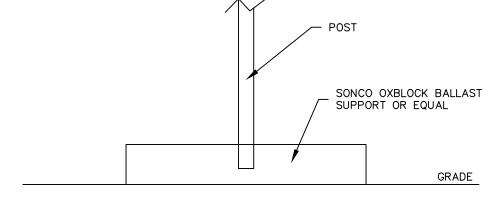
* GRADE B HIGH STRENGTH STEEL

INTERMEDIATE BRACED POSTS

3. THE FENCING SHALL BE #9 GAGE FENCE FABRIC, STANDARD 2-INCH CHAIN LINK DIAMOND MESH.

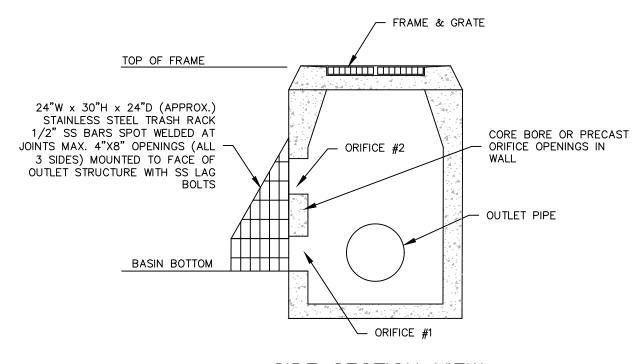
CHAIN LINK FENCE DETAIL

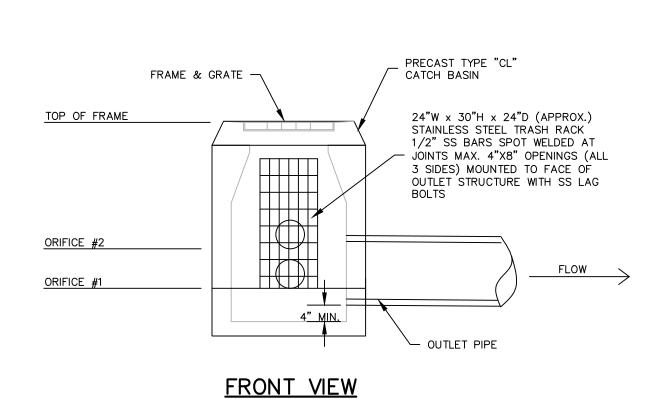




FENCE POST BALLAST SUPPORT DETAIL NOT TO SCALE

UNDERGROUND TO ABOVEGROUND CONDUIT TRANSITION NOT TO SCALE





SIDE SECTION VIEW

| STRUCTURE TABLE | | | | | | | | |
|-----------------|---------|------------|------------|------------|------------|-------------|-----------|--|
| | | ORIFICE #1 | | ORIFICE #2 | | OUTLET PIPE | | |
| 0. | TF | SIZE | <u> FL</u> | SIZE | <u>"FL</u> | SIZE | <u>FL</u> | |
| 1 | 1427.25 | 6" | 1425.10 | 12" | 1426.00 | 15" | 1424.35 | |
| 2 | 1418.50 | 4" | 1415.10 | 10" | 1416.60 | 12" | 1414.43 | |
| 3 | 1428.70 | 8 " | 1431.20 | _ | _ | 15 " | 1430.62 | |

BASIN OUTLET STRUCTURE

NOT TO SCALE

REVISIONS BY: CJC/TAC | CHK: JEU 10 ∇ andfill ods lorfolk 10 l for folding for

Details

<u>DATE</u> 7-12-22 <u>SCALE</u> As Shown JOB NUMBER 2021-077 9 of 9

CLEAN FILL 1'-10.2" UNDISTURBED_ EARTH

1'-8"

UNDISTURBED

EARTH

FINISH GRADE -

LOAM -

SAND

INVERTER POWER & COMMS CABLE TRENCH DETAIL (INV/C) NOTES:

1. SUBGRADE SHALL BE EVALUATED IN THE FIELD FOR STABILITY. WHERE SUBGRADE IS WET OR CANNOT BE PROOF ROLLED WITHOUT SIGNIFICANT RUTTING OR MOVEMENT, ADDITIONAL STABILIZATION MEASURES WILL BE REQUIRED AND MAY INCLUDE EXCAVATION & INSTALLATION OF ADDITIONAL

GRAVEL AND/OR INSTALLATION OF A GEOTEXTILE AS DIRECTED BY THE ENGINEER.

2. FINISH GRADE SHALL BE SET SO AS TO MAINTAIN EXISTING SHEET FLOW ACROSS THE DRIVEWAY.

EXHIBIT 4

EXHIBIT 5



OPERATIONS AND MAINTENANCE PLAN

I. Introduction

Upon completion of the proposed Project, Petitioner will enter into a third-party Operations and Maintenance contract with an experienced third-party operations and maintenance provider ("O&M Manager"). With a fleet of electricians, production analysts and vegetation management personnel, the O&M Manager works diligently to ensure the Project maintains peak performance, reliability and safety.

Prior to energization of the PV Project, the O&M contractor will perform a quality and safety inspection. This inspection is a detailed and site wide inspection to ensure all mechanical and electrical components are installed per manufacturer specifications and per site design. The O&M Manager will also provide detailed safety and emergency response training for Norfolk municipal employees.

Upon energization, the O&M Manager is responsible for the health and safety of the plant. The site will be continuously monitored (24/7/365 monitoring) remotely via a data acquisition system ("DAS"). The DAS has the ability to send alarms identifying communication, power generation or safety related issues. The O&M Manager has a team dedicated to on call service dispatches to address immediate issues from its data acquisition center. In addition to its dedicated on-call team, the O&M Manager will perform detailed annual inspections and will perform routine vegetative management on the Site.

II. Scope of Work

- A. <u>Daily Monitoring of Plant Operation:</u> For each solar Project, an O&M Manager monitors the Project continuously and receives data from the DAS of any performance or safety related issues. When an alert occurs, it is the responsibility of the O&M Manager to assess the severity of the alert and dispatch the on-call team if necessary. From there, the on-Site service technicians will assess the severity and repair/replace equipment as required. The service details of the O&M Manager are as follows:
 - 1. Monitoring Operations:

- Monitoring, 24 hours a day, 7 days a week, 365 days per year
- Alarm Notification
- Remote Corrective Diagnostics
- Remote Power Plant Operation

2. Performance Optimization Services:

- Performance Trend Analysis
- Performance Engineering
- Data Storage

B. Annual Inspection, Testing & Preventative Maintenance:

• The O&M Manager is also responsible for performing an annual site wide inspection. This inspection is targeted towards securing the safety, performance and reliability of the solar Project. A full report is outputted from the results of the inspection. This inspection includes the following:

1. Aerial Thermal Imaging and Reporting:

• Full Site aerial inspection of all PV modules. UAV (drone) coupled with thermal imaging camera and Raptor Maps proprietary mapping and diagnosis software will identify module level inefficiencies and failures.

2. PV Modules

- Module Inspection, Front
 - Inspect front of modules for broken glass, delamination, yellowing or browning, burnt or oxidized cells, or cracks in cells. Inspect module frames for cracks or bends. Inspect module conductors for tension and indicators of heat.

3. Mounting System

- Mounting System, Support Structure
 - Visually inspect support posts and structural components for evidence of rust, corrosion, settling, or tilt. Visually inspect mounting system hardware for tightness and evidence of rust or corrosion. Inspect and test rack grounding, check for torque levels, re-torque as necessary. Measure and record earth to ground resistance between rack and ground rod with lowresistance ohmmeter.

4. DC Combiner

• Inspect enclosure and devices for corrosion, heat distortion, moisture entry, insect and rodent infestation, and exterior damage. Confirm that all signage and labeling is in place. Inspect surge protection devices for indication of failure. Perform thermographic survey of all terminations and overcurrent protective devices.

5. DC/AC Raceway

• Inspect all DC raceways for loose connections, missing sealant, corrosion and above-grade moisture intrusion.

6. DC/AC Disconnect

• Inspect enclosure and devices for corrosion, heat distortion, moisture entry, insect and rodent infestation, and exterior damage. Confirm that all signage and labeling is in place. Perform thermographic survey of all terminations and overcurrent protective devices.

7. Inverter

• Inspect enclosure, door seals, latches and door stops for signs of corrosion, heat distortion, moisture entry, insect and rodent infestation, and exterior damage in accordance with manufacturer's recommendations and requirements. Confirm that all signage and labeling is in place. Clean all ventilation plates, air ducts, screens, devices and seals in accordance with manufacturer's recommendations and requirements. Inspect Surge Protection Devices for indication of failure. If any single SPD indicates failure mode, replace all SPD modules. Perform thermographic survey of all terminations and overcurrent protective devices.

8. Medium Voltage Transformer

• Inspect enclosure and devices for corrosion, heat distortion, moisture entry, insect and rodent infestation, and exterior damage. Confirm that all signage and labeling is in place. Inspect anchorage and alignment.

9. SCADA/DAS System

- Inspect devices and enclosures for physical damage. Clean as needed. Check tightness of electrical connections. Inspect weather station and all sensors for proper alignment.
- 10. <u>Vegetative Maintenance:</u> Maintenance within the array is typically performed (3) times annually during the growing season. During this time, the site is inspected for evidence of erosion and vegetation health. Vegetative growth exterior to the array is analyzed annually for shade impacts on the array. Any vegetative or site concerns are noted within the annual report. No pesticides or herbicides will be used in the vegetative maintenance of the site. Grass will be cut 2-3 times per year depending on the growing season. Weed wackers are used where mowers can not reach so that no chemicals will be used.
- 11. Module Washing and Snow Removal: Module washing and snow removal is performed on an as needed basis. Due to the tilt of the modules included within the proposed design, soiling effects due to snow build up, pollen or dust is naturally removed from the module surface. In the event the modules require cleaning, clean water with no chemicals or additives will be used.

14 Shepard Road

12. Emergency Response:

Norfolk Resident State Trooper:

Norfolk, CT 06058

Phone: (860)-626-1820

Norfolk Volunteer Fire Department:

20 Shepard Rd,

Norfolk Historic District, CT 06058

Phone: (860) 542-5021

Utility Contact Information:

Eversource CT (800) 286 -2000

Owner Contact information:

LSE Pyxis LLC

40 Tower Lane, Suite 201

Avon, Ct 06001

Phone: 203-626-2330

Email: jmacel@lodestarenergy.com

If it is determined the site must be shut down, the following emergency shutdown procedure should be conducted in conjunction with representatives of police and fire department:

- 1) Open AC disconnect located on equipment pad
- 2) Turn off DC disconnects on all inverters located on equipment pad
- 3) Turn off all DC disconnects on DC combiners located throughout array
- 4) Contact the Norfolk Volunteer Fire Department and Norfolk Resident State Trooper if not already present.