PETITION NO. 1347A - GRE GACRUX 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 16.78-megawatt AC solar photovoltaic electric generating facility located at 117 Oil Mill Road and associated electrical interconnection to Eversource Energy's existing substation at 325 Waterford Parkway North in Waterford, Connecticut. Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a(b).	}	Connecticut Siting Council November 5, 2020

Findings of Fact

Introduction

1. On June 20, 2018, GRE GACRUX LLC (GRE or Petitioner) submitted a petition (Petition) to the Connecticut Siting Council (Council), pursuant to Connecticut General Statutes (CGS) §16-50k and §4-176, for a declaratory ruling for the construction, maintenance, and operation of a 16.78-megawatt AC solar photovoltaic electric generating facility located at 117 Oil Mill Road in Waterford and an associated electrical interconnection to Eversource Energy's existing substation at 325 Waterford Parkway North in Waterford. (Project) (Council Administrative Notice Item No. 56)

2. GRE is a Connecticut limited liability company with principal offices at 180 Johnson Street in Middletown, Connecticut. Greenskies Clean Energy, an affiliated entity, is a privately held Connecticut-based solar developer that would be responsible for the development, construction, and operation of the Project. Greenskies Clean Energy is owned by JLC Infrastructure. (GRE 1a, p. 2; GRE 4, response 70)

3. The parties to the original Petition 1347 proceeding were GRE and the Town of Waterford (Town). An intervenor to the original Petition 1347 proceeding was Save the River, Save the Hills, Inc. (STRSTH). (Council Administrative Notice Item No. 56)

4. The proposed project would be a "grid-side distributed resources" facility under CGS § 16-1(a)(37). (Council Administrative Notice Item No. 56; CGS § 16-1(a)(37))

5. The proposed project would generate renewable electrical energy from solar power. Solar power is considered a Class I renewable energy source. (Council Administrative Notice Item No. 56; CGS § 16-1(a)(20))

6. The State legislature established a renewable energy policy under CGS §16a-35k that encourages the development of renewable energy facilities to the maximum extent possible. (CGS § 16a-35k)

7. On July 25, 2018, the Council conducted a public field review of the proposed project. The field review was attended by Council members Michael Harder and Robert Hannon; Council staff members Ifeanyi Nwankwo and Robert Mercier; Linda Brunza, Environmental Analyst from the Department of Energy and Environmental Protection (DEEP); Town representatives Brian Long, Maureen Fitzgerald, and Mark Wujtewicz; GRE representatives Lee Hoffman, Esq., Christopher Albino, John Schmitz, Ryan Linares, and property owners Rosalie Watson and Todd Willis. (Council Administrative Notice Item No. 56)

8. At a public meeting held on October 25, 2018, the Council voted to deny without prejudice the petition for a declaratory ruling to GRE for the 16.78 MW AC solar facility on the bases of Department of Energy and Environmental Protection (DEEP) concerns regarding a recommended site wildlife survey, potential impacts to water quality and insufficient geotechnical studies to determine the functionality of stormwater control features. The Council's decision was issued on October 26, 2018. (Council Administrative Notice Item No. 56)

9. On November 6, 2018, GRE filed a Petition for Reconsideration with the Council pursuant to CGS §4-181a. (Council Administrative Notice Item No. 56)

10. On November 7, 2018, the Council issued a memorandum to the service list for the original Petition 1347 proceeding requesting comments or statements of position in writing with respect to GRE's Petition for Reconsideration. Comments were received from STRSTH on November 20, 2018. In addition, DEEP Water Permitting and Enforcement Division submitted comments on December 4, 2018. (Council Administrative Notice Item No. 56)

11. At a public meeting held on December 6, 2018, the Council voted to deny GRE's Petition for Reconsideration, reaffirming its decision of October 25, 2018. The Council's decision was issued on December 24, 2018. (Council Administrative Notice Item No. 56)

12. On January 23, 2020, pursuant to CGS §4-181a(b), GRE filed a Motion to Reopen and Modify (Motion to Reopen) the Council's decisions of October 26, 2018 and December 24, 2018 to deny without prejudice the petition for a declaratory ruling for the 16.78 MW AC solar facility due to changed conditions. (GRE 1 – Motion to Reopen)

13. On January 24, 2020, the Council issued a memorandum to the service list for the original Petition 1347 proceeding requesting comments or statements of position to be submitted in writing by February 14, 2020 with respect to whether the Motion to Reopen should be granted or denied and whether a public hearing should be held. Comments were received from both STRSTH and the Town on February 12, 2020. (Council Memorandum dated January 24, 2020; Record)

14. At a public meeting held on February 27, 2020, the Council voted to grant GRE's Motion to Reopen, and to schedule a public hearing, in accordance with CGS §4-176 and 4-181a(b). (Council Meeting Minutes of February 27, 2020; Council Memorandum dated February 28, 2020)

Procedural Matters

15. On February 28, 2020, all parties and intervenors to the original Petition 1347 proceeding were notified of the reopening. (Council Memorandum dated February 28, 2020)

16. On February 28, 2020, the Council sent a letter to the Town, a party to the proceeding, to provide notification of the scheduled public hearing. (Council Hearing Documents, dated February 28, 2020)

17. Pursuant to C.G.S. § 16-50m, the Council gave due notice of a public hearing to be held on March 31, 2020, beginning with the evidentiary session at 3:00 p.m. and continuing with the public comment session at 6:30 p.m. at the Waterford Town Hall Auditorium, 15 Rope Ferry Road, Waterford, Connecticut. Legal notice of the public hearing was published in The Day on March 4, 2020. (Council's Hearing Notice dated February 28, 2020)

18. The Council's Hearing Notice referred to a public field review of the proposed site that would be conducted on March 31, 2020 at 1:30 p.m. (Council's Hearing Notice dated February 28, 2020)

19. On March 10, 2020, the Council held a pre-hearing conference on procedural matters for parties and intervenors to discuss the requirements for pre-filed testimony, exhibit lists, administrative notice lists, expected witness lists, filing of pre-hearing interrogatories and the logistics of the public inspection of the site scheduled for March 31, 2020. Representatives of GRE, STRSTH and the Town participated in the pre-hearing conference. (Council Pre-Hearing Conference Memoranda, dated March 3, 2020 and March 10, 2020)

20. On March 10, 2020, Governor Lamont issued a Declaration of Public Health and Civil Preparedness Emergencies, proclaiming a state of emergency throughout the state as a result of the COVID-19 pandemic. (Council Administrative Notice Item No. 90)

21. On March 12, 2020, Governor Lamont issued Executive Order No. (EO) 7 ordering a prohibition of large gatherings, among other orders and directives. (Council Administrative Notice Item No. 90)

22. By correspondence dated March 12, 2020, the Council cancelled the public hearing scheduled for March 31, 2020 including the public field review of the proposed project. A Notice of Hearing cancellation was published in The Day on March 14, 2020. (Council's Hearing Notice dated February 28, 2020; Council Hearing Cancellation Memoranda, dated March 12, 2020; Council Notice of Hearing cancellation dated March 12, 2020; Record)

23. On March 14, 2020, Governor Lamont issued EO 7B ordering suspension of in-person open meeting requirements of all public agencies under CGS §1-225. The Freedom of Information Act defines "meeting" in relevant part as "any hearing or other proceeding of a public agency." (Council Administrative Notice Item No. 90, CGS §1-200, et seq. (2019)

24. EO 7B allows public agencies to hold remote meetings provided that:

    a) The public has the ability to view or listen to each meeting or proceeding in real-time, by telephone, video, or other technology;
    b) Any such meeting or proceeding is recorded or transcribed and such recording or transcript shall be posted on the agency's website within seven (7) days of the meeting or proceeding;
    c) The required notice and agenda for each meeting or proceeding is posted on the agency's website and shall include information on how the meeting will be conducted and how the public can access it;
    d) Any materials relevant to matters on the agenda shall be submitted to the agency and posted on the agency's website for public inspection prior to, during and after the meeting; and
    e) All speakers taking part in any such meeting shall clearly state their name and title before speaking on each occasion they speak.

    (Council Administrative Notice Item No. 90)

25. On March 25, 2020, June 29, 2020 and September 8, 2020, Governor Lamont issued EOs 7M, 7DDD and 9A, respectively, allowing for an extension of all statutory and regulatory deadlines of administrative agencies for a period of no longer than 90 days. (Record; Council Administrative Notice Item No. 56)

26. Pursuant to Governor Lamont's EO 7B and C.G.S. § 16-50m, the Council published legal notice of the date and time of the remote public hearing via Zoom conferencing in The Day on May 21, 2020. (Council's Hearing Notice dated May 19, 2020; Record)

27. In compliance with Governor Lamont's EO 7 prohibition of large gatherings, the Council's Hearing Notice did not refer to a public field review of the proposed site. (Council's Hearing Notice dated May 19, 2020)

28. Field reviews are not an integral part of the public hearing process. The purpose of a site visit is an investigative tool to acquaint members of a reviewing commission with the subject property. (Council Administrative Notice Item Nos. 91 and 92)

29. On May 29, 2020, in lieu of an in-person field review of the proposed site, the Council requested the Petitioner to submit photographic documentation of site-specific features into the record intended to serve as a "virtual" field review of the site. On June 11, 2020, the Petitioner submitted such information in response to the Council's second set of interrogatories. (Record; GRE 6, response 48)

30. On May 28, 2020, the Council held a pre-remote hearing teleconference on procedural matters for parties and intervenors to discuss the requirements for pre-filed testimony, exhibit lists, administrative notice lists, expected witness lists, filing of pre-hearing interrogatories. Procedures for the remote public hearing via Zoom conferencing were also discussed. Representatives of GRE and STRSTH participated in the pre-remote hearing teleconference. (Council Pre- Remote Hearing Conference Memoranda, dated May 21, 2020 and June 1, 2020)

31. Pursuant to R.C.S.A § 16-50j-21, on June 9, 2020, GRE installed a sign measuring six feet by four feet at the site access driveway on Oil Mill Road. The sign included information about the proposed facility, the public hearing date and contact information for the Council. (GRE 12a; Council Pre-Remote Hearing Conference Memoranda, dated June 1, 2020)

32. On June 25, 2020 the Council canceled the June 25, 2020 remote public hearing due to statewide network outages. Pursuant to Governor Lamont's EO 7B and C.G.S. § 16-50m, the Council published legal notice of the date and time of the re-scheduled remote public hearing via Zoom conferencing in The Day on June 27, 2020. (Council Rescheduled Hearing Notice dated June 25, 2020; Record)

33. On June 26, 2020, pursuant to R.C.S.A § 16-50j-21, GRE revised the sign that was installed on June 9, 2020 to include the rescheduled date and time for the remote public hearing. (GRE 11; GRE 12a)

34. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a rescheduled remote public hearing on July 14, 2020, beginning with the evidentiary session at 1:00 p.m. and continuing with the public comment session at 6:30 p.m. via Zoom conferencing. (Council Rescheduled Hearing Notice dated June 25, 2020; Tr. 1, p. 1; Transcript 07/14/20, 6:30 p.m. [Tr. 2], p. 1)

35. In compliance with Governor Lamont's EO 7B:

    a) The public had the ability to view and listen to the remote public hearing in real-time, by computer, smartphone, tablet or telephone;
    b) The remote public hearing was recorded and transcribed and such recording and transcript were posted on the Council's website;

c) The Hearing Notice, Hearing Program, Citizens Guide for Siting Council Procedures and Instructions for Public Access to the Remote Hearing were posted on the agency's website;
d) The record of the proceeding is available on the Council's website for public inspection prior to, during and after the remote public hearing; and
e) The Council, parties and intervenors and members of the public who spoke during the public comment session provided their information for identification purposes during the remote public hearing.

(Hearing Notice, dated June 25, 2020; Tr. 1; Record)

36. During the July 14, 2020 remote evidentiary hearing session, the Council granted STRSTH party status, pursuant to CGS § 16-50(n), and Connecticut Environmental Protection Act intervenor status, pursuant to CGS §22a-19. (STRSTH 4; Transcript 07/14/20, 1:00 p.m. [Tr. 1], pp. 7-9)

37. The Council continued the remote evidentiary hearing session on August 4, 2020 at 1:00 p.m. and August 25, 2020 at 2:00 p.m. via Zoom conferencing. (Council's Continued Evidentiary Hearing Memo dated July 16, 2020; Council's Continued Evidentiary Hearing Memo dated August 5, 2020; Transcript 08/04/20, 1:00 p.m. [Tr. 3], p. 1; Transcript 08/04/20, 2:00 p.m. [Tr. 4])

Municipal Consultation and Community Outreach

38. GRE initially met with Waterford First Selectman Daniel Steward, Director of Public Works Brian Long, Director of Economic Development Abby Piersall and Environmental Planner Maureen Fitzgerald on April 26, 2018 to discuss the project. The Town requested that GRE submit completed engineered drawings, arrange a tour of an existing GRE solar facility in East Lyme, and the opportunity to participate in any field visits scheduled by the Council. (Council Administrative Notice Item No. 56)

39. On June 14, 2018, GRE provided the Town with completed Project site plans and toured an existing East Lyme solar facility with Town representatives. (Council Administrative Notice Item No. 56)

40. GRE met with the Town in October 2019 to discuss revisions to the Project and the status of Project-related studies. GRE also informed the Town of their intent to discuss Payments in Lieu of Taxes (PILOT) options. No site plan information, documentation or supplemental information was provided for Town review or comment at this meeting. (Town 2)

41. The Town Environmental Planner, Maureen Fitzgerald, walked the Project site several times in relation to the original petition and subsequent modified petition. (Tr. 3, p. 18)

42. GRE held a site walk with Town representatives on March 5, 2020. (GRE 8, response 73)

43. CGS §22a-20a and DEEP's Environmental Justice Guidelines require applicants seeking a permit from DEEP or the Council for a new or expanded facility defined as an "affecting facility" that is proposed to be located in an environmental justice community to file an Environmental Justice Public Participation Plan (EJPPP). The proposed solar facility is not an "affecting facility" under CGS §22a-20a because it uses non-emitting and non-polluting renewable resources. Thus, Environmental Justice does not apply to the facility and an EJPPP is not required. (CGS § 22a-20a)

State Agency Comments

44. Pursuant to RCSA §16-50j-40, on February 28, 2020, the following state agencies were requested to submit written comments regarding the proposed facility: DEEP; Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Consumer Protection (DCP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO). (Council Hearing Documents, dated February 28, 2020)

45. On March 3, 2020, the Council received comments from SHPO, which are attached hereto. (SHPO Comments received March 3, 2020)

46. On March 31, 2020, the Council received comments from CEQ, which are attached hereto. (CEQ Comments dated March 31, 2020)

47. On June 17, 2020, the Council received comments from DEEP, which are attached hereto. (DEEP Comments dated June 17, 2020)

48. While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies. (Council Administrative Notice Item No. 96)

49. The following agencies did not respond to the Council's request for comment on the proposed facility: DPH, PURA, OPM, DOAg, DECD, DESPP, DCP, DOL, DAS, DOT, and CAA. (Record)

Changed Conditions

50. In GRE's Motion to Reopen, GRE noted several changed conditions including, but not limited to, the following:

    a) Reduction in the number of proposed PV modules from 55,692 panels (370 watts/panel) to 45,976 panels (400 watts /panel). The revision to the modules would reduce the Project nameplate from 16.78 MW AC to 15.3 MW AC;
    b) Reduction in site clearing from 98 acres to 75 acres;
    c) Re-design of the post-construction stormwater management control features to incorporate new DEEP guidance regarding the construction of solar facilities and comments from the DEEP Stormwater Program staff ;
    d) Performed additional on-site geotechnical studies;
    e) Incorporated site stabilization measures after site clearing and prior to solar array construction; and
    f) Conducted additional wildlife surveys and consultations with DEEP's Natural Diversity Database (NDDB) program.

    (GRE 1-Motion to Reopen, pp. 5-8)

State of Connecticut Planning and Energy Policy

51. Section 51 of Public Act (PA) 11-80 requires that DEEP prepare a Comprehensive Energy Strategy (CES) every three years that reflects the legislative findings and policy stated in CGS §16a-35k. As such, this statute consolidated Connecticut's energy planning for the first time. The final version of the state's inaugural CES was published on February 19, 2013 (2013 CES). It advocated smaller, more diversified generation projects using renewable fuels, as well as smaller, more innovative transmission projects emphasizing reliability. (Council Administrative Notice Item No. 63 – 2013 CES; CGS §16a-3d)

52. On February 8, 2018, DEEP issued the 2018 Comprehensive Energy Strategy (2018 CES). Guided by the long-term vision of transitioning to a zero-carbon economy, the 2018 CES highlights eight key strategies to guide administrative and legislative action over the next several years. Specifically, strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." (Council Administrative Notice Item No. 64 – 2018 CES, p. 14)

53. CGS §16-245a establishes Connecticut's *Renewable Portfolio Standards* (*RPS*). Up until recently, RPS required that 20 percent of Connecticut's electricity usage had to be obtained from Class I renewable resources by 2020. Under Public Act 18-50, RPS was updated to require 21 percent of Connecticut's electricity usage be obtained from Class I renewable resources by 2020 and increasing each year to reach 40 percent by 2030. (CGS §16-245a; Public Act 18-50; Council Administrative Notice Item No. 64 – 2018 CES, pp. 110-112)

54. The 2018 CES notes that, "Most recent analyses indicate that there should be adequate Class I resources to meet Connecticut's Class I Renewable Portfolio Standards (RPS) goals in 2020*."
*This was based on the "20 percent Class I by 2020" requirement that was in place at the time the 2018 CES was prepared.
(Council Administrative Notice Item No. 64 – 2018 CES, p. 112)

55. The Global Warming Solutions Act (PA 08-98) sets a goal of reducing greenhouse gas (GHG) emissions by 80 percent by 2050. (CGS §22a-200)

56. Section 7 of PA 08-98 required the Governor's Steering Committee on Climate Change to establish an Adaptation Subcommittee to evaluate the projected impacts of climate change on Connecticut agriculture, infrastructure, natural resources and public health and develop strategies to mitigate these impacts. (Council Administrative Notice Item No. 79 – Climate Change Preparedness Plan)

57. Governor Lamont's 2019 Executive Order No. 3 declares the state's goal to reach 100 percent carbon free electricity by 2040.

DEEP Competitive Energy Procurement

58. The Project is not receiving any incentive monies from the state. It was selected through a state-approved Request for Proposals (RFP) process to enter into a contract with electric distribution companies. (GRE 4, response 71)

59. On March 9, 2016, pursuant to Section 1(b) and 1(c) of PA 15-107, DEEP issued notice for a RFP for Class I renewable energy sources with a nameplate capacity rating of more than 2 MW and less than 20 MW (Small Scale RFP). (Council Administrative Notice No. 56)

60. On June 27, 2017, DEEP issued its final determination in the Small Scale RFP and selected 25 out of 107 proposed projects to enter into long-term power purchase agreements (PPAs) with the electric distribution companies for a combination of energy and environmental attributes. The proposed Project is one of the 25 projects selected. (Council Administrative Notice No. 56)

Power Purchase Agreement

61. GRE has a PPA with both Eversource Energy (Eversource) and The United Illuminating Company. (Council Administrative Notice No. 56)

62. The PPA was approved by PURA in September 2017. (Council Administrative Notice No. 56; PURA Docket No. 17-01-11).

63. The PPA would provide approximately 80 percent of the energy and renewable energy certificates (RECs) to Eversource, with the remaining 20 percent to UI. (Council Administrative Notice No. 56)

64. A renewable energy certificate (REC) certifies that one megawatt-hour (MWh) of renewable electrical energy has been generated. RECs create a market to separate renewable energy attributes and resource output. Environmental attributes are sold into the REC markets. (Council Administrative Notice Item No. 54 – Petition 1312, Finding of Fact #62)

65. The initial term of the PPA is 20 years. After the PPA expires, GRE would sell the energy on the open market. (Tr. 1, pp. 50-51)

66. The Project has the potential to participate in an ISO-NE Forward Capacity Auction, but under the terms of the PPA, is not obligated to participate. (Council Administrative Notice No. 56)

67. GRE would be structured as an independent electrical generating entity participating in the ISO-New England, Inc. (ISO-NE) market, selling power to two Connecticut public utilities via a power purchase agreement (PPA). (Council Administrative Notice Item No. 56)

Public Benefit

68. A public benefit exists when a facility is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity. (CGS. §16-50p(c))

69. Public Act (PA) 05-1, An Act Concerning Energy Independence, established a rebuttable presumption that there is a public benefit for electric generating facilities selected in a RFP. (Public Act 05-1)

Public Act 17-218

70. Effective July 1, 2017, PA 17-218 requires, "for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by DEEP in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the DOAg represents, in writing, to the Council that such project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such project will not materially affect the status of land as core forest." Because the proposed project was selected by DEEP in a solicitation prior to July 1, 2017, the proposed project is exempt from this provision of PA 17-218. (CGS §16-50k)

71. PA 17-218 also requires that the Council not find a substantial adverse environmental effect in its exercise of jurisdiction over facilities eligible to be approved by declaratory ruling under CGS §16-50k. There are no exemptions from this provision of PA 17-218. (CGS §16-50k)

Site Selection

72. GRE conducted a search of both public and private parcels. Considerations in GRE's site selection process, include, but aren't limited to, the following:
    a) Environmental and social impacts of facility development;
    b) Availability of land for lease or purchase; and
    c) Proximity to electrical infrastructure.

    (Council Administrative Notice Item No. 56 – Petition p. 4)

73. GRE investigated three sites in Waterford for submission into the state's RFP process but ultimately selected the proposed site. The other two sites investigated and rejected are as follows;
    a) Waterford Town landfill- GRE could not reach an agreement with Town that allowed for complete site control, a requirement of the RFP.
    b) Waterford abandoned airfield- location not economical due to cost of site parcel and distance to interconnection point at Oil Mill Substation.

    (Council Administrative Notice Item No. 56- Petition p. 13)

74. Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility. (Council Administrative Notice Item No. 96 - *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007))

Site

75. The proposed site is located on an approximate 152-acre undeveloped parcel at 117 Oil Mill Road in Waterford. The proposed site would be located in the eastern and southerly portions of the parcel. (refer to Figure 1A). (Council Administrative Notice Item No. 56- Petition p. 2)

76. The parcel is zoned Rural Residential -RU120 (refer to Figure 1B). (Town 2, p. 1)

77. The Proposed site would be located on an 88-acre leased area of the parcel (refer to Figure 2). The ground lease has a 20-year term with an option for a 15-year extension. Pursuant to 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. (Council Administrative Notice No. 56- Response to Council interrogatory 15; GRE 1b, p. 10, Figure 3)

78. Adjacent developed properties consist of single family homes to the west along Oil Mill Road. Undeveloped abutting properties to the east and south are zoned industrial. Undeveloped property to the north is zoned low density residential. (Town 2, p. 1)

79. The nearest developed industrial parcels are several thousand feet to the east. (Town 2, p. 2)

80. The Town authorized a timber harvest on the parcel in 2018 that was not related to the Project. Approximately 66 acres of the parcel were timbered between January and September 2018. The Town required that haul routes, landing areas, and harvest areas be stabilized and seeded at the completion of the timber harvest in accordance with forestry best management practices. (Town 2, p. 4; GRE 4, response 13)

81. The parcel is undeveloped with varying degrees of forest density and shrubby vegetation resulting from the previous timbering operations. (GRE 6, response 48)

82. The parcel has frontage on Oil Mill Road. An existing dirt road extends easterly from Oil Mill Road into the interior of the parcel and recent timber harvest area. The parcel contains a network of access roads and skidder roads. (GRE 1b Figure 3, App. I)

83. The parcel is bisected by a 125-foot wide Eversource overhead electric transmission line right-of-way (ROW) that crosses the northern portion of the parcel along a southwest-northeast axis. (Council Administrative Notice Item No. 56- Petition p. 6; GRE 1b Figure 3)

84. In general, the parcel is rolling to rugged with large bedrock outcroppings and shallow-to-bedrock soils. Site features include low wetland and watercourse areas, and steeper hilly areas, with elevations ranging from 92 feet to 254 feet. (GRE 1b, p. 9, App. H, p. 1)

85. The central portion of the parcel has the highest topographic elevations. The topography slopes downgradient from the central area in all directions to wetland systems and brooks (refer to Figure 3). (GRE 1b p. 3; STRSTH 13)

Project Description

Solar Array

86. Approximately 45,976 fixed solar panels, rated at approximately 400 Watts direct current (DC), would be installed on the site. (GRE 1b, App. A Sheet C-3.0)

87. The exact solar panel model that will be used for the Project has not yet been finalized and would depend upon manufacturer availability and model updates at the time that the Project final designs and procurement releases are complete. GRE expects that, by the time of procurement, the solar panel rating capacity would be higher than 400 Watts. (GRE 1b, p. 10; GRE 4, response 60)

88. The panels would be arranged two-high in a portrait orientation and set at a 25 degree angle, extending to an approximate height of 9.5 feet above grade and approximately 3 feet above grade at the bottom edge, depending on specific topographic conditions. (Council Administrative Notice Item No. 56; GRE 1b App. A Sheet C-3.0)

89. The solar panels would be installed on a post-racking system. The posts are typically driven into the ground to a depth of 6 to 12 feet with a spacing interval of 12 feet off center. (Council Administrative Notice No. 56; GRE 2, response 5)

90. The posts would extend to a height of 5 to 7 feet above grade to support the panel racking system. (Council Administrative Notice No. 56; GRE 2, response 7)

91. If bedrock or cobbles are encountered, screw anchors would be used to install racking posts, generally to a depth of 5 to 6 feet. Ground screws can be used in a variety of soil profiles including shallow bedrock. (Council Administrative Notice No. 56; GRE 2, response 5)

92. Although initially contemplated, concrete ballast foundations are not anticipated based on recent geotechnical investigations. (GRE 1b, p. 10; GRE 2, responses 5 & 6)

93. Inter-row spacing - panel edge to panel edge - would be approximately 14.5 feet. Panel rows would be arranged in groups with varying numbers of panels. Each panel grouping would be separated by a 5-foot wide aisle. (GRE 1b, App. A, Sheet Series 3)

94. The solar panels would have exterior wiring installed along the racking assembly to a string inverter (60 - 65 kW rating). Each string inverter would serve 198 to 216 panels. Wiring from the 344 string inverters would be installed within an underground trench to a distribution panel. Wiring from the distribution panels would connect to nine pad-mounted transformers via underground conduit. (Council Administrative Notice Item No. 56; GRE 1b p. 11; GRE 2 Sheet PV-x series)

Site Access

95. Access to the site for both construction and facility operation would be from the existing dirt road that extends into the property from Oil Mill Road. (GRE 1b, Figure 3, App. A Sheet BS-1)

96. From the entrance on Oil Mill Road, the existing dirt road extends along the north property line (121 Oil Mill Road) for approximately 165 feet before reaching more interior portions of the parcel. (GRE 1b Figure 6, App. A Sheet BS-1)

97. The existing dirt road crosses a wetland using an existing elevated fill structure with a culvert at the base to allow for wetland drainage. The structure is used by Eversource to access the ROW on the site property and was also used for previous logging operations. It was initially contemplated that GRE would use the crossing for site access, but upon further evaluation of the structure and its location adjacent to the wetland, GRE now intends to avoid using the structure, leaving it in place. (Council Administrative Notice No. 56; Tr. 1, pp. 25-25, 43-44; Tr. 3, pp. 19, 39, 76-78)

98. To avoid the elevated crossing and adjacent wetland area, GRE would construct a new access road that would go around the northern portion of the wetland. The new access route would partly follow an existing logging path. The new access road would extend to a solar field area that is isolated from the main solar field by the Eversource ROW. From this isolated array area, the new access road would cross the ROW to enter the main solar array. (GRE 12b, Sheet C-4.2; Tr. 1, pp. 26-27)

99. GRE would consult with Eversource in regards to constructing a new access road across the existing ROW. (Tr. 1, pp. 27-28; Tr. 3, pp. 39-40; Tr. 4, p.40)

100. Internal access roads would extend to each transformer pad and to access gates/turnarounds near each stormwater basin. (GRE 1b, App. A, Sheet C-3.x series)

101. The total length of post-construction project access roads is approximately 13,500 linear feet, covering an area of approximately 4.7 acres. (GRE 2, response 24)

102. The solar field areas would be enclosed by a 7-foot high chain link fence. The main access gate would be at the northern array with a second gate controlling access to the main solar array. Secondary gates would be installed along the perimeter fence at various points to access stormwater control features. Gates would be secured with locking hardware. (GRE 1b, p. 13, App. A, Sheet C-3.x series)

103. Approximately 4,000 linear feet of fencing is proposed for the Project. (GRE 1b, App. D)

104. The proposed site perimeter fence would be designed to have a six-inch gap at the bottom, between the fence fabric and the ground to allow for small animal movement. (GRE 1b, App. A, Sheet C-6.1)

105. The nearest developed residential property to the solar field perimeter fence is approximately 800 feet to the west at 109 Oil Mill Road. (GRE 1b, Figure 8)

Electrical Interconnection

106. The Project would interconnect with Eversource's Waterford Parkway North Substation located at 325 Waterford Parkway North in Waterford, approximately 3,400 feet south of the existing site access road on Oil Mill Road. The interconnection would be at 23-kV and would require the addition of utility runs mounted on 12 new utility poles. (Council Administrative Notice Item No. 56; GRE 1b p. 14, App. D; GRE 2 Sheet PV-1A)

107. GRE submitted an Interconnection Application to Eversource. Eversource completed a distribution impact study and an ISO-NE review of the Project. (GRE 1b p. 14; Tr. 3, p. 71)

108. GRE is finalizing the detailed engineering requirements for the utility line interconnection. (Tr. 3, p. 71)

109. All work associated with the utility side of the interconnection would be the responsibility of Eversource. (Council Administrative Notice Item No. 56; GRE 1b, p. 14; Tr. 3, p. 71)

Project Construction

110. GRE, under its lease terms with the landowner, cannot begin site construction until governmental authorities issue project-related approvals. (GRE 4, response 13)

111. As part of the Project, and in consultation with DEEP and the Town, GRE would remove logging operation wood waste from an approximate 45-acre area of the Project site. The remaining 21 acres of previously logged areas outside of the Project site limits would remain undisturbed. (GRE 1b, pp. 8-9; GRE 2, response 3)

112. The proposed project would be constructed in two main phases, site clearing and site construction. The phasing sequence was developed upon consultation with DEEP Stormwater Program staff. The objective of site phasing was to construct erosion and sedimentation controls and perform necessary tree clearing as early as practicable, allowing for those areas to vegetate and stabilize through a growing season prior to installing solar infrastructure. (GRE 1b, pp. 14-15; GRE 4, responses 17)

113. The proposed Pre-Construction Site Protection Sequence include, but are not limited to, the following:
    a) perform pre-construction tasks including installation of stabilized construction access road entrance/exit;
    b) Demarcation of clearing limits, and grubbing limits;
    c) Designation of internal construction access roads;
    d) Site clearing/grubbing with wood waste to construct perimeter mulch berms followed by the installation of entrenched silt fence along the inside edge of the berm to remain in place for the duration of Project construction;
    e) Construction of sediment basins and traps, followed by seeding within 72 hours of construction;
    f) Removal of woody debris from previous logging operations within solar field area;
    g) Establishment of gravel or compacted earth access roads for construction use to minimize vehicle use in non-designated areas; and
    h) Hydroseed/tackifier application on all disturbed areas.

    (GRE 1b, App. A; GRE 12 Sheet 5.0; Tr. 1, pp. 44-45)

114. The proposed Site Construction Sequence include, but are not limited to, the following:
    a) Perform site grading, as specified. Topsoil removed for site grading would be stockpiled;
    b) Spread topsoil over re-graded areas and seed;
    c) Install racking posts, followed by racking supports in a sequence where approximately 13 acres of posts would be installed prior to the commencement of racking supports;
    d) Reseed areas after racking structure is installed;
    e) Install panels on racking by hand and light duty equipment; and
    f) Reseeding of disturbed areas, followed by site stabilization procedures.

    (GRE 1b, App. A, Sheet C-5.0; GRE 12, p. 4)

115. GRE, upon consultation with DEEP Stormwater Program staff, intends to clear and hydroseed the site to allow for vegetative growth to be established for one growing season between site seeding and site construction to minimize construction-related impacts to soil. GRE's one growing season schedule would be the Spring or Fall season and not one full calendar year. (GRE 1b, p. 14; GRE 2, response 20; GRE 12 Sheet 5.0; Tr. 1, p. 98; Tr. 3, pp. 58-59)

116. It was initially contemplated that site clearing/site reseeding would be accomplished in 2020, followed by site construction in 2021. This schedule was developed due to the anticipated time necessary to clean up the site and the limited amount of construction time remaining prior to the onset of cold weather months. (GRE 1b, p. 14; GRE 2, response 20; GRE 4, response 31; Tr. 1, pp. 42-43)

117. GRE has not had any subsequent discussion with DEEP regarding the clearing and seeding schedule since it was first discussed. GRE proposes to clear the site, followed by seeding with one growing season (Spring or Fall) to stabilize the site prior to the commencement of construction. (Tr. 1, pp 42-43, 98; Tr. 3, pp .58-59; GRE 12, p. 4)

118. DEEP's Office of Planning & Program Development stated that one full growing season would be a full year. For example, if clearing took place this past spring, construction would begin the following Spring. (DEEP comments dated June 17, 2020)

119. Areas of the site that do not have sufficient vegetative cover prior to the Site Construction Phase can be stabilized by other methods such as additional hydroseed/tackifier applications, erosion control blankets, straw wattles, compost filter socks, and/or silt fence, as necessary. (GRE 4, response 14; GRE 8 response 101)

120. Phase 2 construction would proceed from south to north on the site beginning with support post installation within a given area, followed by the installation of solar module racking tables within that same area. (Tr. 1, p. 45)

121. The *2002 Guidelines for Soil Erosion and Sediment Control (2002 Guidelines)* recommend phasing to minimize areas being developed at any one time to reduce stormwater runoff and potential erosion as well as to reduce the duration of exposure. The *2002 Guidelines* recommend a project be phased in five acre increments only if no temporary sediment traps are specified. (GRE 4, response 17; Council Administrative Notice No. 58 - *2002 Guidelines*, pp. 3-7, 3-8)

122. The Project would require the clearing of approximately 75 acres of forest at the site, approximately 45 acres of which were previously logged. Approximately 65 acres of the site would be grubbed to develop the solar field and associated stormwater controls. (GRE 2, responses 8 &19)

123. Slopes in the Project area range from 0 to approximately 20 percent. (GRE 1b, App. B, p. 3)

124. GRE would perform site grading on approximately 16.2 acres of the 75-acre site, representing 21.6 percent of the site area, to install stormwater controls and to reduce the grade in certain areas of the solar field to slopes less than 15 percent. Approximately 10.3 acres would be graded for the stormwater controls and 8.9 acres graded to reduce solar field site slopes (refer to Figure 4). (GRE 12j)

125. Specific contiguous areas of regrading would be hydro seeded with a tackifier within 72 hours of completion of earth work within the area. The tackifier bonds the seed to the soil to promote growth. The areas would be monitored for stabilization and vegetative growth. (GRE 8, response 79; Tr. 3, pp. 61-62)

126. Remaining grades within the Project limits would be maintained as they are within acceptable construction and solar equipment installation tolerances. (Tr. 1, pp. 58-59)

127. The Project redesign increased the setback from on-site steep slopes (greater than 15 percent) along the perimeter of the site parcel primarily to control the potential for off-site erosion. (GRE 5, response 32)

128. DEEP has not issued any guidance regarding minimum distances of solar arrays to steep slopes. (GRE 5, response 32)

129. Although re-grading of certain areas of the solar field would occur to reduce slopes to less than 15 percent, some remaining slopes would have grades exceeding 15 percent. These areas consist of small isolated areas and would not be graded in order to reduce the amount of overall site disturbance (refer to Figure 5). (GRE 5, response 32)

130. Slopes exceeding 15 percent would be protected by stabilization measures and stormwater controls. (GRE 2, response 28; GRE 5, response 32)

131. Areas of the solar field with slopes greater than 15 percent would have to be considered impervious surfaces for the purpose of calculating stormwater volume, as recommended in the new DEEP Stormwater Program guidance document. (GRE 2, response 28; DEEP comments dated June 17, 2020)

132. Topsoil and the upper layer of organic subsoil removed prior to grading activities would be stockpiled on site for reuse upon completion of earthwork. (GRE 4, response 7; GRE 8, response 79)

133. Project construction would require 25,300 cubic yards of cut and 13,900 cubic yards of fill. Approximately 11,400 cubic yards of excess cut would be removed from the site. (GRE 2, response 21)

134. The initial Project schedule called for Project completion in late 2021. The current schedule is unknown. Construction hours would be Monday through Saturday from 7 AM to 9 PM. (GRE 1b, p. 15; GRE 2, response 11; Tr. 1, p. 44)

Traffic

135. Approximately 96 truck deliveries (max. 12,000 lbs per axle) would be needed for delivery of solar modules and racking to the site. Electrical equipment would require approximately 40 truck deliveries. Heavy equipment trucks would be scheduled during normal business hours. The majority of trucks entering and leaving the site would be during the first three weeks of mobilization. (GRE 1b, App. C)

136. The Town requests that construction vehicles utilize Parkway North and the south portion of Oil Mill Road to access the site. GRE would consult with the Town to develop a specific traffic plan. (Town 2, #10; GRE 3, responses 5 & 10)

137. Oil Mill Road does not currently meet the Town's road standards for truck traffic in regards to road width and condition. (Town 2, #4; Tr. 3, p. 31)

138. GRE anticipates trucks that access the site would meet roadway weight limits. (Tr. 3, pp. 33, 58)

139. GRE intends to consult with the Town regarding any requested improvements to the section of Oil Mill Road that would be used to access the site. (GRE 3, responses 4, 5 & 6; Tr. 3, pp. 15-16)

140. GRE would engineer the access road entrance to ensure it meets sight line and stormwater control guidelines. (GRE 3, response 8)

141. GRE would install signs at the existing elevated logging road wetland crossing to alert construction traffic that it should not be used. (Tr. 3, pp. 78-79)

Facility Operation

142. The project is rated at approximately 15.3 MW AC although the rating may change slightly based on the final interconnection agreement with Eversource. (GRE 1b, App. A Sheet C-3.0; GRE 2 response 12)

143. The anticipated capacity factor for the project during the first year of operation is anticipated to be 22 percent. The average capacity factor over the estimated 35-year life of the project is anticipated to be 20 percent. (GRE 2, response 1; Tr. 1, p. 51)

144. The initial 20-year lease is designed to mirror the 20-year term of the PPA contract and does not represent Project end life. Optional extensions are contained within the lease which would allow the Project to operate for a longer period of time beyond the PPA term. (GRE 4, response 62)

145. The efficiency of the modules would be expected to degrade approximately 0.5 percent per year. (GRE 4, response 65; Tr. 1, p. 51)

146. Solar module manufacturers typically guarantee a power output for a 20 to 25-year period. Although not anticipated, if power output decreases significantly after the module warranty expires, GRE would consider module replacement, as necessary. (Tr. 1, pp. 51, 54)

147. The Project accounted for anticipated solar module power degradation during the term of the PPA. GRE does not anticipate a widespread replacement of solar panels at the site during the term of the PPA. (GRE 4, response 65)

148. A battery storage system is not proposed for this project. (Council Administrative Notice No. 56)

149. The project is not designed to serve as a microgrid. (Council Administrative Notice No. 56)

Operations and Maintenance

150. GRE has provided a post-construction Operations and Maintenance Program (O&M Plan) that includes provisions for both physical site features and structural and electrical components that would occur at certain time intervals. (GRE 1b, App. C)

151. The main topics of the post-construction O&M Plan include, but are not limited to, the following;
- Monitoring System Data;
- General Site Inspection;
- Mechanical System Inspection;
- DC & AC Electrical System Inspection;
- Inverter Inspection;
- Stormwater Management System Inspection; and
- Data Acquisition System Inspection.

(GRE 1b, App. C)

152. A Post-construction Stormwater Control inspection checklist has been developed and includes bi-annual inspections of the following:
- Vegetated Areas;
- Energy Dissipators;
- Diversion Swales;
- Sand Filters;
- Wet Ponds; and
- Infiltration Basins.

(GRE 1b, App. C)

153. Upon completion of the inspections, reports would be developed to summarize the information and noted deficiencies would be photo-documented. Corrective repairs would be implemented if necessary. (GRE 1b, App. C)

154. Modules would be cleaned with water on an as-needed basis to maintain power production. No chemicals would be used. (Council Administrative Notice No. 56)

155. Spare modules would not be stored at the site. (Council Administrative Notice No. 56)

Project Decommissioning

156. GRE provided a decommissioning plan that includes facility infrastructure removal and site restoration provisions, as required by the ground lease. (Council Administrative Notice No. 56; GRE 1b, App. D)

157. The facility owner would be responsible for all costs associated with the recycling, re-using, and/ or disposing of the solar modules. Estimating the disposal/recycling costs of the facility is difficult given the 20-30 year lifespan of the Project and fluctuations of commodity prices. (GRE 4, responses 66 & 68)

158. GRE would remove the facility within 150 days of the projects end life. (GRE 1b, App. D)

159. GRE would notify the Council and the Town of the date of discontinued operations and would provide plans for facility removal. (GRE 1b, App. D)

160. If the facility was damaged by events beyond GRE's control, repairs would be initiated within 30 days. (GRE 1b, App. D)

161. The facility and subsequent site restoration would be conducted in accordance with the landowner's lease terms. Project decommissioning would include the removal of all facility components, such as solar arrays, equipment, inverters, and transformers, structures, and fencing. Below grade foundations may remain in order to minimize erosion and site disturbance. Stormwater features would also be removed. (GRE 1b, App. D; GRE 4, responses 66 & 69)

162. The site would be stabilized and re-vegetated to reduce the potential for erosion. Excavated areas would be backfilled with locally imported soils and re-seeded. If the site is unused, post decommissioning, it would eventually revert to forest. (GRE 1b, App. D; GE 3, responses 3 & 40)

163. GRE has no control over how the landowner would subsequently use the site upon completion of decommissioning and termination of the lease. (GRE 3, responses 3 & 40; GRE 4, response 69)

164. The overhead interconnection would be removed unless the landowner determines it should remain to support future use of the site. (Council Administrative Notice No. 56)

Public Safety

165. The proposed project would comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC) and applicable National Fire Protection Association (NFPA) codes. (Council Administrative Notice No. 56)

166. The project would be designed to comply with the NFPA Fire Code Section 11.12.3 (Ground-Mounted Photovoltaic System Installations), as follows:
    a) A Vegetation Management Plan would be implemented to comply with the "non-combustible base" code provision that must be installed under and around solar arrays. In accordance with the code, vegetation could consist of low cut grass in and around the panels;
    b) Access to the site is sufficient. The Town's emergency vehicles (i.e. brush trucks to carry water) would be able to negotiate the proposed facility access road layout; and
    c) The site design includes clearances in excess of 10 feet between the solar array and perimeter fence.

    (STRSTH Administrative Notice No. 43; Town 3; GRE 1b, App. A, Sheet C-3.x series; Tr. 3, pp. 13-14, 24-29)

167. The Town Fire Marshall would inspect the site periodically to ensure compliance with the Fire Code Section 11.12.3.1 that pertains to site access. (Town 3)

168. The Town would consult with GRE regarding on-site emergency response training and the type of fire suppression media to be used on site electrical components. (Town 3; Tr. 3, pp. 25-29)

169. GRE would provide an as-built plan review and a site walk with local emergency response personnel. GRE would consult with the Town to resolve any site fire/safety issues. (GRE 4, responses 57 & 58)

170. All disconnect switches would be clearly marked for use in an emergency. (GRE 1b, p. 26)

171. The proposed access roads and turnarounds have been designed to provide adequate access for fire and emergency service equipment. (GRE 4, response 57)

172. The project would be remotely monitored and would feature remote shutdown capabilities in the event of a fault or power outage. Manual shut-off switches can also be used to shut down operations. (GRE 1b, p. 26, App. C)

173. If grid power is lost, the facility inverters would shut down. (Council Administrative Notice No. 56)

174. A final structural design would be developed by the selected solar module racking company that would include consideration of wind data typical in the Northeast. All equipment would be appropriately rated and installed to minimize risk/loss due to high wind events. (GRE 4, response 59)

175. The solar modules and racking system would be designed to have sufficient capacity for snow loading. (GRE 1b, p. 10)

176. The proposed project is located in Federal Emergency Management Agency designated Flood Hazard Zone X (Unshaded), an area outside of the 100-year and 500-year flood zones. (GRE 1b, p. 32)

177. The *2004 Stormwater Manual* requires consultations with the DEEP Dam Safety program regarding embankment type impoundments that may qualify as dams. GRE would be willing to consult with the Dam Safety program regarding the proposed Project stormwater basins. (Council Administrative Notice No. 59, *2004 Stormwater Manual*, p. 1-9; Tr. 1, p. 55)

178. The nearest federally-obligated airport is 7.5 miles east of the site in New London. A Federal Aviation Administration (FAA) glare analysis of the facility in not required. (Council Administrative Notice No. 56)

179. The FAA requires a glare analysis for on-airport solar development at federally obligated airports. Federally obligated airports are airports that receive federal funding. The FAA recommends that the design of any solar installation at an airport consider the approach of pilots and ensure pilots will not have to face glare that is straight ahead of them or within 25 degrees of straight ahead during the final approach. (Council Administrative Notice Item Nos. 17-19)

Environmental Effects

Air Quality

180. The proposed project would meet DEEP air quality standards, with no material emissions associated with site operation. The Project does not require an air permit. (GRE 1b, p. 29)

181. During construction of the proposed project, air emissions from construction vehicles would be a temporary impact. (GRE 1b, p. 29)

182. The construction contractor would mitigate fugitive dust generated by construction activities, as necessary. (GRE 1b, App. A Sheet C-1)

Water Quality

183. The proposed project is designed to meet DEEP water quality standards. (Council Administrative Notice No. 95; GRE 1b, p. 37)

184. Water quality impacts from stormwater would be treated in accordance with state regulations and the latest guidance document provided by the DEEP Stormwater Program. (GRE 1b, p. 37)

185. The proposed project is not located within a DEEP-designated Aquifer Protection Area. (Council Administrative Notice No. 56)

186. No construction related impacts to residential private drinking water wells that may be in the area are anticipated given the distance between post driving activities and the nearest residences (over 800 feet to the west). (Council Administrative Notice No. 56; GRE 1b, Figure 8)

187. No on-site wells are proposed. Any necessary water for construction or maintenance activities would be brought to the site by truck. (GRE 1b, p. 36)

188. Spill cleanup kits would be kept in all vehicles and equipment used on-site. (GRE 1b, App. C)

189. GRE is responsible for the remediation of any on- site spills of hazardous materials. (Council Administrative Notice No. 56- Ground Lease)

Stormwater

190. Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. (CGS §22a-430b; DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015; Council Administrative Notice No. 54 – Petition 1312, DEEP Comment Letter, September 21, 2017).

191. The DEEP Individual and General Permits for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater Permit) requires implementation of a Stormwater Pollution Control Plan (SWPCP) to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a project after construction is complete. In its discretion, DEEP could hold a public hearing prior to approving or denying any Stormwater Permit application. (CGS Section 22a-430b; CGS Section 22a-430(b))

192. The SWPCP incorporates project designs consistent with the *2002 Guidelines* and the *2004 Connecticut Stormwater Quality Manual (2004 Stormwater Manual).* (STRSTH Administrative Notice No. 6, p. 24)

193. DEEP has the authority to enforce Project compliance with its Individual or General Permit and the SWPCP. (CGS Section 22a-430b)

194. As of approximately January 6, 2020, the DEEP Stormwater Program issued draft guidance for solar facility developers concerning effective management of runoff during the design, construction and operation of solar facilities. The guidance was incorporated into DEEP's Draft General Permit Revision as draft Appendix I Stormwater Management at Solar Array Construction Projects (Appendix I). (DEEP Comment dated June 17, 2020; GRE1b, pp. 2, 12; STRSTH Administrative Notice No. 7)

195. The draft Appendix I guidance document includes new stormwater measures specific to solar projects, including, but not limited to, (i) considering the orientation of the panels, (ii) the performance of hydrologic soil group field testing, (iii) the proposal of various installations of hydroseed with tackifier over the course of construction, and (iv) the incorporation of a loss of a hydrologic soil group in proposed conditions stormwater modeling. (GRE 8, response 76)

196. The proposed Project would require a DEEP-issued Stormwater Permit prior to commencement of construction. (CGS Section 22a-430b)

197. GRE has been in direct consultation with DEEP Stormwater Program staff to develop a feasible stormwater control design at the site. Direct meetings to discuss the project were held on August 13, 2019, October 9, 2019, and December 17, 2019. At each of these meetings, the Project design was modified to accommodate stormwater management concerns as well as to incorporate designs in accordance with draft Appendix I. (GRE 1b. p. 22; DEEP comments dated June 17, 2020)

198. GRE also provided to DEEP the results of additional project work that was performed, including comprehensive wildlife field surveys, boring pits, hydrologic soil group soil survey, stormwater geotechnical investigations, slope treatments, a hydrologic analysis, plans and calculations. (GRE 1b, p. 22)

199. GRE applied for a DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater GP). (DEEP comments dated June 17, 2020)

200. GRE proposes to install post-construction stormwater management basins throughout the project. The site plans indicate that spillways, energy dissipaters, and level spreaders would be used to slow the velocity of stormwater and avoid point discharge. (DEEP comments dated June 17, 2020)

201. Prior to the Motion to Reopen being filed with the Council, the DEEP Stormwater Program staff requested that GRE consider acquiring more land to increase the distance between the edge of the Project area and adjacent property boundaries in order to decrease the potential of stormwater leaving the site parcel as the initial site design initially had the limit of work adjacent to the southern property boundary and near the northwest property boundary. In December 2019, GRE contacted owners of an abutting parcel to discuss the possibility of acquiring 14 acres to create a larger buffer between lands controlled by the Project and abutting properties; however, the land was not acquired. The project footprint was subsequently modified, reducing site clearing from 98 acres to 75 acres to create larger buffer to adjacent property lines to the south and northwest (refer to Figure 6). (GRE 1b, App. I Aerial overview Figure 2 and Bird Survey Figure; GRE 2, Ex. C; GRE 4, response 54)

202. GRE representatives conducted a site walk with DEEP Stormwater Program staff members on January 27, 2020. The field walk examined the locations of the proposed basins and where the discharges were going. Methods to slow down flows coming off of the site were concerns of DEEP. (GRE 2, response 13)

203. Per DEEP staff recommendations, GRE created a larger buffer between construction areas and property boundaries. (DEEP comments dated June 17, 2020)

204. The Project stormwater analysis included dividing the site into 26 sub-watersheds based on local topography. A system of perimeter swales would direct stormwater to 15 detention basins on the site. The swales and basins were designed to avoid diverting runoff from one sub watershed to another, thus maintaining pre-existing drainage to downslope areas and wetlands. (GRE 1b, App. A Sheet 3.0, App. B, p. 6, Figure 3; Tr. 3, pp. 90-91)

205. The proposed stormwater basins are located in areas where stormwater naturally concentrates based on site topography. Multiple on-site investigations of the basin locations were conducted to review specific site conditions. (GRE 1b, App. B, Sections 2 & 3; GRE 8, response 73)

206. The stormwater calculations considered the proposed gravel roads and concrete pads as impervious surfaces. The solar field was modeled as grass cover. (GRE 1b, App. B, p. 6)

207. The solar panels were not considered impervious for the stormwater calculations. The panels do not have to be considered impervious as long as certain site design conditions that are detailed in draft Appendix I are met. (STRSTH Administrative Notice No. 7; GRE 9, p. 3)

208. One of the draft Appendix I design requirements for solar panels to be considered pervious is the implementation of stormwater control practices on post-construction solar array slopes greater than 5 percent, but less than 10 percent, to ensure long term sheet flow conditions. These practices include, but are not limited to, level spreaders, terraces or berms. The current Project site plans do not include these practices. (GRE 1b, App. A, Sheet C-5.x series; STRSTH Administrative Notice No. 25)

209. GRE performed hydrological soil group field testing and incorporated the soil group data into the stormwater analysis. The stormwater calculations were then performed with the reduction of one hydrologic soil group, from Group B soils to Group C soils, in accordance with draft Appendix I, as a conservative approach to sizing stormwater management basins. (DEEP comments dated June 17, 2020; GRE 1b, App. B, p. 6; GRE 4, response 8; GRE 8, response 77)

210. Stormwater calculations were performed in consultation with the DEEP Stormwater Program for 2, 10, 25, and 100-year storms. (GRE 4, response 9l; GRE 8, response 81; GRE 9, p. 4)

211. The hydrological calculations indicate that the design of the proposed stormwater basins would reduce peak discharge rates below pre-construction levels. (GRE 1b, p. 8, Table 3)

212. Stream channel protection at the discharge point of each permanent stormwater basin was designed by reducing the 2-year, 24-hour post-development peak flow rate to 50 percent of the pre-development flow rate. This reduction would protect stream channels from erosion and associated sedimentation in downstream receiving waters, such as Oil Mill Brook and Stony Brook. (DEEP comments dated June 17, 2020; GRE 1b, App. B, p. 11)

213. Post-construction stormwater falling from the panels would drain across the vegetated solar field areas, infiltrating into the soil. (GRE 4, response 10)

214. Post-construction overland stormwater flows that do not infiltrate would be captured in a system of perimeter swales that would direct stormwater to 15 detention basins on the site. (GRE 1b, App. A Sheets C-3.0 & C-6.2)

215. The basins and associated outfalls are designed to maintain existing drainage patterns and have been located where existing site drainage patterns channelize prior to exiting the parcel limits. (GRE 4, response 33)

216. The post-construction stormwater basins would consist of 7 pond basins, 5 infiltration basins and 3 sand filter basins, designed in accordance with the *2004 Stormwater Manual* and Appendix I (refer to figure 4 for locations). (GRE 1b, App. A, Sheet C-6.2; GRE 4, response 12)

217. The design of each stormwater basin was based upon findings of geotechnical investigations. (GRE 2, response 24)

218. The proposed pond type basins are located where evidence of seasonally high groundwater was discovered. The stormwater analysis used a starting water surface elevation at the expected seasonal high groundwater level to be conservative. (GRE 2, response 23)

219. Infiltration basin stormwater analysis used one-half of the lowest of the tested infiltrated rates in the hydrologic model in accordance with the *2004 Stormwater Manual*. (GRE 2, response 23)

220. As part of the phasing plan, the stormwater basins would be constructed prior to mass earthwork activities. The basins would be used as temporary sediment traps during construction as a primary sediment treatment practice. Upon completion of construction, the basins would be cleaned of sediment for post-construction use as stormwater basins. (GRE 1b, App. A, Sheet C-5.0; GRE 4, response 37; GRE 8, response 99)

221. The use of stormwater basins as sediment traps is an accepted practice in the *2002 Guidelines* and the *2004 Stormwater Manual* with the exception of infiltration basins and sand filters where the filtering media could become overloaded with sediment, affecting its post-construction performance. The *2004 Stormwater Manual* recommends constructing infiltration practices (basins) near the end of the construction sequence. (Council Administrative Notice Items No. 58 and 59 - *2002 Guidelines*, p. 5-9-2; *2004 Stormwater Manual*, p. 3-7, p. 11-P-3-9, p.11-P-4-10)

222. DEEP indicated that basins designed as infiltration basins should not be used as temporary sediment basins during construction, and should be constructed at or near the end of site development. Additionally, prior to grading, infiltration areas should be roped off or flagged to avoid soil compaction. (DEEP comments dated June 17, 2020)

223. GRE initially intended to use the constructed infiltration basins as temporary sediment traps, followed by cleaning of the basins to convert them to post-construction infiltration basins. (GRE 4, response 15)

224. GRE, upon further consultation with DEEP, would include temporary sediment traps upstream of the proposed infiltration basins to avoid basin compaction during site construction. After construction is complete, the temporary sediment traps would remain to function as oversized pretreatment basins for the infiltration basins. (GRE 12- CT DEEP Comments, 12b Sheet C-4.x series)

225. The proposed sediment traps/basins have been sized in accordance with the *2002 Guidelines*, providing appropriate storage volume to retain storm runoff volume and providing wet storage of accumulated sediment. (GRE 8, response 102)

226. During construction, GRE would install an *ERTEC E-Fence20* system downstream of the proposed sediment trap outfalls that would allow water to filter through the fence at the outfall location and into an area where existing drainage patterns presently channelize. This type of fencing is designed to prevent diversion and rechannelization of outfall flows that could occur if standard geo-textile silt fence was used. (GRE 4, response 33)

227. GRE would perform inspections of the construction erosion and sedimentation controls and stormwater features at least once per week and after 0.5-inch or greater rain events, as follows;
- Silt fencing, compost filer sox, wood chip mulch berm;
- Straw wattles;
- Vegetated slope stabilization;
- Energy dissipaters;
- Sediment traps/basins/diversion swales;
- E-fence (installed at sediment basin outfall); and
- Construction exit gravel pad.

(GRE 5, response 47)

228. GRE would comply with all inspection requirements established within the SWPCP which include, but are not limited to, inspections by the Project engineer of record and weekly inspections performed by a qualified third-party inspector, as approved by DEEP. GRE is willing to copy the Town on all such weekly inspection reports. (GRE 3, response 22; GRE 4, response 51)

229. The SWPCP requires a report that documents compliance with the plan, and any remedial actions taken to bring the site into compliance if corrective actions were necessary. (STRSTH Administrative Notice No. 6, pp. 33-34)

230. Post-construction inspections protocols of stormwater management would be specified within the SWPCP. (GRE 4, response 35)

231. Once the site has been stabilized, a site inspection would be conducted at least once a month for three months. (GRE 5, response 47)

232. Post-construction water quality treatment would be provided by the stormwater detention basins and the undisturbed vegetated buffers that would remain between the stormwater detention basins and on-site wetlands. (Council Administrative Notice No. 59- *2004 Stormwater Manual*, pp. 3-5, 4-3 – 4-4; GRE 1b, App. B , p. 6)

233. On-site wetlands would not be used for water quality treatment. (GRE 4, response 11)

234. An undisturbed vegetative buffer between a developed area and a wetland resource can filter pollutants and protect water quality from stormwater runoff. (Council Administrative Notice No. 59 - *2004 Stormwater Manual*, pp. 4-3 – 4-4)

235. Generally, a minimum 100-foot undisturbed upland buffer along a wetland boundary or on either side of a watercourse should be maintained to promote water quality. Establishment of buffers should also consider slopes and the sensitivity of wetland/watercourse resources. (Council Administrative Notice No. 59 - *2004 Stormwater Manual*, pp. 4-3 – 4-4)

236. The proposed stormwater detention basins would be located a minimum of 100 feet from delineated on-site wetlands. (GRE 1b, App. A Sheet 3.0)

237. Each stormwater basin would have an energy dissipater to reduce the discharge flow velocity and spread the runoff from storm events. (GRE 1b, App. B, p. 11)

238. DEEP recommends that measures be installed to reduce the velocity and volume of water coming off of the site ridgelines. GRE revised the site erosion and sedimentation controls to include stone check dams down slope of the stormwater detention basin outfall structures. The stone check dams would be located in natural drainage ways and would be constructed without the use of machinery to reduce the potential for slope erosion. All check dams would be installed on the site property. (DEEP comments dated June 17, 2020; GRE 12a)

239. DEEP recommends that re-vegetating areas outside of the solar project limits that were cleared during the timber harvest and performing site inspections along the ridgeline during and after large rain events to determine if erosive features were forming, and if so, perform corrective action. (DEEP comments dated June 17, 2020).

Wetlands and Watercourses

240. The Inland Wetlands and Watercourses Act (IWWA), CGS §22a-36, *et seq.*, contains a specific legislative finding that the inland wetlands and watercourses of the state are an indispensable and irreplaceable but fragile natural resource with which the citizens of the state have been endowed, and the preservation and protection of the wetlands and watercourses from random, unnecessary, undesirable and unregulated uses, disturbance or destruction is in the public interest and is essential to the health, welfare and safety of the citizens of the state. (CGS §22a-36, et seq.)

241. The IWWA grants regulatory agencies with the authority to regulate upland review areas in its discretion if it finds such regulations necessary to protect wetlands or watercourses from activity that will likely affect those areas. (CGS §22a-42a)

242. The IWWA forbids regulatory agencies from issuing a permit for a regulated activity unless it finds on the basis of the record that a feasible and prudent alternative does not exist. (CGS §22a-41)

243. On-site wetlands were delineated in December of 2017 by Registered Soil Scientists. Survey work was conducted in accordance to the requirements of the CT Inland Wetlands and Watercourses Act (P.A. 155). (GRE 1b, App. H, p. 1, Appendix 2)

244. Two wetlands were delineated at the site, denoted as Wetland 1 and Wetland 2 (refer to Figure 7). The on-site wetland areas are primarily forested, except those portions that occur within the existing electric transmission line ROW on the property shrub scrub vegetation occurs. (GRE 1b, App. H, p. 1, Fig. 3; GRE 1b App. I, Memo p. 2)

245. Wetland 1 is located at the head of a small tributary of Oil Mill Brook in the northwest section of the property and is part of a large wetland complex that extends off-site to the west. The main portion of the wetland is 11.56 acres. Two isolated sections of Wetland 1, totaling 1.39 acres, are located along the northwestern property line, adjacent to Oil Mill Brook, and do not connect on-site to the larger portion of Wetland 1. (Council Administrative Notice Item No. 56- Petition p. 6; GRE 1b, App. H, p. 2, Fig. 3)

246. Wetland 2 is located on a steep rocky slope near the east property line and is approximately 0.14 acres is size. It drains to the east down a steep embankment into a broad wetland valley that borders Stony Brook. (Council Administrative Notice Item No. 56- Petition p. 6; GRE 1b, App. H, p. 2, Fig. 3)

247. Both wetlands are classified as hillside groundwater slope wetlands where groundwater discharges to the surface as springs and seeps. A key feature of these wetlands, from a water quality perspective, are bedrock and boulder outcroppings where cold well-oxygenated groundwater discharges from fractured bedrock and glacial till. (GRE 1b, App. H, p. 2)

248. Wetland 1 contained a perennial watercourse that is a tributary to Oil Mill Brook. No other watercourses, intermittent or perennial that meet state criteria, were identified on-site. (GRE 1b, App. H, p. 2, App. 2)

249. No wetlands or watercourses would be directly impacted by the proposed project. No clearing would occur in wetlands or watercourses. (GRE 1b, App. A, Sheet C-3.0)

250. The Project has been designed to maintain a 100-foot buffer between the limit of work and on-site wetlands/watercourses with the exception of improvements to the existing dirt and logging roads to access the interior of the site. Access road improvements would occur along the edge of the 100-foot wetland buffer by Oil Mill Road, and along the edge of the wetland buffer north of the existing elevated logging road wetland crossing. (GRE 1b, App. A, Sheet C-3.0; GRE 12b, Sheet C-3.2)

251. The 2018 Wetland and Biological Assessment report prepared for the Project recommended the inclusion of a 200-foot buffer from solar panels to on-site wetlands/watercourses to minimize any secondary impacts to these resources. (GRE 1b, App. H, p. 9)

252. GRE revised the site plan on July 28, 2020 to include a 200-foot buffer from the solar panels to on-site wetlands/watercourses. The modification included the removal of approximately 300 panels from the Project area, mostly between Stormwater Basins #5 and #6 in the eastern portion of the site, and between Stormwater Basins #12 and #13 in the western portion of the site. (GRE 5, response 43)

253. Although the Project size would be reduced by approximately 300 panels, there would be no change in the AC output of the site. Small losses in energy production at the panel level would most likely be compensated for through continual advances in panel technology by the time of installation. (GRE 5, response 43; Tr. 4, p. 93)

Vernal Pools

254. Vernal pools (VP) can be classified as either cryptic vernal pools, located within a depression or impoundment within larger wetland system, or as classic vernal pools, natural depressions in a wooded upland with no hydrologic connection to other wetland systems. (GRE 1b, App. H, p. 6)

255. Vernal pool habitats include a vernal pool envelope (VPE), which extends from the VP edge to a distance of 100 feet, and Critical Terrestrial Habitat (CTH) which extends from 100 feet to 750 from the VP edge. Both the VPE and CTH protect the water quality of the pools for VP obligate species. (Council Administrative Notice No. 105, pp. 1-2, 5)

256. Three cryptic vernal pools were identified on the site property. VP 1 and VP 2 are located in the northwest corner of the property and within the isolated portions of Wetland 1. VP 3 is located in the northern extent of Wetland 1, adjacent to the existing elevated logging road crossing. It may have been formed by ponding related to the construction of the crossing. (GRE 1b, App. H, pp. 6-7, Fig 3)

257. Although all three VPs are small, shallow and have limited hydroperiods, site observations identified two vernal pool indicator species, the wood frog and the spotted salamander breeding within all three VPs. (GRE 1b, App. H, p. 6)

258. Spotted salamander and wood frog are common species that are not listed as state endangered, threatened, and special concern species. (Council Administrative Notice No. 67)

259. The remaining forested upland portion of the site property did not contain any vernal pools. (GRE 1b, App. H, p. 6)

260. Proposed Project improvements to the existing access and logging roads would occur within the VPEs of VP-1 and VP-3, and the CTH of all three VPs. Road improvements would include resurfacing with gravel and the installation of an underground electric interconnection cable. (GRE 1b, App. A, Sheet C-3.0; GRE 12b, Sheet C-3.2, 12c; Tr. 1, pp. 24-25)

261. The proposed solar array would be constructed within part of the CTH of VP-3. (GRE 12c)

262. The area of pre-construction and post-construction development within the VPEs and CTHs of the three on-site vernal pools is presented below:

Vernal Pool Designation	Pre-construction %VPE developed	Post-construction % VPE developed	Pre-construction %CTH developed	Post-construction % CTH developed
VP1	8.9	8.9	15.7	15.7
VP2	0.0	0.0	20.0	20.0
VP3	12.9	12.9	4.9	24.9

(GRE 12c)

263. Post-project development within each CTH would be less than 25 percent, consistent with the United States Army Corps of Engineers Vernal Pool Best Management Practices. (Council Administrative Notice No. 105)

264. The existing logging road west of VP-3 is within the outer edge of the VPE and within 80 feet of the associated wetland buffer. GRE intends to use this logging road as a project access route to avoid the elevated crossing. It is not feasible to relocate the proposed Project access road to the west to avoid the VPE due to the presence of ledge that would require significant land disturbance. The proposed access road would follow the route of the existing logging road in this area to reduce disturbance. (GRE 12b, Sheet C-3.2; Tr. 3, pp. 77-78)

265. Proposed stormwater basins 1 and 16 are within 500 feet of VP-3. Both of these basins are proposed as pond type basins where water would be retained during the wet season (March-June) Although both basins are at a higher elevation than VP-3, thus less desirable for VP obligate species, they could act as decoy breeding pools. (GRE 5, responses 41 & 42)

266. To reduce the potential for stormwater basins 1 and 16 from acting as decoy breeding pools, GRE would install a wildlife exclusion fence around the basins and monitor each basin for a period of three years to determine the effectiveness of the exclusionary fencing. Monitoring reports would be submitted to the Council. (GRE 12c; Tr. 3, pp. 66-68)

Visibility

267. The Project is set back from Oil Mill Road by 0.25 mile. It would be screened from much of the surrounding area due to existing development, topography, and intervening vegetation. (GRE 7, response 1; GRE 12b, Sheet C-3.0)

268. The Project may be visible from abutting properties to the northwest and some other areas due to its high elevation. Site clearing would occur along an approximate 600-foot long portion the northeast property line and within 5 to 15 feet of the western property line for approximately 250 feet. The remaining project clearing limits would maintain a minimum 30-foot property line setback. (Town 1, p. 1; GRE 12b, Sheet C-3.x series; Tr. 3, pp. 11-12

269. GRE intends to incorporate landscaping as necessary during the final design phase. (GRE 7, response 1)

270. The Project would not be visible from the residences to the north and west. (Council Administrative Notice No. 56 – Council interrogatory response 14)

Noise

271. The proposed inverters/transformers are the main source of noise for the Project. The north property boundary is approximately 100 feet from the nearest inverter/transformer and 230 feet from the nearest residence on Oil Mill Road. (GRE 1b, p. 28)

272. The proposed facility would be in compliance with DEEP Noise Control Standards because the maximum worst-case noise level at any nearby residences would be 35 dBA or lower, which is below the lowest DEEP Noise Control Limit of 45 dBA for any commercial or residential receptor. (GRE 1b, pp. 28-29)

273. Construction noise is exempt from DEEP Noise Control Standards. (RCSA §22a-69-108(g))

Historic and Recreational Resources

274. The Project is located in an area with recorded Native American and colonial sites. Many historic and prehistoric sites have been documented in the area, primarily to the west. (GRE 1b, App. G, p. 5, Figure 10)

275. No historic or archeological sites listed on the National Register of Historic Places occur on the site property. (SHPO comments dated March 3, 2020)

276. The review of historic maps, aerial images, land deeds, and a pedestrian survey indicate that 87.6 acres of the property possess a no/low archaeological sensitivity and no further investigation of these areas was recommended. (GRE 1b, App. G, p. 25)

277. Approximately 24.9 acres of the property were classified with a moderate/high archaeological sensitivity and a Phase IB survey of these areas was conducted. (GRE 1b, App. G, p. 25)

278. The subsequent Phase IB field evaluations of identified moderate/high archaeological sensitivity areas found no evidence of archaeological significance. The SHPO concurred with the Phase 1B findings. (GRE 4, response 55- attached Phase 1B Cultural Assessment Report)

279. Construction of the solar facility would have no impact on buried archaeological resources on the project parcel. (GRE 4, response 55- attached Phase 1B Cultural Assessment Report pp. 28-29, Exhibit C)

280. Stone groupings identified in the Phase IB as of unknown origin or function but lacking in associated archeological artifacts were actually piled on the site by the landowners' family. (GRE 4, response 55- attached Phase 1B Cultural Assessment Report pp. 28-29; GRE 8, response 97)

281. No public parks or other publicly accessible recreation resources are located adjacent to the site. (Council Administrative Notice No. 56)

Geology

282. On-site subsurface conditions consist of a forest detritus layer underlain by glacial till over bedrock. The glacial till consists of brown, medium dense to very dense silty sand, with gravel, and occasional to frequent cobbles and boulders. Granitic gneiss composes the bedrock layer. (GRE 1b, App. B - Terracon report)

283. Infiltration tests performed onsite in 13 locations in 2018 and 2019 determined glacial till layers generally extends to a depth of 5 to 15 feet. Bedrock was encountered in test boring locations at depths of 2 to 20 feet. (GRE 1b , App. B -Terracon report; GRE 1b, App. J)

284. The presence of cobbles/boulders and bedrock would lead to pile driving refusals for racking posts across the site. In areas of driven pile refusal, pile locations could be pre-drilled to above their design depth to remove potential obstructions in the upper portions of the native soils, then backfilled prior to pile driving. Cement grout could be used around the racking piles to provide additional stability. (GRE 1b, App. J, summary, p. 6)

285. The site soils are frost susceptible and can exert a heaving force on the driven piles. The pile lengths would need to be of sufficient length to counteract potential heave forces in the seasonal frost zone. (GRE 1b, App. J, p. 6)

286. Native silty sand material removed during grading activities can be reused on the site as long as it is mixed with imported granular material to meet reuse requirements. Cobbles and boulders should be removed from the stockpiled materials prior to reuse. (GRE 1b, App. J, pp. 9-10)

287. Groundwater was encountered at depths of 0.0 feet to 13.0 feet in 5 of 8 test borings conducted in 2018. (GRE 1b, App. J, p. 4)

288. GRE subsequently performed in-situ permeability testing at 13 locations throughout the site in 2019. Groundwater was encountered in two locations in the northwest portion of the site, at depths of 0.5 feet and 1.0 feet. The remaining 11 locations encountered no groundwater. (GRE 1b, App. B - Terracon report pp. 1-3)

289. Fluctuations in site groundwater levels may occur because of seasonal variations in the amount of rainfall, runoff, and other factors. Additionally, grade adjustments on and around the site, as well as surrounding drainage improvements, may affect groundwater levels. GRE 1b, App. B -Terracon report, pp. 1-3)

290. Groundwater at the site is classified as GA - suitable for drinking without treatment and as baseflow for hydraulically-connected surface waterbodies. The site is not within an area of contribution to a public water supply well. (GRE 1b, App. B, Water Quality Classification map)

Wildlife

291. GRE performed a biological assessment of the site in the Spring of 2018. Although the assessment was primarily habitat based, the assessment included field surveys for reptiles and amphibians, and bird observations. At the time of the assessment, the project site was not within a DEEP NDDB area. (GRE 1b, App. H, pp. 4-9)

292. The 2018 assessment identified the eastern ribbon snake, a state species of special concern, occurring within the Eversource ROW in the western portion of the site. GRE subsequently reported this finding to the DEEP Wildlife Division. (Council Administrative Notice No. 56, Council interrogatory response 46; GRE 1b, App. H, p. 12)

293. In June 2019, GRE submitted a DEEP NDDB review request for the modified project. The June 2019 NDDB map for New London County depicts an NDDB polygon along Oil Mill Brook in the northwestern part of the Project parcel. (GRE 1b, App. I- NDDB review request form)

294. On July 5, 2019, DEEP issued a preliminary NDDB assessment to GRE, identifying 8 state listed species known to occur within or close to the boundaries of the site property. (GRE 1b, App. I- DEEP letter dated July 5, 2019)

295. GRE performed a comprehensive wildlife survey for these species in May, June, August, and October 2019. (GRE 1b, App. I- Memo dated October 2, 2019)

296. The comprehensive on-site wildlife survey results for the NDDB listed species are summarized in the table below.

Scientific Name	Common Name	Suitable Habitat Present	Detected During 2019
Aristida longespica var. geniculata	Needlegrass	Yes	No
Isotria medeoloides	Small Whorled Pogonia	Yes	No
Polygala nuttallii	Nuttall's Milkwort	Yes	No
Clemmys gutatta	Spotted Turtle	Secondary habitat only	No
Opheodrys vernalis	Smooth Green Snake	Yes	No
Terrapene carolina carolina	Eastern Box Turtle	Yes	No
Thamnophis sauritus	Eastern Ribbon Snake*	Yes	No
Caprimulgus vociferus	Whip-poor-will	Yes	No

*Eastern ribbon snake found during 2018 site survey.

(GRE 1b, App. I- Memo dated October 2, 2019)

297. As part of the on-site plant surveys, GRE identified over 300 plants occurring on the site. One plant initially identified on-site (Virginia copperleaf) and listed in the NDDB, was determined not to be correctly identified, and thus, it does not occur on the site. (GRE 1b, App. I, Memo dated October 2, 2019, p. 4; DEEP comments dated June 17, 2020)

298. Bird surveys, conducted in consultation with DEEP, began in May and June and identified approximately 42 different species on-site. After the preliminary NDDB assessment was issued to GRE in July 5, 2019, GRE shifted the focus of the bird studies to the state listed whip-poor-will. (GRE 1b, App. I, Memo dated October 2, 2019, p. 5;GRE 4, response 26)

299. The 2018 Wetland and Biological Assessment report prepared for the Project recommended that site clearing occur between October 15th and March 1st, to prevent impacts to wildlife. GRE would adhere to this recommended site clearing time frame if it was within the Project construction schedule. If the site clearing restriction impedes the construction schedule, GRE would provide an alternative method of site clearing that would be protective of the wildlife. (GRE 1b, App. H, p. 10; GRE 12k)

300. According to the U.S. Fish and Wildlife Service (USFWS), the project site may provide habitat for the northern long-eared bat (NLEB), a federally listed threatened species and state endangered species. (GRE 1b, App. I, Memo dated October 2, 2019, p. 1)

301. GRE did not conduct any NLEB studies because the DEEP NDDB review process did not identify this species as occurring within the NDDB review area for this Project. (GRE 1b, App. I; DEEP comments dated June 17, 2020; Tr. 1, pp. 32-33, 133-135)

302. The Project is not near any known NLEB maternity roost trees or known NLEB hibernaculum. (Council Administrative Notice Item No. 67 – DEEP Endangered, Threatened and Special Concern Species 2015)

303. Restricting tree clearing to the period from October 15 through March 1 would also be partially protective for any bat species that might be roosting at the site. (STRSTH 6, p. 16)

Eastern Ribbon Snake

304. The state-listed eastern ribbon snake inhabits a variety of shallow water aquatic habitats, favoring open grassy or shrubby areas bordering streams and wooded swamps. Non-wetland habitats adjacent to wetlands also provide suitable habitat. The Eversource ROW is likely the favored habitat for this species on the site. (GRE 1b, App. H, pp. 5, 11)

305. The ribbon snake can also be found up to several hundred feet away from water-based habitats in early Spring and after mid-December. It uses rocky areas near water and in uplands for winter hibernacula. (STRSTH 6, p. 16)

306. DEEP's February 22, 2020, NDDB Determination Letter to GRE included eastern ribbon snake protection measures which include, but are not limited to:

a) Limits of work restrictions including a 100-foot no disturbance buffer to wetlands and limited disturbance in an area 100 feet to 200 feet from wetlands;
b) If work, traffic, or staging occurs within 300 feet of Wetland 1 during the snakes active season (between April 1- Oct 15), additional measures should be performed including contractor training, removal of sedimentation barriers after site stabilization; and report of any snakes observed to the NDDB program.

(GRE 2, response 30- DEEP letter dated February 28, 2020)

Fisheries

307. No state-listed fish or aquatic species were identified by the NDDB as occurring on or in the area of the site. (GRE 1b, App. I- DEEP letter dated July 5, 2019; GRE 4, response 41)

308. DEEP Fisheries Biologists review permit applications submitted to DEEP regulatory programs to determine whether projects might adversely affect listed species. DEEP Fisheries Biologists are routinely involved in pre-application consultations with regulatory staff and applicants in order to identify potential fisheries issues, and to work with applicants to mitigate negative effects, including those to listed species. (STRSTH Administrative Notice No. 29- DEEP NDDB letter dated February 28, 2020)

309. The Project site is located between two brooks identified by DEEP as coldwater stream habitats - Stony Brook to the east of the Project site and Oil Mill Brook to the west of the Project site. (STRSTH Administrative Notice No. 41)

310. The northwest corner of the site property contains a segment of Oil Mill Brook. On-site wetlands drain directly to both Oil Mill Brook and Stony Brook. Both streams are tributary to the Niantic River, a tidal waterway draining to Long Island Sound (refer to Figure 8). (GRE1b, App. H, p. 9; SRTSTH 7, App. B)

311. Stony Brook and Oil Mill Brook are classified as Class A waters, providing fish and wildlife habitat. (STRSTH 6, p. 6)

312. Class A streams and brooks as well as their tributary watercourses and wetlands are high quality resources that warrant a high degree of protection. (Council Administrative Notice No. 59- *2004 Stormwater Manual*, p. 8-6)

313. The project site is located in the Niantic River watershed and is located approximately 4,000 feet from the Niantic River Estuary. (STRSTH 6, p. 11)

314. DEEP has listed the Niantic River Estuary as "impaired" due to poor and deteriorating water quality. One of the biggest sources of pollution in the river is from runoff flowing directly into the river as well as from the tributaries in the supporting watershed. DEEP intends to implement an action plan to improve water quality within the watershed. (STRSTH 6, pp. 11-12)

315. The site and adjacent areas contain unnamed intermittent streams that feed directly into Stony Brook Oil Mill Brook and the Niantic River. (STRSTH 6, p. 11)

316. Both Stony Brook and Oil Mill Brook contain populations of wild brook trout. Trout streams contain cold well-oxygenated high-quality waters, with temperatures not exceeding the upper 60s Fahrenheit. (GRE1b, App. H, p. 9)

317. Cold water trout streams are also susceptible to impacts from sedimentation as trout need a gravel stream bed to successfully spawn. (STRSTH 6, p. 12)

318. Sedimentation could also negatively impact eelgrass within the Niantic River estuary. Eelgrass provides habitat for many species and can support a scallop fishery in this area. (STRSTH 6, p. 13)

319. According to the *2004 Stormwater Manual*, stormwater treatment practices should be designed not only for site specific conditions, but also to the downstream resources that could be impacted by stormwater discharges from the site. Sensitive cold water fisheries could be adversely impacted by stormwater runoff with elevated temperatures. (Council Administrative Notice No. 59- *2004 Stormwater Manual*, p. 8-6)

320. The stormwater basins are approximately 800 feet from Oil Mill Brook and Stony Brook. (GRE 4, response 2)

321. Stormwater at the site would first fall off the solar panels and travel/infiltrate across the solar field vegetated surfaces. Water that does not infiltrate would enter stormwater swales and basins. Any discharge from the basins would occur a minimum 100 feet from wetlands. (GRE 4, response 2)

322. Undisturbed vegetative buffers provide protection to stream resources by filtering pollutants in runoff and protecting water quality and temperature. As a general rule, 100 feet of undisturbed upland along a wetland boundary or on either side of a watercourse is recommended as a minimum buffer width depending on the slope and sensitivity of the wetland or watercourse. (Council Administrative Notice No. 59, *2004 Stormwater Manual*, p. 4-3)

323. The Project proposes to use 7 wet pond type stormwater detention basins that may retain water during the wet season (March – June). Wet pond detention basins may cause thermal impacts to receiving waters, and thus, should not discharge directly to cold water fish habitats. Of the 7 wet pond basins, 2 have the discharge level spreaders a minimum 100 feet from wetlands, 4 have discharge points between 100-200 feet from wetlands. The remaining wet pond basin discharge point is greater than 200 feet from a wetland. (GRE 1b, App. A, Sheet C-6.2; GRE 4, response 12a, Sheet C-4.0)

Agriculture

324. The statutory mission of the Governor's Council for Agricultural Development (GCAD) is to develop a statewide plan for Connecticut agriculture. In 2012, GCAD recommended DOAg create an agriculture-friendly energy policy that include, but are not limited to, on-farm energy production to reduce costs and supplement farm income, agricultural net metering for power production and transmission, and qualification of agricultural anaerobic digestion projects for zero-emissions renewable energy credits (ZRECs). (Council Administrative Notice Item No. 54 – Council Petition 1312, Finding of Fact #227)

325. Agriculture in Connecticut is likely to be adversely impacted by climate change. It is most affected by changes in temperature and both the abundance and lack of precipitation. The top five most imperiled agricultural products are maple syrup, dairy, warm weather produce, shellfish and apple and pear production, but there are opportunities for production expansion with the future climate, including, but not limited to, biofuel crops, witch hazel and grapes. (Council Administrative Notice Item No. 79 – Climate Change Preparedness Plan)

326. Adaptation strategies for climate change impacts to agriculture include promotion of policies to reduce energy use, conserve water and encourage sustainability. (Council Administrative Notice Item No. 79 – Climate Change Preparedness Plan)

327. Public Act 490 is Connecticut's Land Use Value Assessment Law for Farm Land, Forest Land and Open Space Land that allows land to be assessed at its use value rather than its fair market or highest and best use value for purposes of local property taxation. The parcel is classified as woodland forest; however, the construction of the proposed Project would cause that classification to be changed. (Council Administrative Notice 56 – Response to Council interrogatory 11)

328. The proposed project would not qualify under Connecticut's Agricultural Virtual Net Metering Program because an agricultural virtual net metering facility is defined under CGS §16-244u(a)(7)(B) as having a nameplate capacity rating of 3 MW or less. (CGS §16-244u(a)(7)(B)

329. The property does not contain any prime farmland soils. (GRE 1b, p. 24)

330. The property was recently subject to a timbering operation. Timbering is defined as an agricultural activity. (GRE 1b, p. 9; GRE 4, response 53; CGS §1-1(q))

331. GRE does not intend to use the project area as pasture for livestock. (GRE 6, response 36)

332. GRE is willing to establish pollinator friendly habitat in the solar field area. GRE is consulting with DOAg, American Solar Grazing Association, UMASS Clean Energy Extension, and a Professor of Ecology and Evolutionary Biology at the University of Connecticut, to develop the best vegetation and management practices for the site to promote wildlife habitat, allow for safe operation of the project and to prevent erosion. (GRE 2, response 10; GRE 6, response 37)

Forest and Parks

333. No state parks or forests are located adjacent to the site. (Council Administrative Notice No. 56)

334. The existing forest on the property is part of an approximately 750-acre contiguous forest block composed of numerous private properties zoned for industrial and residential development. The forest block is generally located between I-395, I-95, Route 85 and Cross Road. (GRE 1b, App. H, pp. 10-11)

335. Contiguous forest blocks have been categorized by the UCONN Center for Land Use Education and Research (CLEAR) into three classes of core forest, as follows: small core forest consists of those forest patches that are smaller than 250 acres, medium core forest patches are between 250 and 500 acres, and large core forest patches are greater than 500 acres. Using CLEAR criteria the existing 750-acre contiguous forest block is classified as a large core forest, providing enough suitable habitat to support a greater diversity of interior forest bird species when compared to smaller forest blocks. (Council Administrative Notice No. 56)

336. Development of the Project would result in the fragmentation of the 750-acre forest block into smaller core forest blocks, located primarily on adjacent private property. A small core forest block would remain to the southwest of the Project area. A medium sized core forest block would remain to the east and northeast of the Project area, offering enough habitat to support interior forest bird species. (GRE 1b, App. H, pp. 10-11)

337. Forest fragmentation could lead to increased forest edge effects, such as changes to topography, light regimes, hydrology, substrates, and the introduction and proliferation of nonnative invasive species. In addition, wildlife passage corridors could be diminished. (STRSTH 6, p. 18)

Neighborhood Concerns

338. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a remote public comment hearing session on July 14, 2020 at 6:30 p.m. via Zoom conferencing. (Record; Tr. 2, p. 1)

339. Of the approximately 7 oral and written limited appearance statements in favor of the proposed facility, concerns include, but are not limited to, the following:

- Carbon neutral economy;
- Utility scale clean energy generation;
- Farming the sun;
- Zero carbon emissions;
- Adequate project review;
- Land reuse, and
- Greenskies support.

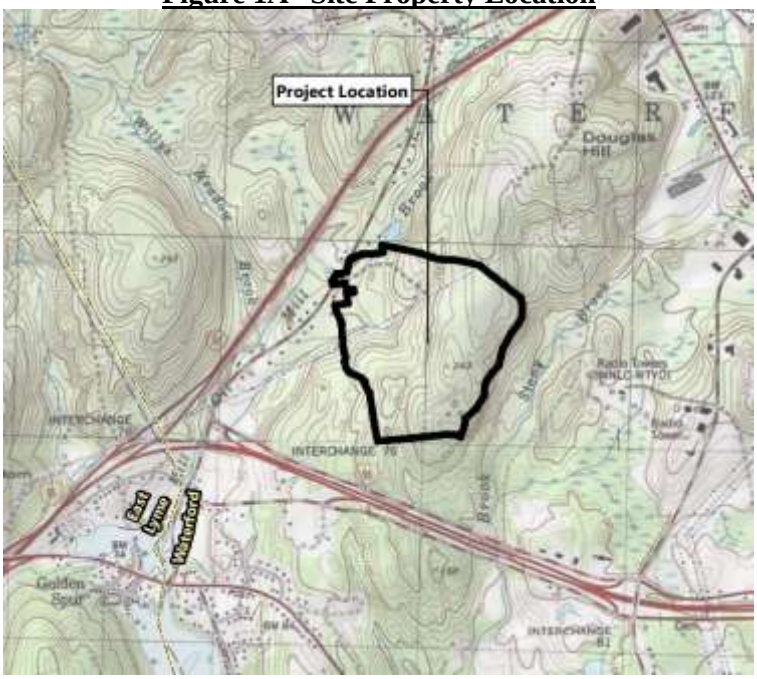
(Record; Tr. 2, pp. 9-30)

340. Of the approximately 13 oral and written limited appearance statements in opposition to the proposed facility, concerns include, but are not limited to, the following;

- Site deforestation;
- Impacts from stormwater runoff;
- Impacts from increased nitrogen in the watershed;
- Leaching of hazardous waste from the panels;
- Fire hazards;
- Impacts to existing coldwater fisheries;
- Impacts to the Niantic Bay watershed;
- Water quality concerns;
- Impacts of sediment on eelgrass;
- Increase in off-site flooding; and
- Site use incompatible with town zoning.

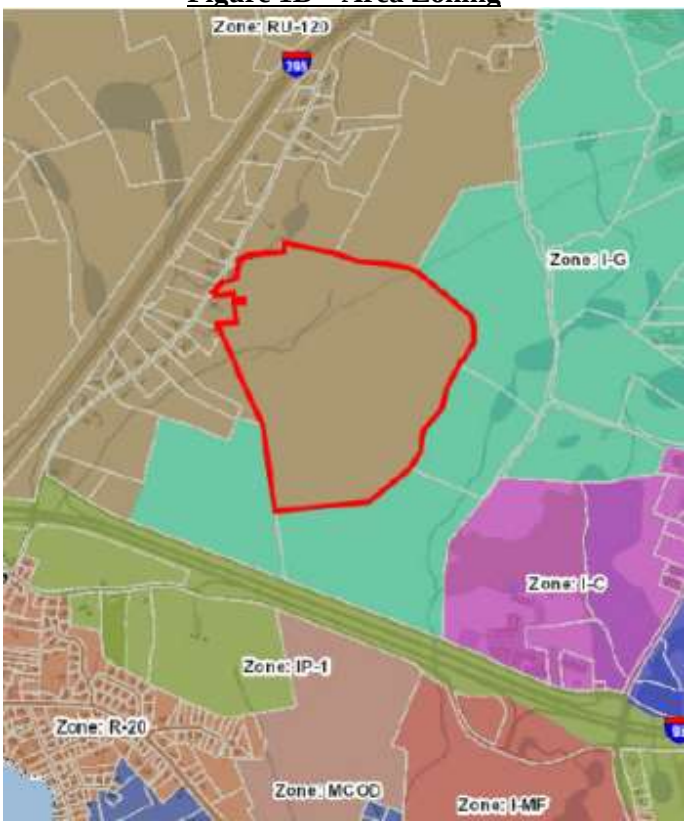
(Record; Tr. 2, pp. 9-30)

Figure 1A –Site Property Location



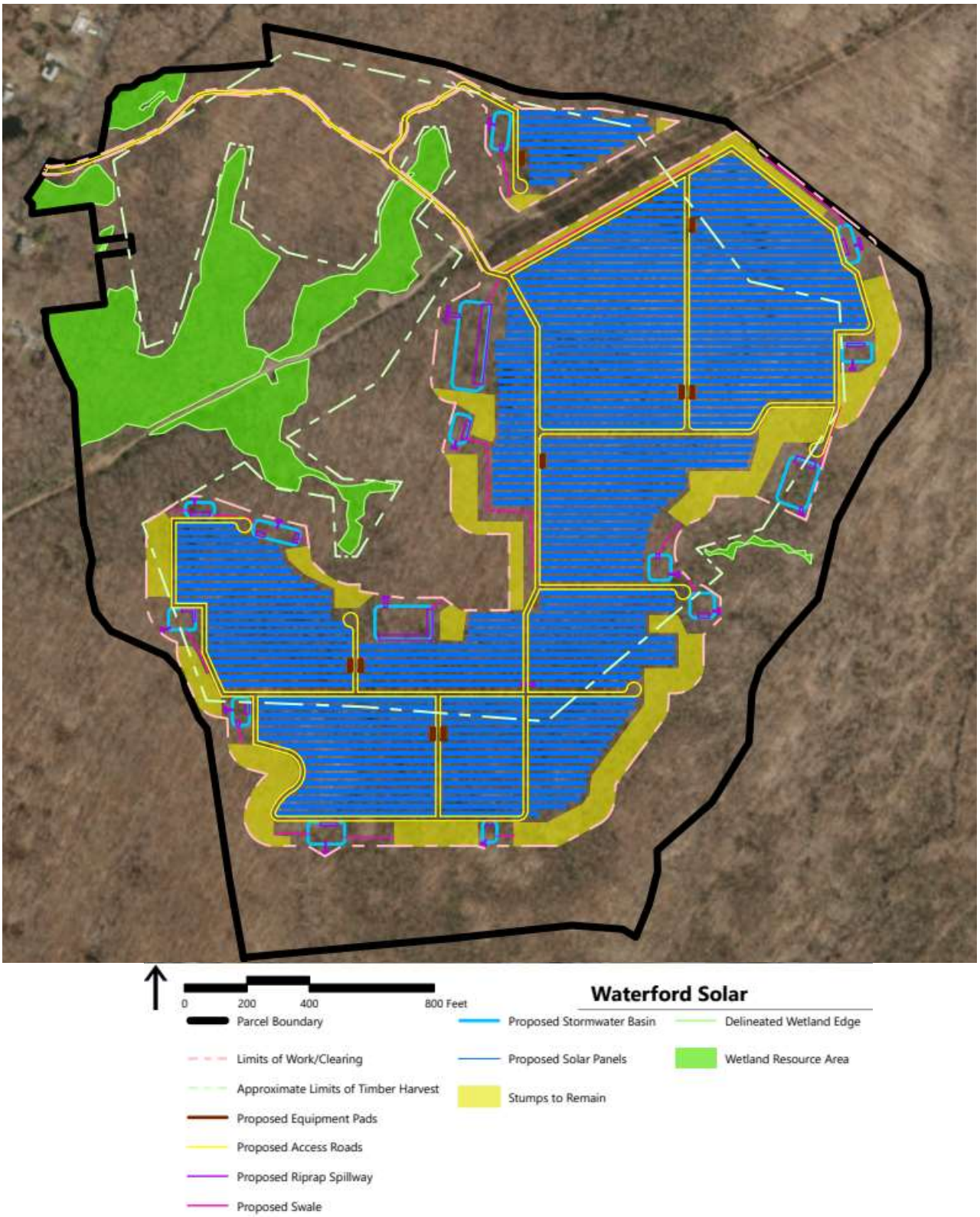
(GRE 1b Fig. 1)

Figure 1B – Area Zoning



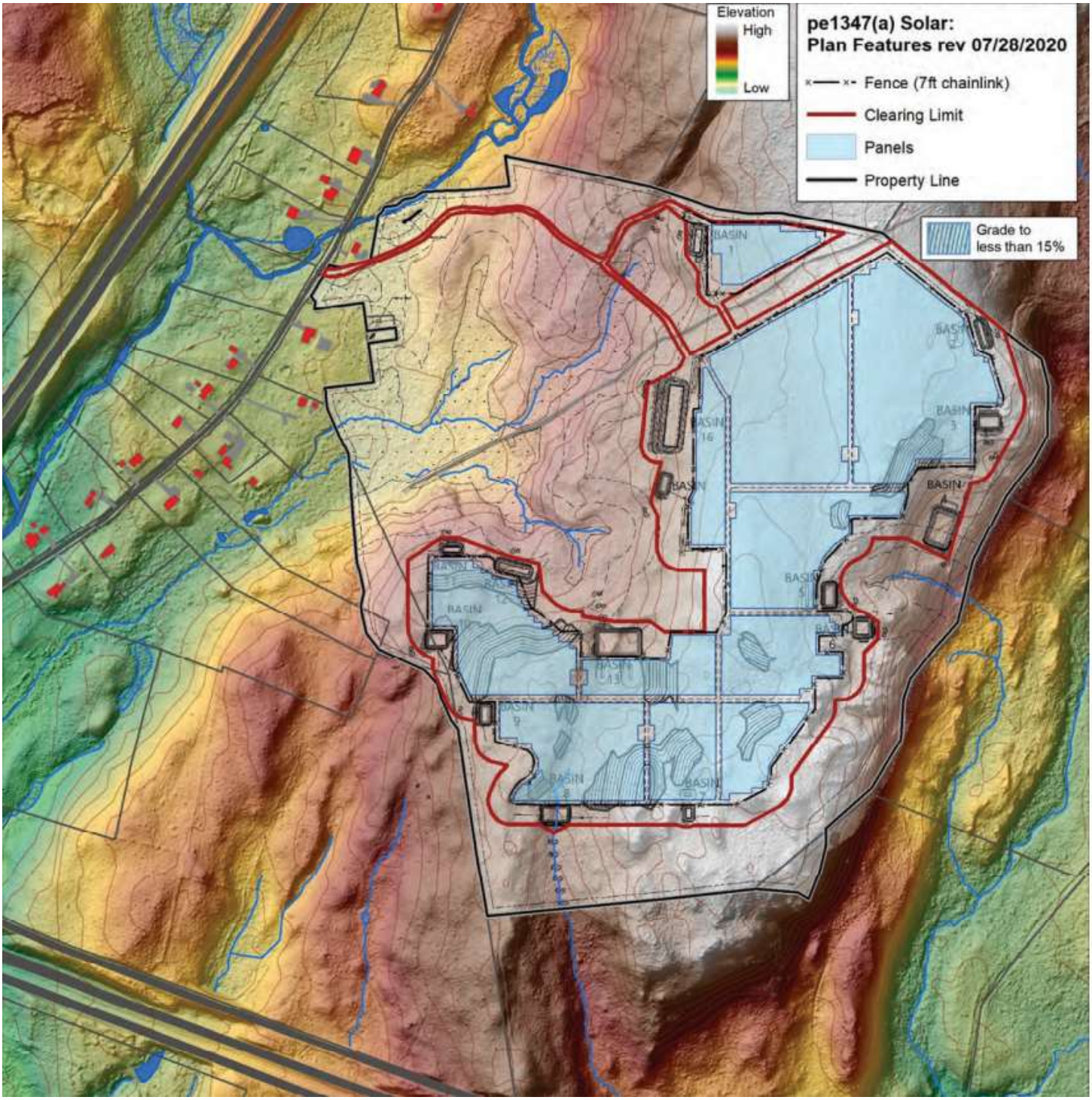
(STRSTH 7, p. 3)

Figure 2 – Proposed Site Layout*



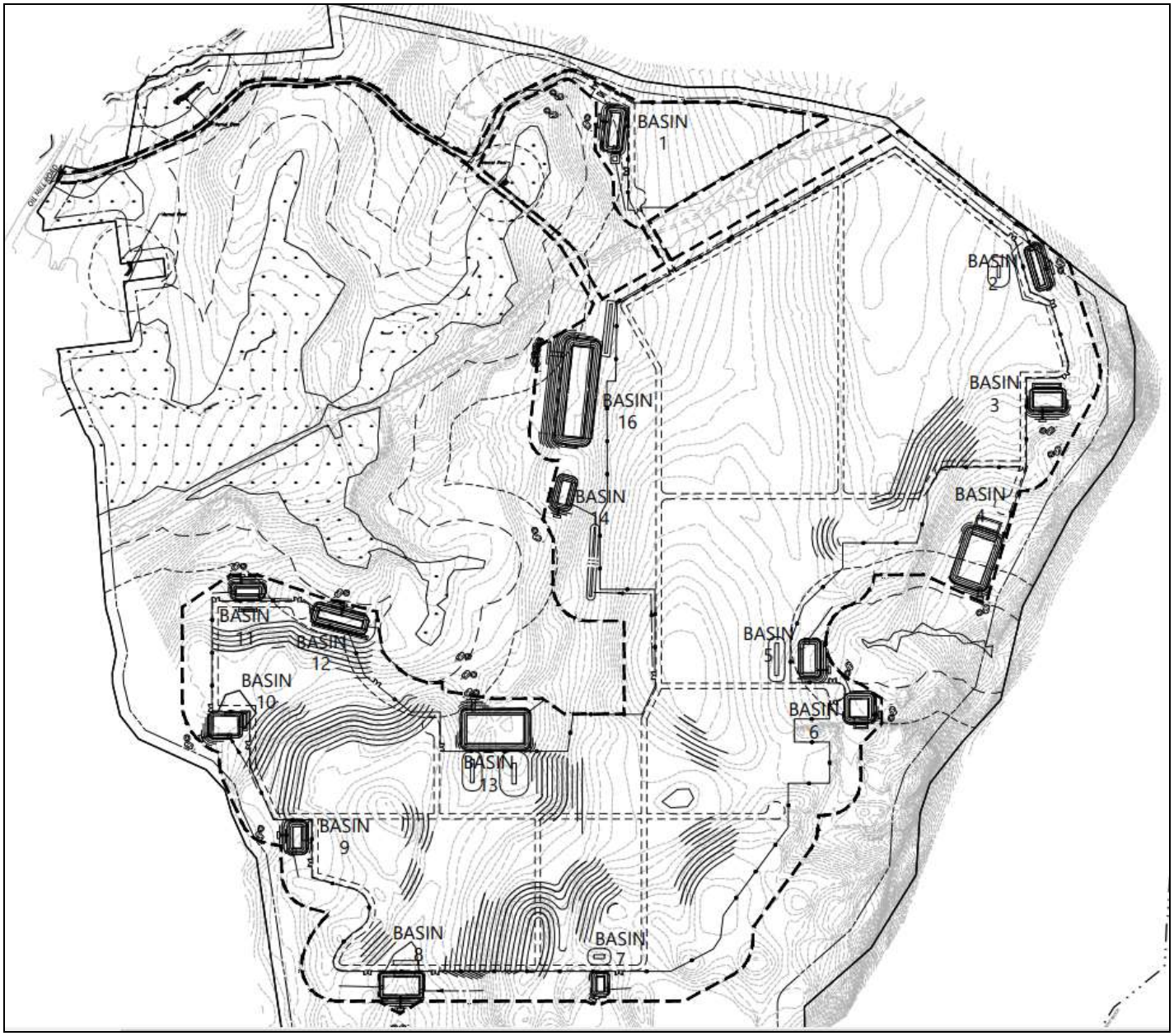
*General site layout - does not include minor revisions dated 07/28/20 (GRE 2, response 8)

Figure 3 – Project Layout with Topographic Relief



(STRSTH 13)

Figure 4 – Proposed Site Grading Plan

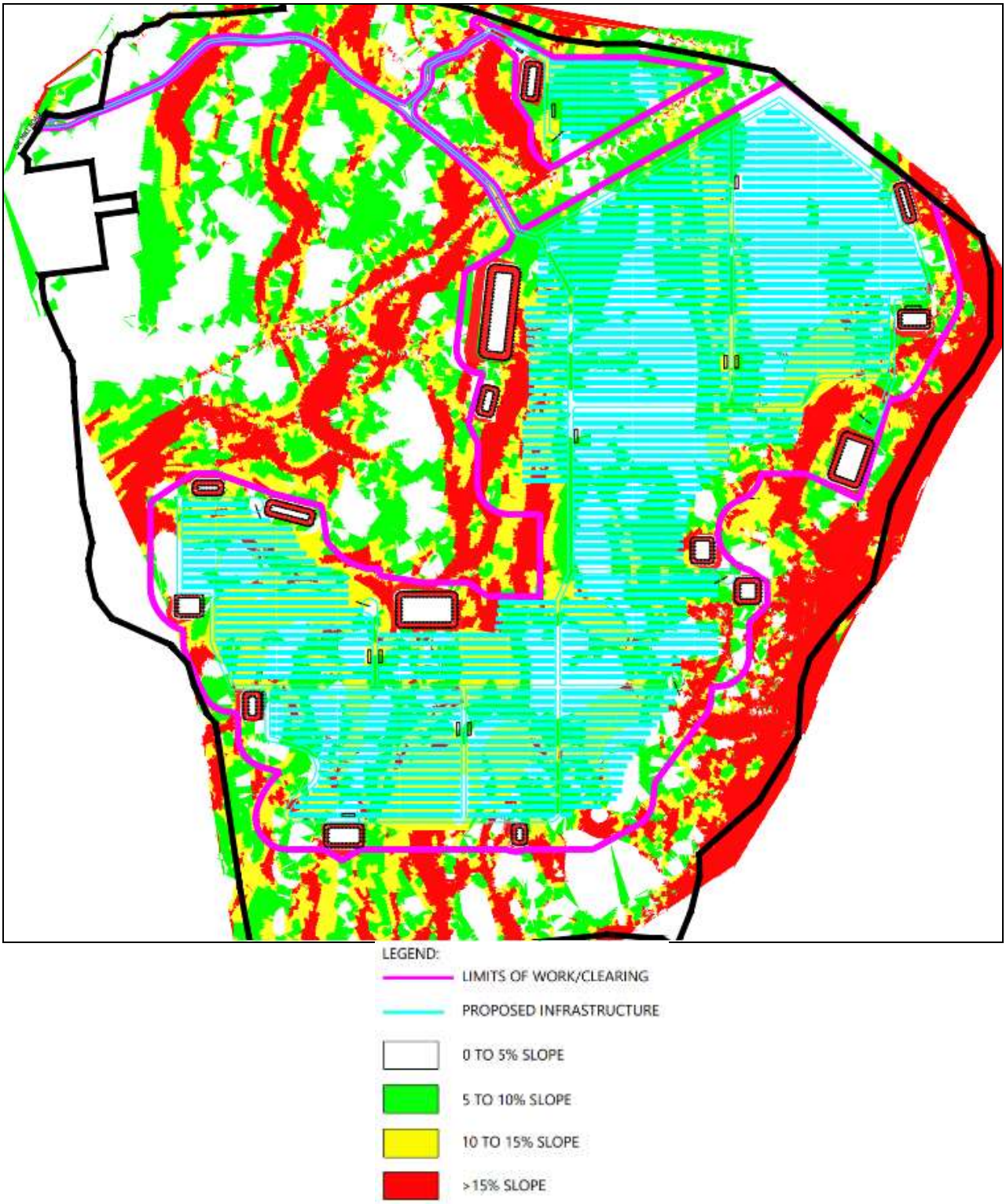


Proposed stormwater basins, 100-foot and 200 foot wetland buffers, and grading areas shown.

Basin #	Type	Basin #	Type
1	Pond	9	Pond
2	Infiltration	10	Sand filter
3	Sand filter	11	Pond
4	Pond	12	Pond
5	Infiltration	13	Infiltration
6	Pond	14	Infiltration
7	Infiltration	16	Pond
8	Sand filter		

(GRE 1b App. A, Sheet 6.2; GRE 12b, Sheet 4.0- dated 07/28/20)

Figure 5 – Project Layout with Post-Grading Site Slopes



(GRE 2, response 28)

Figure 6 – Modification to Project Footprint

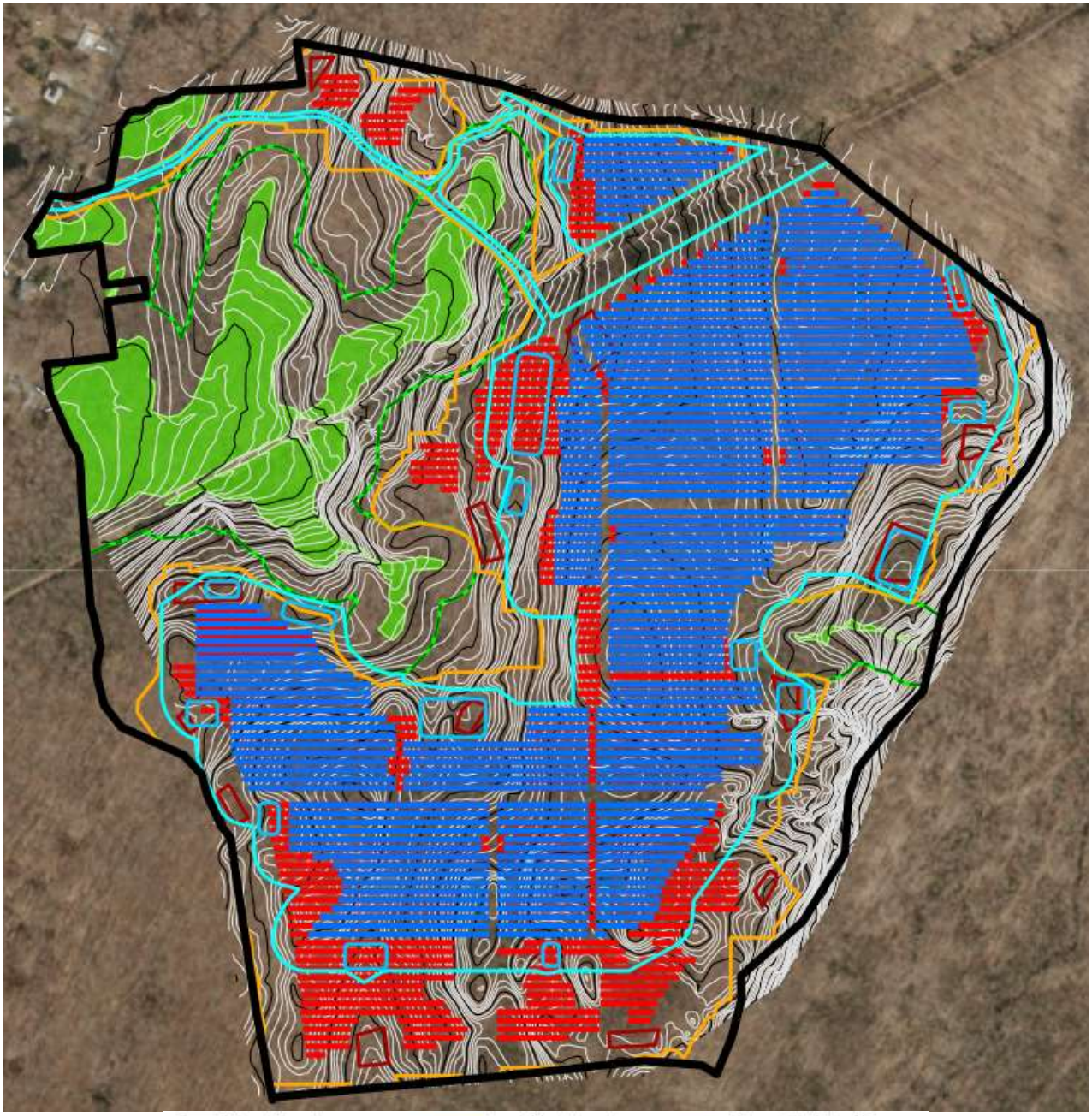
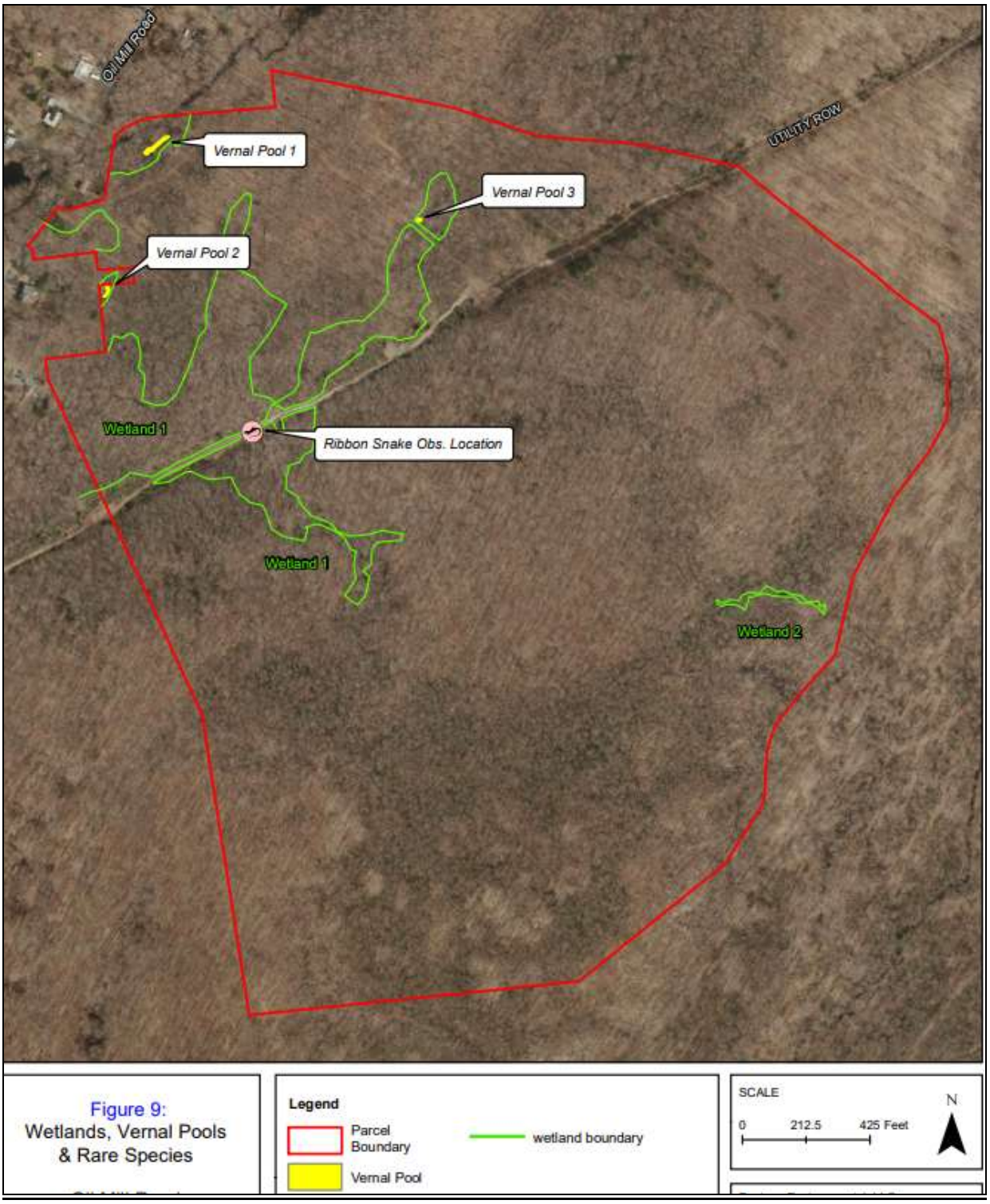
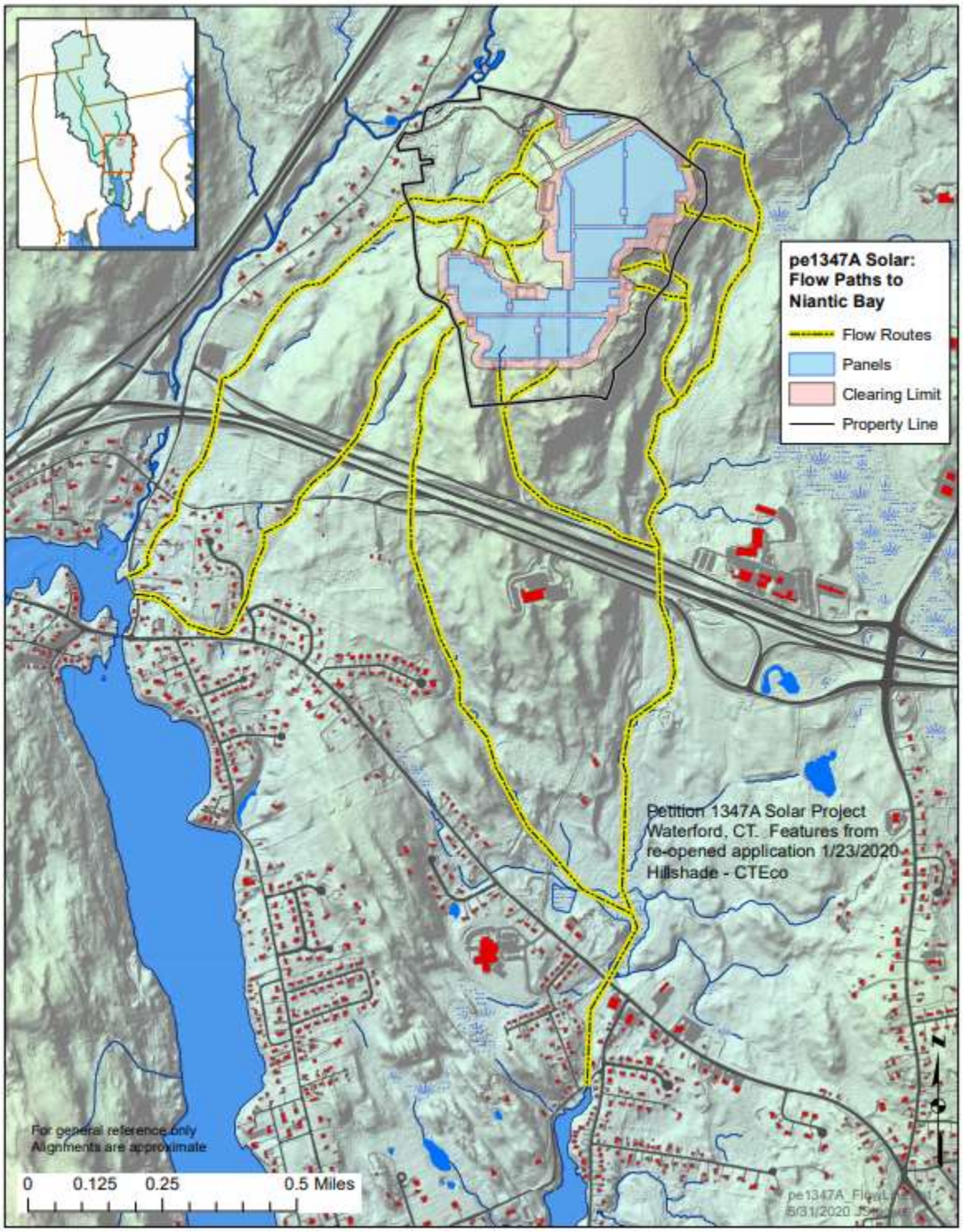


Figure 7 – Wetlands and Vernal Pools



(GRE 1b. App. H)

Figure 8 – Drainage pathways in Site Area



(STRSTH 7, Ex. B)

Appendix A

State Historic Preservation Office Comments, dated March 3, 2020

Council on Environmental Quality Comments, dated March 27, 2020

Department of Energy and Environmental Protection Comments, dated June 17, 2020

Connecticut | Department of Economic and Community Development
State Historic Preservation Office

March 3, 2020

Ms. Melanie Bachman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Subject: GRE GACRUX LLC Petition No. 1347A, Reopening
117 Oil Mill Road
Waterford, Connecticut.

Dear Ms. Bachman:

SHPO understands that the referenced petition will be reopened for a declaratory ruling by the Connecticut Siting Council (CSC). The proposed project plan consists of constructing, maintaining, and operating a 16.78 MW solar photovoltaic electric generating facility. The project parcel covers approximately 150 acres east of Oil Mill Road and north of Interstate 95. Because the proposed project will require approval by CSC, it is subject to review by this office pursuant to the Connecticut Environmental Policy Act (CEPA). However, no consultation has been initiated with SHPO regarding this project to date. The following comments are based on materials available on the CSC website for the petition.

Although no archaeological sites or properties listed on the National Register of Historic Places have been reported within the project parcel, a large number of previously recorded archeological sites have been reported in the general vicinity of the proposed project area. Based on the known historic resources in the vicinity and the environmental characteristics of the project site, SHPO concurs with the recommendations made by Heritage Consultants in the posted Phase IA Cultural Resources Assessment Survey that additional Phase IB archaeological investigations are warranted. This office recognizes that portions of the project area have been subjected to previous ground disturbing activities, and subsurface testing should evaluate all areas of anticipated ground disturbance, unless sufficient research or fieldwork documents that this level of effort is unwarranted. All work should be in compliance with our *Environmental Review Primer for Connecticut's Archaeological Resources* and no construction or other project-related ground disturbance should be initiated until SHPO has had an opportunity to review and comment upon the requested survey.

State Historic Preservation Office
450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | P: 860.500.2300 | DECD.org

Connecticut | Department of Economic and Community Development
State Historic Preservation Office

This office appreciates your cooperation and we look forward to continuing consultation. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 256-2754 or marena.wisniewski@ct.gov.

Sincerely,

Mary B. Dunne

Mary B. Dunne
State Historic Preservation Officer

STATE OF CONNECTICUT

COUNCIL ON ENVIRONMENTAL QUALITY

March 27, 2020

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

RE: PETITION NO. 1347A – GRE GACRUX 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 16.78-megawatt AC solar photovoltaic electric generating facility located at 117 Oil Mill Road and associated electrical interconnection to Eversource Energy's existing substation at 325 Waterford Parkway North in Waterford, Connecticut. Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a (b).

Dear Ms. Bachman:

The Council on Environmental Quality ("the Council") supports the development on clean, renewable energy technologies on appropriate sites in Connecticut and offers the following comments with regard to Petition No. 1347A (Petition).

1. Stormwater Runoff

The Council notes that the proposed site contains steep slopes, especially in the center of the site to the south and southeast. Slopes of this degree warrant special erosion controls. Every effort should be made to maintain pre-development drainage patterns and to maintain flows to existing wetland and watercourse areas. The "Draft General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities" which is being considered for adoption by the Department of Energy and Environmental Protection (DEEP) contains recommendations for addressing solar installations on such slopes. The Council recommends that the Petitioner adopt those recommendations, which are the state-of-the-art techniques for installing solar panels on sloped terrain.

2. Inland Wetlands and Vernal Pools

The Petition states that a 100-foot buffer would be maintained around all identified wetlands except in areas where the access roads intersect the buffer area. The Council suggests that the Petitioner evaluate the possibility of moving a portion of the road that provides access for the northern-most panels further to the north to avoid the wetlands buffer area. (Depicted on the Layout and Materials Plan, Sheet C-3.2).

79 Elm Street, Hartford, CT 06106
Phone: (860) 424-4000 Fax: (860) 424-4070
http://www.ct.gov/ceq

3. Vegetation

The Petitioner states that "restoration of the Project Site within the limits of disturbance is proposed to include new low-maintenance ground cover within the solar array field and adjacent to the perimeter fencing. Establishing vegetative cover will help to stabilize the soil and reduce stormwater runoff. Areas between the perimeter fence and the limits of clearing will receive a mix of native low-lying plants, shrubs, and groundcover." The Council recommends that the Petitioner reference the provisions of DEEP's Draft General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities" for guidance on timing of seeding and plantings. Pollinator-friendly plantings should be utilized where appropriate.

4. Historic and Archeologic

The Council notes that the Petitioner failed to conduct or include information regarding a Phase 1B cultural resources reconnaissance survey for the moderate/high sensitivity areas that would be impacted by construction, as recommended by the Phase 1A report (Appendix G). The Petitioner states that the Phase 1B survey would be done prior to breaking ground; however, this information should be known in advance to be useful to the Siting Council's in its deliberations, and therefore should be part of the evidentiary record for this proceeding. The Council recommends that the Petitioner conduct the Phase 1B cultural resources reconnaissance survey as soon as possible and seek concurrence from the State's Historic Preservation Office regarding the proposed project.

Thank you for your consideration of these comments. Please do not hesitate to contact the Council if you have any questions.

Sincerely,

Peter Hearn
Executive Director

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

June 17, 2020

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RE: 15.3 MW AC Solar Photovoltaic Electric Generation Facility
GRE GACRUX LLC
117 Oil Mill Rd, Waterford CT 06385
Petition No. 1347A

Dear Members of the Siting Council:

The Department of Energy & Environmental Protection (DEEP) has reviewed the above referenced petition for a declaratory ruling for the proposed construction, maintenance, and operation of a 15.3 megawatt AC ground-mounted solar photovoltaic electric generating facility at the address above. The following comments are offered for your consideration.

GRE GACRUX LLC submitted this project into the Small-Scale Clean Energy Request for Proposals (RFP) issued by DEEP on March 9, 2016. Connecticut solicited and selected renewable energy projects pursuant to Section 1(b) of Connecticut Public Act 15-107, *An Act Concerning Affordable and Reliable Energy* (P.A. 15-107) and Sections 6 and 7 of Connecticut Public Act 13-303, *An Act Concerning Connecticut's Clean Energy Goals* (P.A. 13-303). Bringing grid-scale renewable energy projects online is an important step forward towards a cheaper, cleaner, and more reliable energy future for the ratepayers of Connecticut as we move to decarbonize our electric grid. In 2018, Connecticut committed to purchase 40% of its electricity from Class I renewable sources by 2030. Connecticut also committed to a mid-point reduction of carbon emissions of 45% below 2001 levels by 2035 on the way to attaining the state's longer-term goal of an emissions reduction of 80% below 2001 levels by 2050. DEEP is also analyzing pathways to achieve a 100% zero carbon electric sector by 2040, as directed by Governor Lamont in Executive Order No. 3. Grid scale renewable energy projects are essential to maintaining compliance with these statutory commitments and executive orders. After reviewing all the projects submitted through the RFP process, DEEP selected the GRE GACRUX LLC project as one of the projects authorized to negotiate a long-term power purchase agreement with the utilities, Eversource Energy and The United Illuminating Company. A contract was successfully negotiated and approved by the Public Utilities Regulatory Authority in 2017.

Motion to Reopen

The Siting Council granted to reopen this petition based on changed conditions. The current design utilizes the *January 2020 Guidance Regarding Solar Arrays and the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* (January 2020 Guidance). The project proposes to develop 75 acres of the 150-acre parcel. The parcel is within a larger forested tract of approximately 750 acres. Land surrounding this parcel is currently undeveloped and zoned as rural residential and general industrial. It should be noted that the Town of Waterford Assessor's database indicates the parcel is 140.8 acres, not 152 as stated in the petition.

Development Timeline

The petitioner has consulted with DEEP's Stormwater group to propose an extended development timeframe that allows for one full growing season after hydroseeding. For example, if clearing took place this past spring, construction would begin the following spring.

Stormwater Management

One of the challenges with stormwater management is that design measures must be integrated that prevent erosion and sedimentation which could negatively impact natural resources and properties. The petitioner has applied for DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* (Stormwater GP). The petition addresses the concerns with solar development listed in the January 2020 Guidance. DEEP staff verified that the petitioner's design team has participated in ongoing meetings with DEEP regarding stormwater management and site design. As a result of DEEP staff recommendations at these meetings, the petitioner has pulled construction away from the property boundaries and proposes to install 15 stormwater management basins throughout the project. The site plans indicate that spillways, energy dissipaters, and level spreaders will be used to slow the velocity of stormwater and eliminate point discharge. Section 3.3.3 in Project Design states that each area for each phase of construction will have a sediment trap/ basin that will be converted to manage post-construction runoff. Best management practices indicate that for any basins designed as infiltration basins, they should not be used as temporary sediment basins during construction and should be constructed at or near the end of development. Prior to grading, infiltration areas should be roped off or flagged to avoid soil compaction. The Siting Council may need to clarify with the petitioner if the infiltration basins are proposed to be utilized during construction (basin numbers 2, 5, 7, 13 and 14 from sheet C-6.2). Detention basins would be designed to discharge to a wetland or waterbody, and retention basins would permanently hold water. Basins and level spreaders should be verified as conforming to the site plans specifications while under construction.

The hydrology report states that the chosen method for stream channel protection for this site was to control the 2-year, 24-hour post-development peak flow rate to 50% of the pre-development level. The intent of this design is to manage storm flows, which will protect stream channels from erosion and associated sedimentation in downstream receiving waters, such as Oil Mill Brook and Stony Brook.

The site plans indicate that slopes over 15% will be graded. Without proposed grading those areas would need to be considered as impervious surfaces for the purpose of calculating stormwater volume following the January 2020 Guidance document. Slope will be checked in the review of the General Permit application. The hydrologic analysis follows January 2020 Guidance to go down one soil group, from group B soils to group C soils, as a conservative approach to sizing stormwater management basins.

Public Act 17-218

As background, this project was selected by DEEP in early 2017 pursuant to Connecticut General Statute's section 16a-3j prior to the enactment of Public Act 17-218. PA 17-218, effective July 1, 2017, states: "*for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by DEEP in any solicitation prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g, or 16a-3j, the Department of Agriculture (DoAg) represents in writing to the Council that such project will not materially affect the status of such land as prime farmland or DEEP represents in writing to the Council that such project will not materially affect the status of land as core forest.*" Projects submitted to the Siting Council after July 1, 2017 and that were not selected by DEEP in a solicitation prior to July 1, 2017 will require written letters from DEEP and DoAg if it is to be submitted through the Council's petition for a declaratory ruling process. For this project, originally submitted in June 2018 to the Siting Council, the application was filed as a Petition and a letter from DEEP is not required because it was selected by DEEP prior to July 1, 2017, and thus fits into the exception in PA 17-218. Regardless of how the project is submitted, DEEP and the Siting Council may consider impacts to forestland, wildlife and wetlands, as well as air and water quality.

Natural Diversity Database

A Natural Resources Database preliminary letter, dated July 5, 2019, was used by the petitioner to initiate surveys for species indicated in the review. Surveys conducted in 2019 noted the dominant upland vegetation in both the recently cleared areas and the remaining tree stands. Approximately 300 taxa of vascular plant species were recorded, noting that the plants listed on the NDDB review were not found on site. State listed reptiles were not noted on site during field observations while more common species were present. Breeding bird surveys were conducted and an inventory of noted birds was created. Specific surveys targeting whip-poor-wills did not detect this species on site. In the final determination letter dated February 28, 2020, the Wildlife Division notes protection strategies for the Eastern ribbon snake, including contractor awareness, relocation out of harm's way, removing silt fence after site stabilization, and reporting any siting to NDDB. The Wildlife Division also stated there should be protection measures for a plant that was later determined not to be the plant on site, as noted in email communications with the applicant on March 3, 2020.

Watershed

Any measures that can be taken on the property to reduce the velocity and volume of water coming off of the ridgelines should be a part of the watershed protection plan. The petition could address heavily vegetating areas that were cleared during tree harvest along the ridgeline, where no

construction will be taking place. Site inspections during and after large rain events may reveal rills and gullies along the ridgeline that could be hydroseeded or stabilized with other methods.

Decommissioning
Decommissioning consists of the removal of all components, the arrays, inverters, transformers, fencing, and transmission lines. Excavated areas will be backfilled and seeded. Components will be disposed of or recycled in accordance with existing statutory or regulatory requirements.

Errata
In the Construction Sequencing notes, sheet C-5.0, remove or modify the several notes that state the Town of Waterford shall be notified for a pre-construction meeting, prior to clearing, or provided emergency contact information. The notes should clearly state that the Siting Council is the authorizing agency for this petition. The Town of Waterford does not oversee the construction of this petition. In the Construction Sequence layout, a note between notes 2 and 3 should state that the site will be left for a full growing season for site stabilization prior to driving piles for racking installation. The cover page has Watertown instead of Waterford.

Thank you for the opportunity to review this project. If there are any questions regarding these comments, please contact me at 860-424-3739 or Linda.Brunza@ct.gov.

Sincerely,

Linda Brunza

Linda Brunza
Environmental Analyst
Office of Planning & Program Development
Department of Energy & Environmental Protection