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| **DOCKET NO. 514** – Glenvale, LLC d/b/a Glenvale Solar application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 4.0-megawatt-AC solar photovoltaic electric generating facility located at 56 River Road, Putnam, Connecticut and associated electrical interconnection. | } | Connecticut |
| | } | Siting |
| | } | Council |

August 11, 2023

**DRAFT Findings of Fact**

**Introduction**

1. On March 8, 2023, Glenvale, LLC d/b/a Glenvale Solar (Glenvale), in accordance with the provisions of Connecticut General Statutes (C.G.S.) §16-50g *et seq*., applied to the Council for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a 4.0-megawatt (MW) AC solar photovoltaic electric generating facility located at 56 River Road, Putnam, Connecticut and associated electrical interconnection (Project). (Glenvale 1, p. 1)

2. Glenvale is a utility-scale solar development company, with its principal place of business at 179 Green Street, Boston, Massachusetts. (Glenvale 1, pp. 2-3)

3. The party in this proceeding is Glenvale. (Record)

4. Glenvale has a purchase and sale agreement with the owner of the host parcel to develop approximately 17 acres for the proposed solar facility. (Glenvale 1, Exhibit C; Glenvale 2, response 7; Glenvale 3)

5. The purpose of the proposed Project is to contribute to the state's efforts to promote the deployment of clean renewable energy sources. (Glenvale 1, p. 3)

6. The proposed Project would be a "grid-side distributed resources" facility under C.G.S. § 16-1(a)(37). (C.G.S. § 16-1(a)(37)(2023); Glenvale 1, pp. 1-2)

7. The proposed Project would generate renewable electrical energy from solar power. Solar power is considered a Class I renewable energy source. (C.G.S. §16-1(a)(20)(2023))

8. The State legislature established a renewable energy policy under C.G.S. §16a-35k that encourages the development of renewable energy facilities to the maximum extent possible. (C.G.S. §16a-35k (2023))

9. Pursuant to C.G.S. §16-50x, the Council has exclusive jurisdiction over the construction, maintenance and operation of the proposed solar photovoltaic electric generating facility. (C.G.S. §16-50x (2023))

10. Local zoning regulations do not apply to facilities under the exclusive jurisdiction of the Council. Pursuant to C.G.S §16-50x, the Council has exclusive jurisdiction over solar facilities with a generating capacity greater than 1 MW throughout the state. It shall consider any location preferences provided by the host municipality as the Council shall deem appropriate. (C.G.S. §16-50x (2023))

11. Pursuant to C.G.S. § 16-50*l* (b), Glenvale provided public notice of the filing of the application to the Council was published in the Hartford Courant on January 24 and January 31, 2023. (Glenvale 1, p. 10)

12. Pursuant to C.G.S. § 16-50*l* (b), Glenvale provided notice of the application to all abutting property owners by certified mail on January 23, 2023. One certified mail receipt to Day Kimball Hospital was not received. Glenvale met in person with a Day Kimball representative during outreach efforts in 2022. (Glenvale 1, p. 9, Attachment D)

13. On January 23, 2023, Glenvale provided notice to all federal, state and local officials and agencies listed in C.G.S. § 16-50*l* (b). (Glenvale 1, Attachment E)

## Procedural Matters

14. Public Act (PA) 22-3 took effect on April 30, 2022. It permits public agencies to hold remote meetings under the Freedom of Information Act (FOIA) and the Uniform Administrative Procedure Act. FOIA defines "meeting" in relevant part as "any hearing or other proceeding of a public agency." (Council Administrative Notice Item No. 70; C.G.S. §1-200, et seq. (2023))

15. PA 22-3 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 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
    d) 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. 70)

16. On March 8, 2023, the Council sent a letter to the State Treasurer, with a copy to the Chief Elected Official of the Town of Putnam (Town) stating that $25,000 was received from Glenvale and deposited in the Office of State Treasurer's Municipal Participation Account for use by the Town to apply for a portion of the funds if they become a party or intervenor to the proceeding, pursuant to C.G.S. §16-50bb. (Record)

17. During a regular Council meeting on March 30, 2023, the application was deemed complete pursuant to Regulations of Connecticut State Agencies (R.C.S.A.) § 16-50*l*-1a and the public hearing schedule was approved by the Council. (Record)

18. Pursuant to C.G.S. § 16-50m, on March 30, 2023, the Council sent a letter to the Town to provide notification of the scheduled public hearing via Zoom conferencing and to invite the Town to participate. (Record)

19. Pursuant to 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 Norwich Bulletin on April 5, 2023. (Record; Transcript 1 – June 15, 2023 - 2:00 p.m. [Tr. 1], p. 5)

20. The Council's Hearing Notice did not refer to a public field review of the proposed site. Field reviews are neither required by statute nor an integral part of the public hearing process. The purpose of a field review is an investigative tool to acquaint members of a reviewing commission with the proposed facility site. (Council's Hearing Notice dated January 14, 2022; Council Administrative Notice Item No. 71 -

*Manor Development Corp. v. Conservation Comm. of Simsbury, 180 Conn. 692, 701 (1980)*; Council Administrative Notice Item No. 72 - *Grimes v. Conservation Comm. of Litchfield, 243 Conn. 266, 278 (1997)*)

21. On April 4, 2023, in lieu of an in-person field review of the proposed site, the Council requested that Glenvale submit photographic documentation of site-specific features into the record intended to serve as a "virtual" field review of the site. On April 25, 2023, Glenvale submitted such information in response to the Council's interrogatories. (Record; Glenvale 2, response 41)

22. On April 25, 2023, pursuant to C.G.S. §16-50o, Glenvale filed a Motion for Protective Order related to the disclosure related to the disclosure of the financial terms contained within the purchase and sale agreement for the proposed site. (Glenvale 3)

23. On May 11, 2023, the Council issued a Protective Order related to the disclosure of the financial terms contained within the purchase and sale agreement for the proposed site, pursuant to C.G.S. §1-210(b) and consistent with the Conclusions of Law adopted in Council Docket 366. (Record)

24. Pursuant to C.G.S. §16-50p(g), the Council shall in no way be limited by Glenvale already having acquired land or an interest therein for the purpose of constructing the proposed facility. (C.G.S. §16-50p(g) (2023); *Corcoran v. Conn. Siting Council*, 284 Conn. 455 (2007)

25. The Council's evaluation criteria under C.G.S. §16-50p does not include the consideration of property ownership or property values nor is the Council otherwise obligated to take into account the status of property ownership or property values. (Tr. 1, p. 7; Transcript 2 – June 15, 2023 - 6:30 p.m. [Tr. 2], p. 6; C.G.S. §16-50p (2023); *Westport v. Conn. Siting Council*, 47 Conn. Supp. 382 (2001); *Goldfisher v. Conn. Siting Council*, 95 Conn. App. 193 (2006)

26. On May 24, 2023, the Council held a pre-hearing conference on procedural matters regarding the requirements for pre-filed testimony, exhibit lists, administrative notice lists, expected witness lists, and filing of pre-hearing interrogatories. (Council Pre-Hearing Conference Memorandum, dated May 17, 2023)

27. In compliance with (RCSA) § 16-50j-21, on June 1, 2023, Glenvale installed a four-foot by six-foot sign along River Road in the vicinity of the proposed access drive to the site. The sign presented information about the proposed solar facility, the public hearing date and contact information for the Council. (Glenvale 4; Council Pre-Hearing Conference Memorandum, dated May 17, 2023)

28. Pursuant to C.G.S. §16-50m, the Council gave due notice of a public hearing on June 15, 2023, beginning with the evidentiary session at 2:00 p.m. and continuing with the public comment session at 6:30 p.m. via Zoom remote conferencing. The Council provided information for video/computer access or audio only telephone access. (Council's Hearing Notice dated March 30, 2023; Tr. 1, p. 1; Tr. 2, p. 1)

29. The 6:30 p.m. public comment session afforded interested persons the opportunity to provide oral limited appearance statements. Interested persons were also afforded an opportunity to provide written limited appearance statements at any time up to 30 days after the close of the evidentiary record. Limited appearance statements in this proceeding, whether oral or written, were not provided under oath nor subject to cross examination. (Tr. 2, pp. 6-7; C.G.S. §16-50n(f) (2023))

30. In compliance with PA 22-3:
    a) The public had the ability to view and listen to the remote public hearings in real-time, by computer, smartphone, tablet or telephone;
    b) The remote public hearings were recorded and transcribed, and such recordings and transcripts were posted on the Council's website on June 15, 2023 and June 29, 2023; respectively;
    c) The Hearing Notice, Hearing Program, Citizens Guide for Siting Council Procedures and Instructions for Public Access to the Remote Hearings were posted on the Council's website;
    d) Prior to, during and after the remote public hearings, the record of the proceeding has been, and remains, available on the Council's website for public inspection; and
    e) The Council, parties and intervenors provided their information for identification purposes during the remote public hearings.

    (Hearing Notice dated March 30, 2023; Tr. 1; Tr. 2; Record)

31. The purpose of discovery is to provide the Council, parties and intervenors access to all relevant information in an efficient and timely manner to ensure that a complete and accurate record is compiled. (R.C.S.A. §16-50j-22a (2023))

32. In an administrative proceeding, irrelevant, immaterial or unduly repetitious evidence shall be excluded, and an agency has the right to believe or disbelieve the evidence presented by any witness, even an expert, in whole or in part. (C.G.S. §4-178 (2023); *Dore v. Commissioner of Motor Vehicles*, 62 Conn. App. 604 (2001); R.C.S.A. §16-50j-25).

33. Pursuant to C.G.S. §16-50n(f), at the conclusion of the hearing session held on June 15, 2023, the Council closed the evidentiary record for Docket 514 and established July 15, 2023 as the deadline for public comments and the submission of briefs and proposed findings of fact. (Record)

34. On July 14, 2023, Glenvale submitted a post-hearing brief. (Record)

## Municipal Consultation

35. In May 2022, the Glenvale notified the Town about the Project. On June 7, 2022, Glenvale met with Town officials to discuss the Project. (Glenvale 1, pp. 7-8)

36. At the meeting, the Town expressed concern regarding Project visibility and the number of interconnection poles initially proposed. Glenvale addressed those concerns by subsequently meeting with concerned abutting property owners, adding visual screening and reducing the number of interconnection poles from three to one by using pad-mounted equipment. (Glenvale 1, pp. 7-9)

37. Glenvale submitted a technical report to the Town in September 2022. (Glenvale 1, p. 8)

38. The Town submitted correspondence to Glenvale on January 17, 2023, stating that as designed, the Project meets Town Zoning and land use regulations. The Town requested that Glenvale coordinate with the Highway Department as applicable for a Road Opening Permit for a new access drive on River Road. (Glenvale 1, p. 8, Attachment C)

39. C.G.S. § 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 sources. Thus, Environmental Justice does not apply to

the facility, and an EJPPP is not required. (Glenvale 1, p. 11; Council Administrative Notice Item No. 40 – Docket 497, Finding of Fact #41; CGS § 22a-20a (2023))

## State Agency Comments

40. Pursuant to RCSA §16-50j-40, on March 30, 2023, 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 Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO). (Record)

41. On March 22, 2023, the Council received comments from CEQ related to wildlife, wetlands, prime farmland, core forest, and groundwater.[1] Wildlife, wetlands, prime farmland, core forest, and groundwater, among other environmental concerns, are addressed in the Environmental Effects and Mitigation Measures section of this document, pursuant to C.G.S. §16-50p. (Record; C.G.S. §16-50p (2023)

42. On June 29, 2023, the Council received comments from DEEP[2] related to existing site conditions, stormwater permit requirements, and opinions on visibility. Visibility and stormwater, among other environmental concerns, are addressed in the Environmental Effects and Mitigation Measures section of this document, pursuant to C.G.S. §16-50p. (Record; C.G.S. §16-50p (2023))

43. 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. The Council cannot delegate its statutory authority to any other entity. (Council Administrative Notice Item No. 75- *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007))

## State of Connecticut Planning and Energy Policy

44. Section 51 of PA 11-80 requires that DEEP prepare a Comprehensive Energy Strategy (CES) every three years that reflects the legislative findings and policy stated in C.G.S. §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. 40 –Docket No. 505, Finding of Fact #41; C.G.S. §16a-3d (2023))

45. The state CES examines future energy needs and identifies opportunities to reduce ratepayer costs, ensure reliable energy availability, and mitigate public health and environmental impacts. CES Strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." The state Integrated Resource Plan assesses the state's future electric needs and a plan to meet those future needs, including, but not limited to, pathways to achieve a 100 percent zero carbon electric supply by 2040. (Council Administrative Notice Item Nos. 47 and 48)

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[1] https://portal.ct.gov/-/media/CSC/1_Dockets-medialibrary/1_MEDIA_DO500_600/DO514/PROCEDURALCORRESPONDENCE/DO514-CEQComments_s.pdf

[2] https://portal.ct.gov/-/media/CSC/1_Dockets-medialibrary/1_MEDIA_DO500_600/DO514/PROCEDURALCORRESPONDENCE/DO514-DEEPComments_a.pdf

46. Governor Lamont's 2019 Executive Order No. 3 declares the state's goal to reach 100 percent carbon free electricity by 2040. (Governor Lamont's Executive Order No. 3, September 3, 2019)

47. C.G.S. §16-245a establishes Connecticut's *Renewable Portfolio Standards* (*RPS*). Currently, RPS requires that 26 percent of Connecticut's electricity usage be obtained from Class I renewable resources by 2024. The percentage increases annually and reaches 40 percent by 2030. (C.G.S. §16-245a (2023)).

48. The Global Warming Solutions Act (GWSA) sets a goal of reducing greenhouse gas (GHG) emissions by 80 percent by 2050. (C.G.S. §22a-200 (2023))

49. The proposed facility will contribute to fulfilling the State's RPS and GWSA as a zero emission Class I renewable energy source. (Council Administrative Notice Item No. 47)

***Competitive Energy Procurement***

50. The Project bid into the statewide Shared Clean Energy Facility (SCEF) Program, which is a competitive procurement process administered by the state's electric distribution companies to develop utility scale renewable energy. New or incremental Class I renewable generation projects ranging in size from 100 to 5,000 kW AC are eligible to bid into the SCEF Program for a Tariff Terms Agreement (TTA) with a 20-year term. (Council Administrative Notice Item No. 68; Glenvale 1, p. 2; Glenvale 2, response 21)

51. The first SCEF procurement occurred in 2020. The Project was selected in the SCEF Year 2021 program. (Glenvale 1, pp. 2-3)

52. The electricity and renewable energy credits (RECs) produced by the facility would be sold to Eversource in accordance with the TTA. A REC certifies that one megawatt-hour of renewable electrical energy has been generated. (Council Administrative Notice Item No. 68; Glenvale 1, pp. 2, 5)

53. The Project has a commitment for a commercial operation in-service date of November 2024. (Tr. 1, p. 122)

54. One the TTA expires, Glenvale would seek other revenue sources for the energy produced by the facility. (Glenvale 2, response 4; Tr. 1, p. 104)

## Public Benefit

55. Pursuant to CGS §16-50p(c), 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. Public benefit exists if the Council finds and determines a proposed electric generating facility contributes to forecasted generating capacity requirements, reduces dependence on imported energy resources, diversifies state energy supply mix and enhances reliability. (CGS §16-50p(c); *Preston v. Connecticut Siting Council*, 20 Conn. App. 474 (1990); *Preston v. Connecticut Siting Council*, 21 Conn. App. 85 (1990); Council Administrative Notice Item No. 40 – Docket No. 497, Finding of Fact #61)

56. Created by the Federal Energy Regulatory Commission (FERC) in 1997, ISO-NE is the independent, not-for-profit corporation responsible for the reliable operation of New England's electric power generation and transmission system, overseeing and ensuring the fair administration of the region's wholesale electricity markets, and managing comprehensive regional electric power planning. (Council Administrative Notice Item No. No. 40 – Docket No. 497, Finding of Fact #63)

57. ISO-NE operates the power system and the competitive wholesale electric markets so that the lowest cost resources are used first to meet consumer demand. However, ISO-NE's primary responsibility is electric reliability. (Council Administrative Notice Item No. 40 – Docket No. 497, Finding of Fact #64)

58. ISO-NE is fuel and technology neutral and takes no position on any proposed energy projects. ISO-NE does not own any transmission or distribution lines or power plants. (Council Administrative Notice Item No. 40 – Docket No. 497, Finding of Fact #65)

*Resource Adequacy*

59. ISO-NE holds an annual forward capacity market auction (FCA) to acquire the power system resources needed to meet projected demand for the New England region in three years' time. The FCA is held approximately three years before each capacity commitment period to provide time for new resources to be developed. Capacity resources can include traditional power plants, renewable generation, imports, and demand-side resources, such as load management and energy efficiency measures. Resources clearing in the auction will receive a monthly payment during the delivery year in exchange for their commitment to provide power or curtail demand when called on by ISO-NE. (Council Administrative Notice Item No. 40 – Docket No. 497, Finding of Fact #67)

60. According to ISO-NE's 2021 Regional System Plan (2021 RSP), "Sufficient resources are projected for New England through 2030 to meet the resource adequacy planning criterion, assuming no additional retirements and the successful completion of all new resources that have cleared the forward capacity market (FCM). The planning analysis accounts for new resource additions that have responded to market improvements, state policies, and resource retirements. The ISO is committed to procuring adequate demand and supply resources through the FCM and expects the region to install adequate resources to meet the physical capacity needs that the installed capacity requirements (ICRs) will define for future years." (Council Administrative Notice Item No. 21 – 2021 RSP, p. 84-85)

*Generating Capacity Retirements in New England*

61. Glenvale provided an ISO-NE generator retirement forecast out to 2027. It is anticipated that there will be 3700 MW of generation retirements by 2027, including 2100 MW of oil-fired generation, 700 MW of nuclear generation and 900 MW of coal-fired generation. (Glenvale 2 response 21; Tr. 1 pp. 64-65)

*New England Reliability*

62. New England's electric power grid is planned and operated as a unified system of transmission owners and market participants. The New England system integrates resources with the transmission system to serve all regional load regardless of state boundaries. Most of the transmission lines are relatively short and networked as a grid. The electrical performance in one part of the system affects all areas of the system. Thus, Connecticut and the rest of the ISO-NE region are inextricably interconnected and rely on each other for a reliable electricity system. (Council Administrative Notice Item No. 40 – Docket No. 497, Finding of Fact #75)

63. In addition to ISO-NE's winter energy concerns, system reliability is comprised of two aspects: resource adequacy and transmission security. Resource adequacy means having sufficient resources to meet load at all times. Transmission security means having a system than can withstand contingencies such as the loss of a transmission line, or successive losses of multiple transmission lines, or the loss of a major generating plant, during a time of high system load. (Council Administrative Notice Item No. 40 – Docket No. 497, Finding of Fact #76)

### ***Solar Facility Benefit***

*Glenvale's FCA Participation*

64. The TTA includes the transfer of capacity to Eversource. Thus, Glenvale would not participate in an ISO-New England, Inc. (ISO-NE) Forward Capacity Auction during the term of the TTA. (Glenvale 1, p. 5; Glenvale 2, response 4)

*Competitive Markets Benefit*

65. The SCEF program is a competitive bid program whereby the renewable energy projects with the lowest costs are selected. The Project is therefore necessary to ensure a competitive renewable electricity generation market. (Glenvale 1, pp. 2, 5; Glenvale 2, response 21)

*Forecast Capacity Benefit*

66. ISO-NE forecasts a significant need for the development of additional renewable electric generating capacity. The facility would contribute to ISO-NE's forecasted renewable generating capacity requirements. (Glenvale 2, response 21)

*Domestic Energy Supply Benefit*

67. The proposed project would reduce dependence on imported energy resources because it would utilize solar energy, and no imported energy resources would be required. (Glenvale 2, response 21d)

*Fuel Diversity Benefit*

68. The proposed facility will assist in diversifying the state's energy supply mix. Currently, solar energy projects make up nine percent of the ISO-NE generator interconnection queue. (Glenvale 2, response 21e)

*Electric Reliability Benefit*

69. The proposed facility would enhance reliability because it would generate the bulk of its electricity during times that are typically peak demand times in Connecticut, such as the late spring and summer months. Additionally, the facility would serve to reduce net peak loads. (Glenvale 2, response 21f)

## **Project Alternatives**

70. The Applicant considered the following factors in its site selection process:
    a) Parcel availability;
    b) Proximity to existing electrical infrastructure;
    c) Compatibility with surrounding land use; and
    d) Environmental resource constraints.

    (Glenvale 1, pp. 3-4)

71. Glenvale examined developed properties prior to selecting the host parcel. An installation at the Day Kimball Hospital was examined but determined to be not economically viable as solar development would have to occur on the roof and/or a carport. Glenvale looked at the Town's wastewater treatment plant for a potential site but there was not enough available space on the parcel. (Tr. 1, pp. 77-79)

72. Glenvale determined the electrical infrastructure in the area (23-kV line) can support up to 5 MW of new power supply. In addition, the interconnection point would not require new distribution lines to be installed, lessening interconnection cost. (Tr. 1, pp. 77-78)

73. The Project design was altered during the Town and abutter consultation process by eliminating two utility poles, relocating inverters farther from an abutting residence, incorporating pollinator-friendly vegetation, and developing a landscape plan. (Glenvale 1, pp. 7- 8)

## Proposed Site

74. 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. (RCSA §16-50j-2a(29)(2023))

75. The Council does not have jurisdiction or authority over any portion of the host parcel beyond the boundaries of the facility "site." This includes portions of the host parcel retained by the property owner and portions of the host parcel the property owner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the facility "site." (C.G.S. §16-50p(g) (2023))

76. Under C.G.S. §16-50p, the Council's evaluation criteria does not include the evaluation and/or determination of rights under any lease with the property owner of the proposed site nor does it include the evaluation of property values. (C.G.S. §16-50p (2023))

77. Pursuant to C.G.S. §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. 72 - *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007))

78. Glenvale proposes to construct the solar facility on an approximate 16.9-acre site on an approximate 31.4-acre host parcel at 56 River Road, Putnam. The site is under a purchase and sale agreement between the landowner and Glenvale. The sale is anticipated to close prior to the start of project construction. (Glenvale 1, p. 3; Glenvale 2, responses 7 & 8; Glenvale 3)

79. The host parcel is zoned Agricultural District (AG-2). (Glenvale 1, p. 14)

80. The host parcel is undeveloped. A three-acre field in the northwestern corner of the parcel, fronting River Road, is currently under lease with a local farm for feed corn cultivation, and the remaining 28.4 acres are currently wooded. Historically, the center of the parcel has been used for tree harvesting. (Glenvale 1, p. 3)

81. Land use in the surrounding area consists of rural residential, undeveloped land, a hospital, municipal sewage treatment plant, and industrial property. (Glenvale 1, Attachment G)

82. An Eversource transmission line right-of-way extends from north to southeast across along a portion of the western property boundary. (Glenvale 1, Attachment A)

83. The host parcel abuts an abandoned railroad line to the east, also owned by the landowner. This parcel is subject to an easement with the Town for an extension of the Air Line Rail Trail. Construction of the trail has not commenced. (Glenvale 1, p. 3, Attachment A; Glenvale 2, response 13)

84. The host parcel's topography ranges from approximately 281 feet above mean sea level (amsl) to 366 feet amsl. (Glenvale 1, Attachment G)

85. Grades within the site generally slope downward from the northwestern portion to the south and east, with ground elevations ranging from approximately 366 feet amsl to 328 feet amsl. (Glenvale 1, Attachment G)

## Proposed Facility

### *Solar Array*

86. The proposed Project consists of 8,925 non-reflective solar panels rated at 490 watts. (Glenvale 1, p. 4, Attachment A- Site Plan SP-1)

87. The panels would be installed on a single-axis tracker system, arranged in a north-south direction, supported by driven or ground screw posts. The tracker system would move the panels along the east-west axis to a maximum angle of 55 degrees. At maximum tilt, the panels would be approximately 8 feet above grade at the highest point and 2.5 feet at the lowest point. (Glenvale 1, p. 4, Attachment A, Site Plan DN-1; Glenvale 2, response 23)

88. An approximate 10-foot wide vegetated aisle would separate the tracker rows. (Glenvale 1, Attachment A, Site Plan SP-1)

89. Two 15-foot by 15-foot concrete pads would be installed on the northwest side of the site, adjacent to and outside of, the fenced array area, for meter equipment. Although interconnection details are not finalized, it is expected that the pads would support a primary meter and a transformer. (Glenvale 1, Attachment A, Site Plan SP-1; Glenvale 2, response 14; Tr. 1, pp. 36-37, 116)

90. A second concrete pad would be located in the north-central portion of the site. The pad would support a transformer/inverter unit (medium voltage power station). No string inverters are proposed. (Glenvale 1, Attachment A, Site Plan SP-1; Tr. 1, pp. 38-39, 115)

91. Wiring from the panels would extend along the racking, secured in steel purlins or cable management systems, then transitioned underground to the central inverter/transformer pad. (CPG 2, response 22; Tr. 1, pp. 38-39)

92. The manufacturer and specifications of the facility associated equipment may change based on availability at the time of procurement. (Glenvale 2, response 23; Tr. 1, pp. 71-72)

93. The Project would be enclosed by a seven-foot tall chain link fence, except along River Road where the fence would be eight feet tall. (Glenvale 1, p. 11, Site Plans SP-1, SP-2)

94. The nearest property line to the solar facility perimeter fence is 38 feet to the north at 34 River Road. (Glenvale 2, response 12)

95. The nearest off-site residence to the solar facility perimeter fence is 92 feet to the north at 34 River Road. (Glenvale 2, response 12)

### *Site Access*

96. The Project would be accessed by a new 16-foot wide, 350-foot long gravel access drive extending east from River Road along the north property line. Approximately 280 feet of the access drive would be within the Site perimeter fence, with access controlled by a swing gate. (Glenvale 1, Attachment A, Site Plan, SP-1)

97. Glenvale can examine the possibility of relocating the perimeter fence to the south of the access drive, thereby increasing the distance of the fence to the abutting property line by 16 to 20 feet. (Glenvale 1, Attachment A, Site Plan, SP-1; Tr. 1, pp. 32- 34)

### *Electrical Interconnection*

98. The Project is comprised of one metered system with a design capacity of approximately 4.0 MW AC. It would interconnect to Eversource's 23-kV River Road 14M29 distribution circuit. From there, Eversource's distribution line connects to Eversource's Rockville Substation. (Glenvale 1, pp. 4-6, Attachment A, Site Plan SP-1)

99. The interconnection includes the installation of two pad-mounted meters at the site, one for Glenvale and one for Eversource. The interconnection would transition to an overhead interconnection requiring one pole on the east side of River Road. From there, an overhead electrical line will cross the road to an existing Eversource pole on the west side of River Road. (Glenvale 1, p. 5, Attachment A, Site Plan SP-1; Tr. 1, pp. 36-37, 116-117)

100. Glenvale's interconnection application to Eversource for a connection to pole #1184 is currently in review. An interconnection agreement should be completed by the end of 2023. (Glenvale 1, pp. 5-6)

101. The projected capacity factor of the proposed solar facility is 17 percent. The power output would decline by approximately 0.5 percent per year. (Glenvale 2, response 18)

102. Losses are factored into the output of the facility, including but not limited to, soiling, snow, module temperatures, DC wiring losses, light induced degradation, module quality, module and string mismatch, AC wiring and transformer losses, shading, and the operation of the tracker system. (Glenvale 2, response 19; Tr. 1, p. 59)

103. A battery storage system is not contemplated at this time. The Project could be amended to host a battery system if economic conditions allow. (Glenvale 2, response 17)

## Cost

104. Neither the Project, nor any portion thereof, is proposed to be undertaken by state departments, institutions or agencies or to be funded in whole or in part by the state through any grant or contract. Glenvale is a private entity. (Glenvale 1, pp. 2-3; Glenvale 2, response 6; C.G.S. §22a-1, *et seq*. (2023))

105. The estimated construction cost of the Project is $6.5 to 7.6 million. (Glenvale 2, response 3)

106. The Project would assist in lower electric rates during peak demand times by displacing older, more costly resources from dispatching to the grid. (Glenvale 2, response 21)

## Public Safety

107. The proposed facility would be designed to comply with the current Connecticut State Building Code, National Electrical Code, the National Electrical Safety Code (NESC), and the National Fire Protection Association code. (Glenvale 2, response 27)

108. Prior to commencement of operation, Glenvale would meet with the Town emergency responders at the site to provide information and safety training. A site-specific safety plan will be provided to emergency response personnel and other authorities that details solar facility shut down procedures. (Glenvale 1, Exhibit F; Glenvale 2, response 28, -response 47 (p. 9))

109. Site access for emergency responders would be provided via a "knox box" on the access gate. (Glenvale 2, response 28)

110. Specialized equipment would not be required to extinguish a solar panel/electrical component fire. An electrical component fire would be monitored and allowed to self-extinguish. Water would only be used on surrounding vegetation, if necessary. (Glenvale 2, p. 9-response 47; Tr. 1, pp. 107-109)

111. The facility would be remotely monitored on a 24/7 basis by an operations and maintenance contractor. The facility can be remotely shut down in the event of abnormalities. (Glenvale 1, p. 11; Glenvale 2, response 28; Tr. 1, p. 72)

112. The site is not within a Federal Emergency Management Agency designated 100-year or 500-year flood zone. (Glenvale 1, Attachment G, p. 8)

113. The Federal Aviation Administration (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. 15-18)

114. The nearest airport is the Woodstock Airport located approximately 2.4 miles northwest of the Site. The FAA provided a Determination of No Hazard to Air Navigation on June 30, 2022. A glare analysis is not required. (Glenvale 1, Attachment G, p. 34)

115. Glenvale would only use pesticides and/or herbicides on an as needed basis following best management principles such as avoiding use within 100 feet of wetlands. (Glenvale 1, Attachment A, Sheet EN-1)

116. The manufacturer/model of transformers for the Project have not been specified. The amount/type of oil within the transformers and oil containment/alarm system would be known once a model is procured. (Tr. 1, pp. 56-57, 66-67)

### *Noise*

117. Noise emissions from the solar facility would be primarily from the operation of the medium voltage power station and the tracker motors. The tracker motors, installed at the end of the tracker rows, would emit a minimal amount of noise. (Glenvale 2, response 31; Tr. 1, pp. 57-58)

118. The equipment would not operate at night. (Glenvale 2, response 31)

119. The nearest property boundary is 137 feet to the north-northwest at 16 River Road. The nearest residential structure from the medium voltage power station is approximately 416 feet to the west at 34 River Road. (Glenvale 1, Attachment A, Site Plan SP-1: Tr. 1, pp. 121-122)

120. Daytime operation of the medium voltage power station would produce a sound level of approximately 54.6 dBA at the 16 River Road property boundary, and thus the Project would in compliance with the DEEP Noise Control Standards for an industrial emitter to a residential receptor (66 dBA day/51 dBA night). (Council Administrative Notice Item No. 46; Glenvale 2, response 31)

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

**Electric and Magnetic Fields**

122. Electric fields (EF) and magnetic fields (MF) are two forms of energy that surround an electrical device. Transmission lines, for example, are a source of both EF and MF. (Council Administrative Notice Item No. 35- Petition 754)

123. EF is produced whenever voltage is applied to electrical conductors and equipment. Electric fields are typically measured in units of kilovolts/meter. As the weight of scientific evidence indicates that exposure to electric fields, beyond levels traditionally established for safety, does not cause adverse health effects, and as safety concerns for electric fields are sufficiently addressed by adherence to the NESC, as amended, health concerns regarding Electric and Magnetic Fields (EMF) focus on MF rather than EF. (Council Administrative Notice Item No. 35- Petition 754)

124. MF is produced by the flow of electric currents. The magnetic field at any point depends on the characteristics of the source, the arrangement of conductors, the amount of current flow through the source, and the distance between the source and the point of measurement. Magnetic fields are typically measured in units of milligauss (mG). (Council Administrative Notice Item No. 35- Petition 754)

125. International health and safety agencies, including the World Health Organization, the International Agency for Research on Cancer (IARC), and the International Commission on Non-Ionizing Radiation Protection (ICNIRP), have studied the scientific evidence regarding possible health effects from MF produced by non-ionizing, low-frequency 60-Hertz alternating currents in transmission lines. Two of these agencies attempted to advise on quantitative guidelines for mG limits protective of health, but were able to do so only by extrapolation from research not directly related to health: by this method, the maximum exposure advised by the International Commission on Electromagnetic Safety (ICES, part of IARC) is 9,040 mG, and the maximum exposure advised by the ICNIRP is 2,000 mG. Otherwise, no quantitative exposure standards based on demonstrated health effects have been set world-wide for 60-Hertz MF, nor are there any such state or federal standards in the U.S. (Council Administrative Notice Item No. 35- Petition 754)

126. Inverters would produce AC magnetic fields at frequencies greater than 60 Hz close to the inverters on site, but this would be localized and not an important contribution to AC magnetic fields off-site. (Glenvale 2, Attachment D, p. 6)

127. The proposed Project is designed to interconnect to the existing distribution system rather than a higher voltage transmission system and therefore, the Council's EMF Best Management Practices for the Construction of Electric Transmission Lines in Connecticut and the ICES and ICNIRP MF guidelines would not apply. Based on similar projects, the proposed solar facility would not produce MF above

ICES and ICNIRP guidelines. (Glenvale 2, Attachment D, pp. 6-7; Council Administrative Notice Item No. 35- Petition 754)

## Environmental Effects and Mitigation Measures

### *Air and Water Quality*

128. The proposed Project would meet DEEP air quality standards and would not produce air emissions of regulated air pollutants or GHG. (Glenvale 1, Attachment G, p. 9)

129. During construction of the proposed Project, air emissions from the operation of machinery would be temporary in nature. (Glenvale 1, p. 11)

130. As applicable to any proposed jurisdictional facility site, the Council's Filing Guide for a Petition for a Declaratory Ruling for a Renewable Energy Facility requires the submission of plans for erosion and sedimentation control consistent with the *2002 Connecticut Guidelines for Erosion and Sedimentation Control* (2002 E&S Guidelines); Water consumption and discharge rates; FEMA Flood Zone information and associated flood mitigation plans; Proximity to DEEP Aquifer Protection Areas; DEEP groundwater classification underlying the site; Wetland and Watercourse Analysis Report and map, and associated Wetland and Watercourse Impact Mitigation Plan; and Vernal Pool Analysis Report and map, and associated Vernal Pool Impact Mitigation Plan. (Record)

131. Operation of the facility would not require water use or discharge. (Glenvale 1, Attachment G, p. 16)

132. Groundwater at the site is classified by DEEP as "GA" which indicates groundwater that is presumed to be suitable for human consumption without treatment. No impacts on groundwater quality are anticipated to result from the Project. (Glenvale 1, Attachment G, p. 16)

133. Private water wells serve the residences in the area. The installation of the racking system is not expected to result in groundwater quality issues. (Glenvale 2, response 29)

134. The site is not located within a DEEP-designated Aquifer Protection Area or a Public Drinking Supply Watershed. (Glenvale 1, Attachment G, pp. 16-17)

135. No on-site fuel storage is proposed during construction. (Tr. 1, p. 54)

136. A fuel material storage and spill prevention plan for construction would be developed and would include spill response procedures and appropriate contact information. (Glenvale 1, Attachment A, Sheet EN-1; Tr. 1, p. 54)

#### *Stormwater*

137. Pursuant to C.G.S. Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater discharges. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. (C.G.S. §22a-430b; DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. (DEEP-WPED-GP-015)

138. The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General 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 proposed project after construction is complete. In its discretion, DEEP could require an Individual Permit for discharges and hold a public hearing prior to approving or denying any General or Individual Permit (Stormwater Permit) application. (C.G.S. Section 22a430b; C.G.S. Section 22a-430(b))

139. The SWPCP incorporates project designs consistent with the 2002 E&S Guidelines and the *2004 Connecticut Stormwater Quality Manual* (2004 Stormwater Manual). (DEEP-WPED-GP-015)

140. DEEP has the authority to enforce proposed project compliance with its Individual or General Permit and the SWPCP, including, but not limited to, the installation of site-specific water quality protection measures in accordance with the 2002 E&S Guidelines and 2004 Stormwater Manual. (C.G.S. §22a-430b (2023))

141. The Council may impose a condition that requires subsequent compliance with DEEP standards and regulations. (Council Administrative Notice No. 73 - *FairwindCT, Inc. v. Connecticut Siting Council*)

142. The Project would require a DEEP-issued Stormwater Permit prior to commencement of construction activities as defined in the General Permit. (C.G.S. §22a-430b (2023))

143. The General Permit requires the designing qualified professional to conduct the SWPCP Implementation Inspection that confirms compliance with the General Permit and the initial implementation of all SWPCP control measures for the initial phase of construction. The SWPCP also requires a qualified inspector to inspect the work areas at least once per week and within 24-hours after a rain event that meets certain permit criteria. The qualified soil erosion and sediment control professional or a qualified professional engineer would inspect the area and confirm stabilization and compliance with the post-construction stormwater management requirements. (DEEP-WPED-GP-015)

144. Glenvale met with the DEEP representatives at a pre-application meeting on August 2, 2022. DEEP recommended that stabilization should be conducted as construction progresses and that in areas where panels are located on slopes greater than 10 percent, drip line protection should be incorporated into the Project design. (Glenvale 2, response 42)

145. Glenvale did not incorporate drip line protection on the preliminary site plans. The proposed tracker system panel configuration would shed runoff to the east and west with a changing aspect throughout the day. As a result, channelization below the drip edge is not expected. (Glenvale 1, Attachment A, Site Plans SP-1, SP-2; Glenvale 2, response 40)

146. The Project would be constructed in two main phases:
    a) Phase 1 includes of clearing necessary to install installation of perimeter erosion and sediment controls and construction of two temporary sediment traps, a sediment basin, and associated swales and berms, and the scarification and seeding of a field area adjacent to River Road; and
    b) Phase 2 includes tree clearing/site grubbing of the forested area of the site, followed by the installation of the solar array infrastructure, site stabilization, and conversion of the sediment traps into permanent stormwater basins.

    (Glenvale 1, Attachment A, Site Plans EC-3, EC-4)

147. Although disturbed areas would be seeded once Phase 1 is completed, Glenvale did not intend to ensure the sediment traps, berms, swales, and other disturbed areas are stabilized prior to proceeding with Phase 2 activities. (Tr. 1, pp. 19-22)

148. The outfalls of the sediment traps are directed towards perimeter silt fencing; however, the outflow rates from the basins would be controlled by the capacity outflow structure. If necessary, straw bales could be added to reinforce the silt fence at the outfall location to ensure it does not fail during heavy outfall events. (Glenvale 1, Attachment A, Site Plans EC-3, EC-4; Glenvale 2, response 44)

149. Post-construction stormwater would be controlled by perimeter swales and three stormwater management basins located along the perimeter of the site, as follows: one located in the southeast portion; one located in the northwest portion; and one located in the western portion of the site, adjacent to River Road. The stormwater management system is designed in accordance with the Stormwater Permit. (Glenvale 1, p. 13, Attachment A, Site Plans SP-1, SP-2; Tr. 1, pp. 66-67)

150. In correspondence to Glenvale, the Town Engineer expressed concern regarding the outfall of a stormwater management basin directed towards a poor drainage area on River Road. Glenvale has designed the stormwater basin to reduce peak flows off the site when compared to existing drainage flows. (Glenvale 1, Attachment C; Tr. 1 pp. 39-40)

151. The Inland Wetlands and Watercourses Act (IWWA), C.G.S. §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. (C.G.S. §22a-36, *et seq*. (2023))

152. 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. (C.G.S. §22a-42a (2023))

153. 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. (C.G.S. §22a-41 (2023))

154. Under the IWWA:
    a) "Wetlands" means land, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture;
    b) "Watercourses" means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border the state; and
    c) Intermittent watercourses are delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation. (C.G.S. §22a-36, *et seq*.)

155. A wetland inspection on the host parcel was performed on January 19, 2022. (Glenvale 1, Attachment G, p. 9)

156. Glenvale identified a forested wetland (Wetland 1) extending across the southern portion of the parcel, continuing off-site to the south. A northerly extension of this wetland also occurs on the abutting property to the west (also owned by the host parcel property owner) resulting from ditching associated with a former railroad. (Glenvale 1, Attachment G, p. 9)

157. The construction limit of disturbance (LOD) would be approximately 96 feet from the wetland at its closet point. The wetland buffers for the Project comply with the requirements of Stormwater Permit Appendix I. (Council Administrative Item No. 54; Glenvale 1, Attachment A, Site Plans SP-1, SP-2)

158. A vernal pool survey of a previously identified depression within Wetland 1 was conducted on April 4, and May 11, 2022. The survey confirmed the depression was a cryptic vernal pool that supports spotted salamander. (Glenvale 1, Attachment G, pp. 9-10)

159. Development of the site would not directly impact the vernal pool (VP) or the associated vernal pool envelope (VPE-100 feet from VP edge). The LOD (tree clearing area to reduce project shading) is approximately 110 feet from the VPE at its closest point. (Glenvale 1, Attachment G, pp. 11-14)

160. The Project would require the clearing of forest within the Critical Terrestrial Habitat (CTH -650 feet from VPE edge). Although the clearing and installation of the solar array would increase the overall developed portion of the CTH by 6 percent, totaling 23 percent, it would remain below the 25 percent development area threshold as recommended by the 2015 US Army Corps of Engineers Vernal Pool Best Management Practices. (Glenvale 1, Attachment G, pp. 11-15; Tr. 1, pp. 85-91)

161. Glenvale would implement a Wetland and Vernal Pool Protection Plan during construction. The plan includes but is not limited to, contractor education, signage, an environmental monitor to conduct periodic inspections, provisions for fuel storage and spill remediation, herbicide, pesticide and salt restrictions, and site inspection reporting. The installation of perimeter silt fence would serve to exclude spotted salamander, and other species, from the construction area. (Glenvale 1, Attachment A, Site Plan EN-1; Tr. 1, pp. 85-91)

162. Glenvale would install exclusion fencing around the perimeter of the southern stormwater detention basin to prevent spotted salamander from using the basin as a decoy pool. (Glenvale 1, Attachment A, Site Plan EN-1; Tr. 1, pp. 28-29, Tr. 1, pp. 85-91)

163. The stormwater detention basin to the west of the solar array, along River Road, was not considered for exclusion fencing due to its proposed location within an existing field. Spotted salamander utilizes forest habitat and would typically avoid field habitat. (Glenvale 1, Attachment G, p. 14; Tr. 1, pp. 92-93)

164. The main migratory routes for spotted salamander would be to the north, south and east of the vernal pool. The migratory routes to the south and east would remain. The route to the north would be impacted by site development. (Tr. 1, pp. 90-91)

165. To reduce impact to the spotted salamander migratory route and VP water quality, the tree clearing area south of the solar array would be replanted with native shrubs (Vernal Pool Terrestrial Enhancement Area). Dense shrub cover would offer sufficient shade for use by spotted salamander and reduce thermal effect to the vernal pool. Glenvale could also retain and import ground cover to enhance habitat in the shrub area. (Glenvale 1, Attachment A, Site Plan EN-1; Tr. 1, pp. 28, 93-96)

166. Glenvale would establish erosion and sedimentation controls consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control.* The site plans specify the use of meshless or natural fiber erosion control netting to reduce the potential entanglement of amphibian and reptile species that may inhabit the site. (Glenvale 1, Attachment A, Site Plan EN-1)

### *Forests and Parks*

167. Approximately 23 acres of forest occur on the host parcel, and of that, 13.7 acres would be removed to develop the Project. (Glenvale 1, Attachment G, p. 21)

168. The existing forest on the property is part of an approximately 104-acre forest block on the host parcel and within the surrounding area. Of the 104-acre forest block, 34-acres are considered core forest. This core forest extends off the host parcel to the southeast, across numerous private properties zoned AG-2 and industrial. (Glenvale 1, Attachment G, pp. 22- 24, 32, Bulk File 1b)

169. The 34-acre core forest block is classified as a small core forest by UCONN Center for Land Use Education and Research (CLEAR). Studies suggest that 250 acres should be considered the absolute minimum forest patch size needed to support edge-intolerant species such as interior forest birds. (Glenvale 1, Attachment G, pp. 22- 23; Glenvale 2, response 39)

170. Tree clearing for the Project would reduce the core forest from 35 acres to 26 acres but would not change its small core forest designation. (Glenvale 1, Attachment G, pp. 22- 24)

171. Although not required for an application for a Certificate, Glenvale obtained a written determination from DEEP, dated May 25, 2022, that the proposed Project will not materially affect the status of core forest. (Glenvale 1, Attachment G, pp. 22- 23; C.G.S. §16-50k (2023)

172. The Natchaug State Forest is approximately 0.4 miles east of the site, along the east bank of the Quinebaug River in Putnam. There are no DEEP-established trails in this section of the state forest. (Council Administrative Notice Item No. 99; Glenvale 1, Attachment G, p. 32)

173. The Putnam Lions Memorial Dog Park is approximately 0.4 miles northeast of the site. (Glenvale 1, Attachment G, pp. 31-32)

### *Scenic, Historic and Recreational Values*

174. SHPO submitted correspondence to Glenvale on March 9, 2023, indicating that the proposed Project would not affect historic or archeologic resources listed on the National Register of Historic Places or the Connecticut Register of Historic Places. (Glenvale 2, response 32)

175. SHPO recommended a Phase IB professional cultural resources assessment and reconnaissance survey in areas at the site that have a moderate to high potential to contain intact archaeological deposits. (Glenvale 2, response 32)

176. Glenvale would complete the Phase 1B survey as part of its Stormwater Permit application. (Tr. 1, p. 45)

177. A stone wall fronting River Road would remain in place, except where a portion would be removed for construction of the access drive. (Tr. 1, p. 39)

178. A majority of the facility would be shielded from view by existing vegetation to the north, east and south. (Glenvale 1, Attachment G, pp. 34-35, Viewshed Analysis Map)

179. Year-round visibility of the site, including the new utility pole, would occur on portions of River Road adjacent to the site, for distances of up to a tenth of a mile. (Glenvale 1, Attachment G, pp. 34-35)

180. Seasonal views (leaf-off) of the facility could occur from several residences to the north. (Glenvale 1, Attachment G, Viewshed Analysis Map)

181. To mitigate views of the facility from the abutting residence to the north, Glenvale would plant landscape screening in a staggered arrangement along the 34 River Road property line. (Glenvale 1, Attachment A, Site Plan SP-1; Tr. 1, p. 33)

182. Glenvale could also extend landscaping farther to the east to screen the access drive turnround area from the 34 River Road property. (Tr. 1, pp. 34-35)

183. To mitigate views of the facility from River Road, Glenvale would install green privacy slats on the eight-foot chain link fence facing the road. The privacy slats do not extend beyond the fence corners. (Glenvale 1, Attachment A, Site Plan SP-1; Tr. 1, pp. 111-113)

184. Glenvale could install additional plantings between the eight-foot fence and River Road to provide further visual screening, but only in areas outside of the stormwater basin. (Glenvale 1, Attachment A, Site Plan SP-1; Tr. 1, pp. 114-115)

185. Relocation of the access drive farther south along River Road to move it away from the 34 River Road property was not considered by Glenvale due to the interconnection tie in at Eversource pole #1184 and the shading of the panels from one proposed utility pole. If an access road in this area was developed, there would be minimal impact to Wetland 1 and the VP CTH. (Glenvale 2, response 15; Tr. 1, pp. 117-120)

186. The proposed facility would not be visible to the undeveloped portion of the Air Line Rail Trail since the old railroad elevation is 10 to 15 feet lower than the nearest edge of the Project. In addition, a narrow-forested buffer would remain where the project abuts the old railroad parcel. (Glenvale 1, Attachment G, p. 35)

187. There are no town or state designated scenic roads within one mile of the site. (Glenvale 1, Attachment G, p. 30, Viewshed Analysis Map)

188. There are no "blue-blazed" hiking trails maintained by the Connecticut Forest and Park Association within one mile of the site. (Glenvale 1, Attachment G, p. 30, Viewshed Analysis Map)

189. No comments were received from OPM or DEEP regarding impacts to scenic quality or resources. (Record)

***Fish, Aquaculture and Wildlife***

190. The site is within a DEEP Natural Diversity Database (NDDB) buffered area. On January 25, 2022 DEEP issued a no impact determination letter without listing any species that may occur at the site. The letter recommended that pollinator habitat be planted within the array and fencing be installed to promote wildlife movement. (Glenvale 1, Attachment G, DEEP NDDB letter; Tr. 1, p. 33)

191. Glenvale could install an agricultural-style fence around the east, south and north sides of the site to allow for the passage of small wildlife species. (Tr. 1, p. 48)

192. The site is within the range of the northern long-eared bat (NLEB), a federally-listed endangered species and state-listed endangered species. There are no known NLEB hibernacula or known maternity roost

trees within 0.25 miles and 150-feet, respectively, of the proposed site. (Glenvale 1, Attachment G, pp. 27-28)

193. Glenvale performed a US Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) analysis that determined the Project would not have an effect on NLEB. At the time the IPaC analysis was conducted, the NLEB was a federally-threatened species. The USFWS re-listed the NLEB as federally-endangered on March 31, 2023. Glenvale subsequently performed an additional analysis using the new USFWS NLEB planning tool with more detailed habitat modeling. It was determined the Project would not likely have an adverse effect on NLEB, and no additional action is necessary. (Glenvale 1, Attachment G, pp. 27-28; Tr. 1, pp. 29-32)

194. The site is not within a DEEP-designated cold-water habitat/fishery. (Council Administrative Notice Item No. 55)

***Agriculture***

195. 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 includes, but is 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. (Public Act 11-189; GCAD First Annual Report December 2012)

196. 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. 64 – Climate Change Preparedness Plan)

197. 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. 64 – Climate Change Preparedness Plan)

198. Pursuant to C.G.S. §22-26aa, *et seq.,* DOAg administers the Statewide Program for the Preservation of Agricultural Land, a voluntary program to establish a land resource base consisting mainly of prime and important farmland soils. A permanent restriction on non-agricultural uses is placed on the deed of participating properties, but the farms remain in private ownership and continue to pay local property taxes. The host parcel is not enrolled in this program. (C.G.S. §22-26aa, *et seq*.; Glenvale 2, response 11)

199. Public Act (PA) 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 host parcel is enrolled in the PA 490 Program. After the facility is built, the site may not be eligible for inclusion within PA 490 Program. (Glenvale 2, response 10)

200. Prime farmland soils are defined by the United States Department of Agriculture National Resources Conservation Service as the most suitable land for producing food, feed, fiber, forage, and oilseed crops. (Council Administrative Notice Item No. 14)

201. The host parcel contains 5 acres of mapped prime farmland soil, of which 3.2 acres are under active cultivation by a third-party dairy farmer. The remaining 1.8 acres is forestland. The Project would occupy 4.4 acres of prime farmland soil consisting of both forest and open field. (Glenvale 1, Attachment G, pp. 4, 29-30)

202. Prior to submitting the application, Glenvale considered filing a petition for a declaratory ruling to the Council for the proposed facility, pursuant to C.G.S. §16-50k and §4-176. Glenvale met with DOAg in 2022 to discuss the facility and its potential impact on prime farmland soil. (Glenvale 1, p. 9, Attachment E)

203. Glenvale proposed agricultural co-uses at the site, including, but not limited to, planting pollinator friendly grass in the solar field, in accordance with the DEEP NDDB letter, establishing apiaries for honey production, and hosting sheep at the site. Glenvale also proposed to convert other land on nearby parcels to agricultural use for the third-party farmer to grow dairy feed crops. (Glenvale 1, p. 9, Attachment E)

204. DOAg did not concur with Glenvale that agricultural co-uses at the site would be a sufficient mitigation for the loss of a three-acre field that contained prime farmland soil and on August 16, 2022, DOAg issued a written determination that the Project would have a material impact to prime farmland. (Glenvale 1, p. 9; Attachment G, DOAg consultation correspondence; Tr. 1, pp. 82-83)

205. A portion of site was used by a third-party farmer to grow feed corn on a three acre field via a lease arrangement. The farmer (FairVue Farms) submitted correspondence to Glenvale and DOAg indicating that the loss of the three-acre field through development of the Project would have no impact on his farming activities. (Glenvale 1 p. 9, Attachment G-App. C; Glenvale 3; Tr. 1 p. 77)

206. Glenvale proposes to implement an agricultural co-use plan for the proposed facility site that includes seasonal sheep grazing within the solar array perimeter fence, if deemed necessary. Glenvale would also consider alternative agricultural co-uses for the site. (Glenvale 1, p. 9; Tr. 1, pp. 82-84)

207. Sheep grazing would be conducted in accordance with DOAg's "Requirements for Solar Grazing Properties" document. (Glenvale 2, response 36)

208. Glenvale would install a well at the site to support grazing activities. An outbuilding for livestock would not be required. (Glenvale 1, p. 9; Glenvale 2, responses 33 & 34)

209. Glenvale has a proposal from Lambscaping Rhode Island to graze sheep during the time frame of May 1st to November 15. (Tr. 1, p. 103)

210. The cost of sheep grazing at the site is similar to that of mowing. If sheep grazing was implemented, vegetation outside of the solar array perimeter fence would still need to be mowed and maintained on a periodic basis. (Tr. 1, p. 45)

211. If sheep grazing is implemented at the site, perimeter fencing would have to be installed to ground level to deter predators. (Tr. 1, pp. 47-48)

212. DEEP did not comment on potential agricultural co-uses at the site. (Glenvale 2, response 42)

## Facility Construction

213. If the Project is approved by the Council, the following permits would be required for construction and operation:
    a) DEEP Stormwater Permit; and
    b) Town Building and Electrical Permit.
(Glenvale 1, response 2)

214. Existing grades would be maintained through the solar array area except where earth work is required to construct the stormwater management system. (Glenvale 1, Attachment A, Site Plans GP-1, GP-2)

215. Construction of the facility would require 6,770 cubic yards of cut and 1,450 cubic yards of fill. Excess cut would be spread throughout the site during construction, and disturbed surfaces smoothed out prior to installation of the solar array infrastructure. (Glenvale 1, Attachment A, Site Plan T-1; Tr. 1, pp. 21-23)

216. Site construction would disturb an approximate 16.9-acre area. (Glenvale 1, Attachment A, Site Plan T-1)

217. Ledge is anticipated at the site. The tracker system support posts would be driven or installed within pre-drilled holes. (Glenvale 1, Attachment G; Glenvale 2, response 36)

218. Ledge that is encountered during installation of stormwater basins and/or swales would be removed using a rock hammer. Blasting is not anticipated. (Tr. 1, pp. 26-27, 56)

219. A geotechnical survey would be performed prior to construction to evaluate existing subsurface conditions within the project area as part of the Development and Management (D&M) Plan. It would involve using a track-mounted boring rig. Some minor tree clearing may be required to allow access for the drill rig to the boring locations. (Tr. 1, pp. 27-28)

220. A D&M Plan is a condition of a Council final decision that must be met prior to commencement of construction and constitutes the "nuts and bolts" of a facility approved by the Council. (C.G.S. §16-50p (2023); R.C.S.A. §16-50j-75, *et seq*.; *Town of Westport v. Conn. Siting Council,* 260 Conn. 266 (2002))

221. Construction of the facility is expected to begin in third/fourth quarter 2023, completed in the second quarter 2024. (Glenvale 1, p. 5)

222. Traffic control would be implements, if necessary. (Glenvale 1, Attachment A, Site Plan GN-1)

223. Once operational, the site would require minimal traffic. (Glenvale 1, Attachment G. p. 36)

## Facility Operations and Maintenance

224. Glenvale provided a post-construction Operations and Maintenance Plan (O&M Plan) that includes, but is not limited to, provisions for remote monitoring, equipment maintenance, and site safety and security. (Glenvale 1, Attachment F)

225. A sub-contractor would perform inspection and maintenance tasks. (Tr. 1, p. 98)

226. The main topics of the post-construction O&M Plan include, but are not limited to, the following:
    a) Site visits monitoring;
    b) System maintenance;
    c) Site maintenance; and
    d) Emergency response and site access.

    (Glenvale 1, Attachment F)

227. Site visits would be conducted once a month. Equipment maintenance would be conducted per equipment manufacturers' specifications. (Glenvale 1, Attachment F)

228. Vegetation would be controlled within the array by livestock grazing and/or mowing. Any weed or shrub growth in the electrical housing or inverter enclosures will be removed. (Glenvale 1, Attachment F)

229. Snow would be plowed from the access road to maintain access to equipment. No manual snow removal is expected from the panels. The tracker system can come equipped with a sensor that can detect snow, causing the tracker to orient the panels at the steepest angle possible allowing snow to slide off. (Glenvale 1, Attachment F; Tr. 1, p. 61)

230. When necessary, the solar panels would be washed on-site using water and a bristle brush. No chemical cleaning agents would be used. (Glenvale 1, Attachment F)

231. Permanent facility lighting is not proposed. (Tr. 1, pp. 41-42)

**Decommissioning**

232. The facility has a design life of approximately 30- 40 years. It may be possible to extend the life of the facility by retrofitting equipment that exceeds their respective lifespans. (Glenvale 1, p. 5, Attachment B; Tr. 1, pp. 40, 89)

233. At the end of the Project's lifespan, it will be decommissioned and removed from the property, including the removal of posts, panels, electrical equipment and pads, and fencing. The stormwater management system and access road may remain in place for re-use. (Glenvale 1, Attachment B; Tr. 1, p. 97)

234. Glenvale does not know what the property use would be after Project decommissioning. Establishment of grassland within the array area during the life of the Project would allow the soil to maintain its soil organic matter to facilitate agricultural activities. A return to an agricultural use, or other uses, after decommissioning would be determined based on economic conditions at that time. (Glenvale 1, response 37; Tr. 1, p. 49)

235. Public Act (PA) 23-163 became effective on June 29, 2023. It imposes site decommissioning and restoration bond requirements for on-site prime farmland when the Council issues a Certificate for a solar facility. (Public Act 23-163)

236. If required by PA 23-163, Glenvale could post a decommissioning bond and retain a qualified soil scientist to ensure prime farmland soils are restored upon Project decommissioning. (Tr. 1, pp. 49-50)

237. PA 23-163 does not apply retroactively to applications submitted to the Council prior to June 29, 2023. (Public Act 23-163)

238. Pursuant to C.G.S. §16-50p(g), the Council has no authority to evaluate, amend and/or determine rights under any agreement with the property owner of the proposed site, including, but limited to, the restoration of the soils to prime farmland status. (C.G.S. §16-50p(g) (2023).

239. Glenvale intends to recycle project materials, including solar panels, to the maximum extent practicable. Project materials that cannot be recycled would be removed from the site and disposed of at a licensed disposal facility. (Glenvale 1, Attachment B)

240. Glenvale has not selected solar panels for the Project to date. Glenvale would procure panels that meet current Toxicity Characteristic Leaching Procedure (TCLP) criteria[3] for characterization as nonhazardous waste in the event the solar panels are not recycled at the end of the Project's life. (Glenvale 1, response 49; Tr. 1, pp. 70-71)

**Neighborhood Concerns**

241. Based on neighborhood concerns regarding visibility and noise, Glenvale modified the proposed facility by developing a landscape plan, redesigning the interconnection and relocating the medium voltage power station farther away from an abutting property. (Glenvale 1, pp. 7-9; Glenvale 2, responses 26 & 30)

242. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public comment session on June 15, 2023 at 6:30 p.m. via Zoom remote conferencing. (Record; Tr. 2, p. 1)

243. During the public comment session, one member of the public made an oral limited appearance statement about the proposed facility. Concerns include, but were not limited to, the following;
- wildlife disruption;
- use a brownfield or other land; and
- loss of farmland and forest.

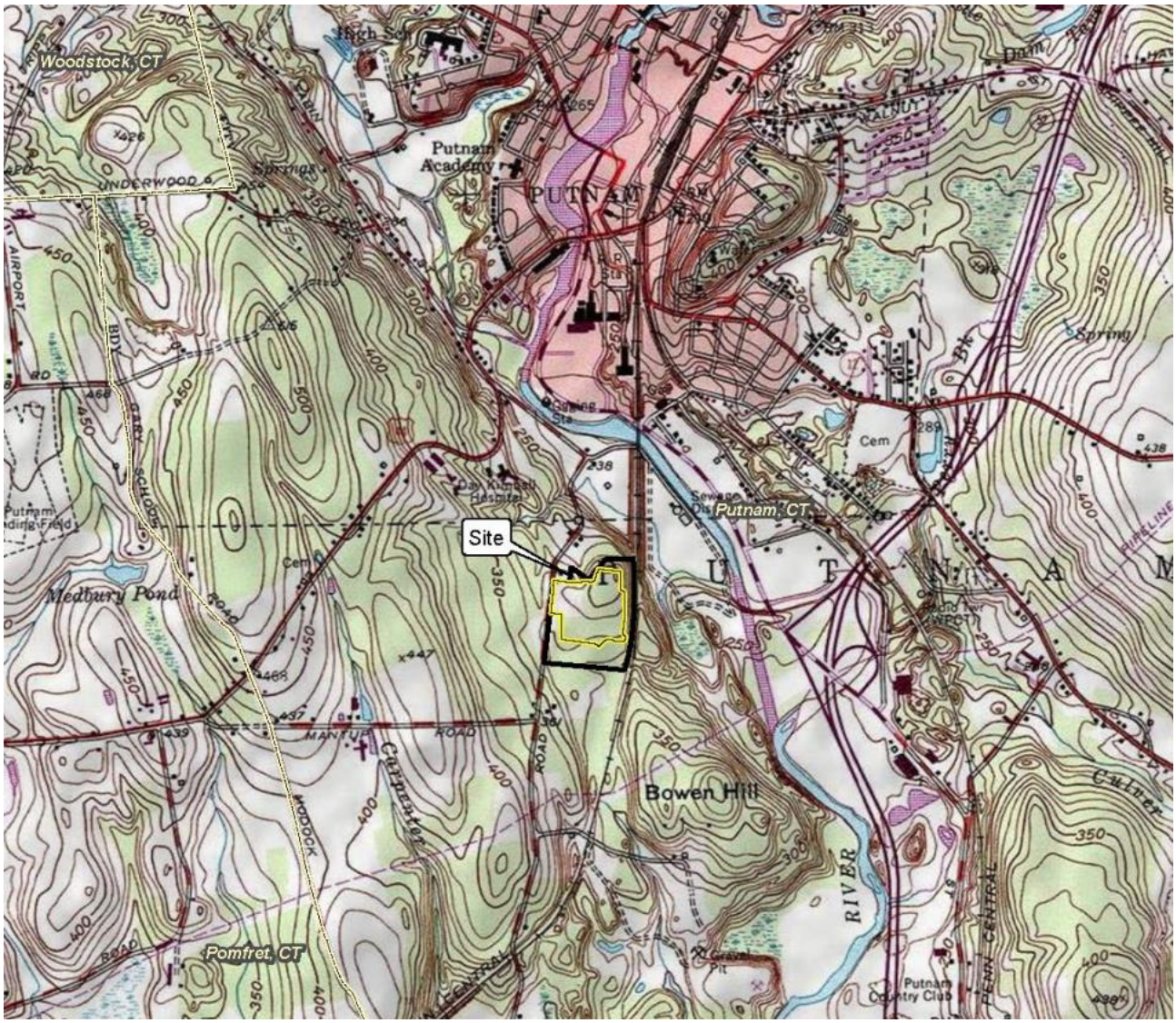
(Record; Tr. 2, pp. 11-13)

244. The Council did not receive any written limited appearance statements from members of the public regarding the proposed facility. (Record)

245. The Town Administrator made an oral limited appearance statement during the public comment session stating that various Town departments provided input to Glenvale during development of the Project. (Tr. 2, pp. 14-15)

[3] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-261/subpart-C/section-261.24

**Figure 1 – Site Location**




(Glenvale 1, Attachment G)

**Figure 2 – Surrounding Features**

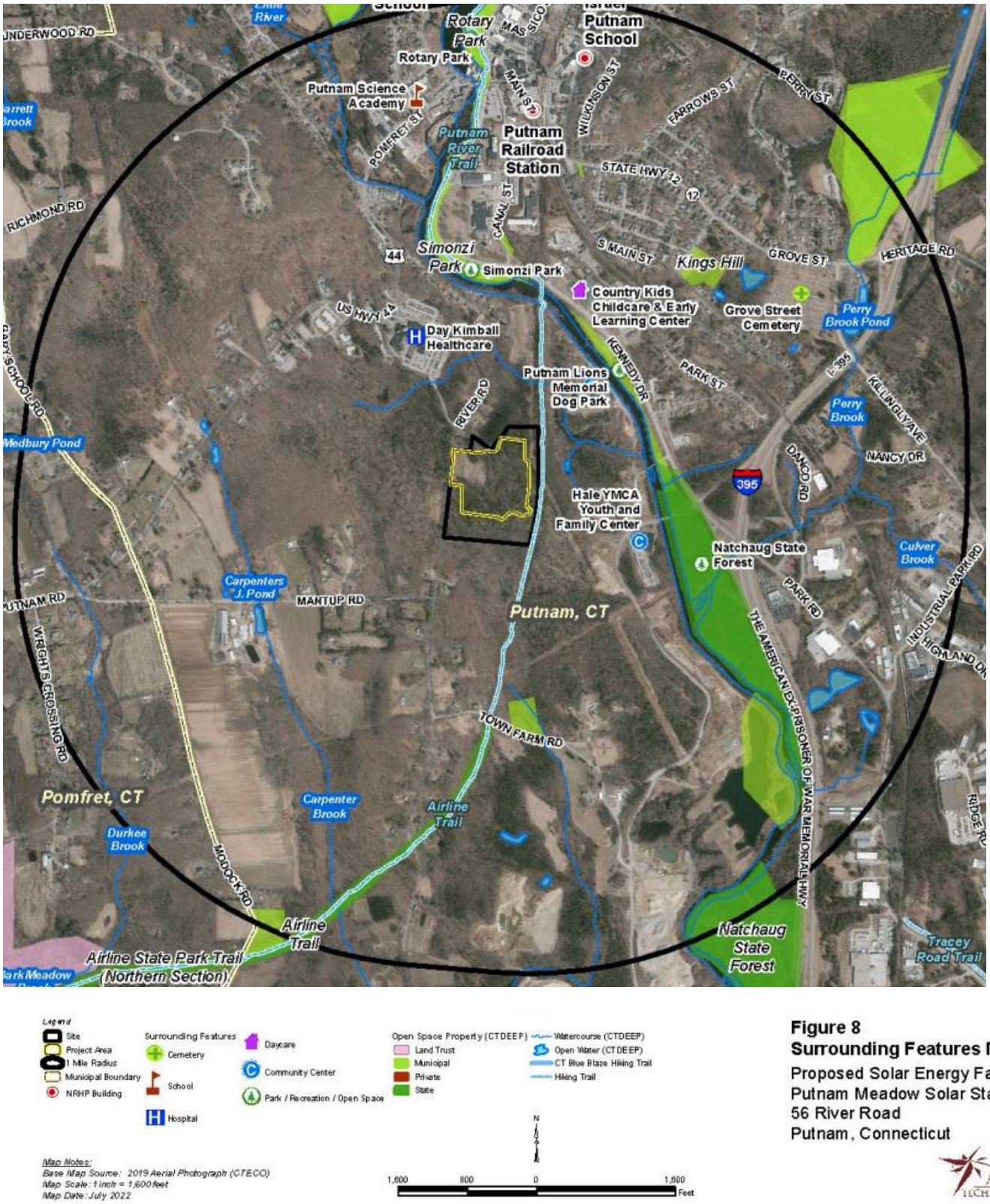
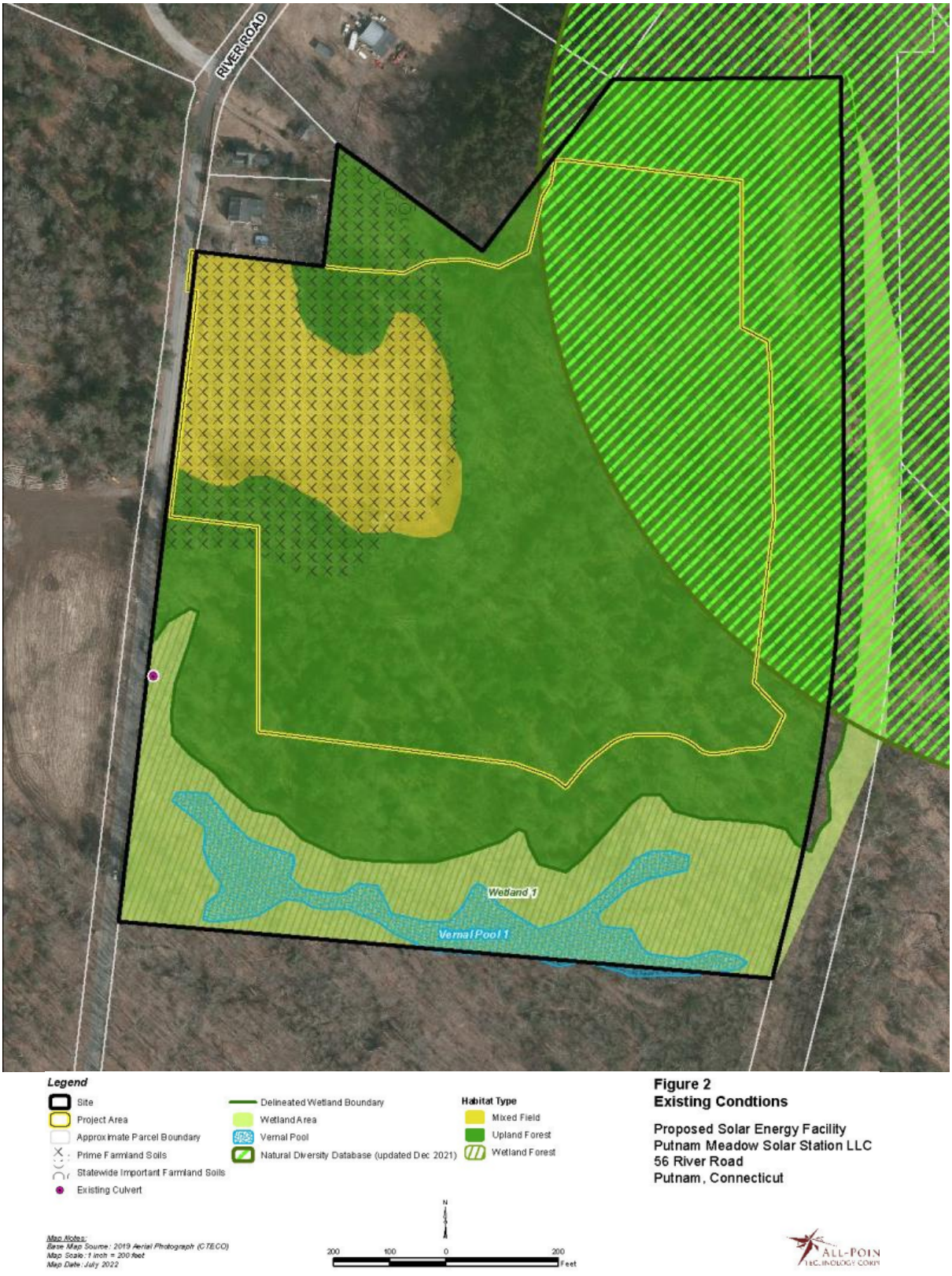



**Figure 8**
**Surrounding Features Map**
Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

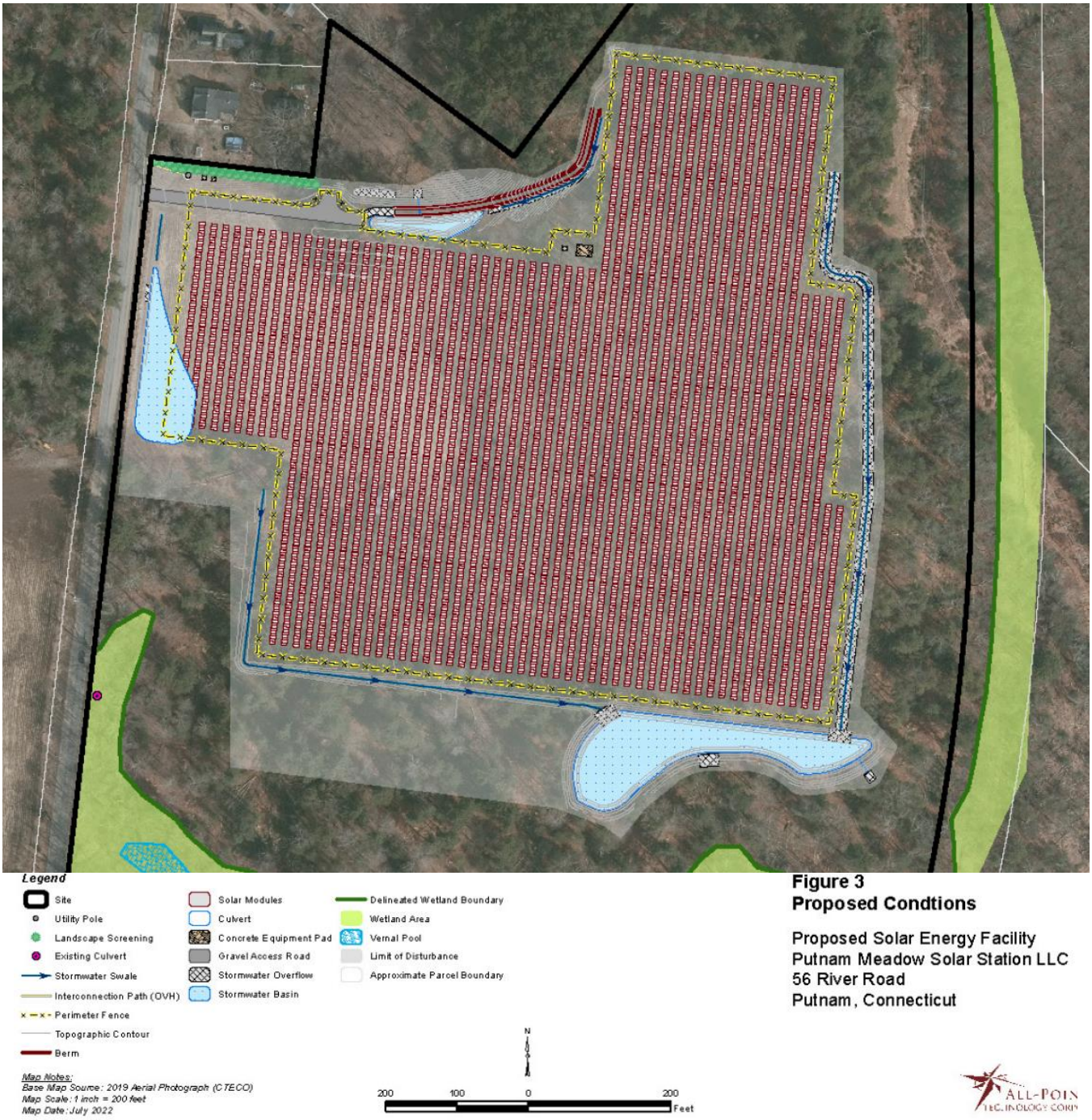
(Glenvale 1, Attachment G)

**Figure 4- Site Existing Conditions**




(Glenvale 1, Attachment G)

**Figure 3 – Site Proposed Facility Conditions**




(Glenvale 1, Attachment G)