

PETITION NO. 1410 - Greenskies Clean Energy, 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 3.0-megawatt AC solar photovoltaic electric generating facility on two parcels at the Elmridge Golf Course located to the east and west of North Anguilla Road at the intersection with Elmridge Road, Stonington, Connecticut, and associated electrical interconnection.	}	Connecticut
	}	Siting
	}	Council
		January 22, 2021

DRAFT Findings of Fact

Introduction

1. On June 4, 2020, Greenskies Clean Energy, LLC (GCE 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 3.0-megawatt AC solar photovoltaic electric generating facility on a portion of the Elmridge Golf Course property located at 223 Elmridge Road and North Anguilla Road, Stonington, Connecticut, and an associated electrical interconnection. (GCE 1, p. 4)
2. The party to the proceeding is GCE. The Parties and CEPA Intervenors to the proceeding are Douglas Hanson (Hanson) and the Proponents for Responsible Emplacement of Stonington Solar (PRESS). (Record)
3. GCE is a Connecticut limited liability company with principal offices at 127 Washington Avenue, North Haven, Connecticut. GCE develops, finances, constructs, and maintains clean, renewable-energy projects throughout the United States. (GCE 1, p. 5)
4. GCE would construct and own the proposed facility. (GCE 1, p. 5)
5. The proposed project would be a “grid-side distributed resources” facility under CGS § 16-1(a)(37). (CGS § 16-1(a)(37); GCE 1 p. 15)
6. The proposed project would generate renewable electrical energy from solar power. Solar power is considered a Class I renewable energy source. (CGS §16-1(a)(20); GCE 1, p. 5)
7. 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)

Procedural Matters

8. Upon receipt of the petition, the Council sent a letter to the Town of Stonington (Town) on June 5, 2020, as notification that the petition was received and is being processed, in accordance with CGS §16-50gg, and invited the Town to contact the Council with any questions or comments by July 4, 2020. (Record)
9. By letter dated July 2, 2020, the Town Planning and Zoning Commission provided comments to the Council. The comments are attached in Appendix A. (Letter from Town Planning and Zoning Commission dated July 2, 2020)

10. On July 27, 2020, Hanson requested a public hearing on the petition for a declaratory ruling. (Record)
11. On August 13, 2020, during a public meeting of the Council, the Council granted Hanson's request for a public hearing. (Record)
12. 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. 72)
13. On March 12, 2020, Governor Lamont issued Executive Order No. (EO) 7 ordering a prohibition of large gatherings, among other orders and directives. (Governor Lamont's EO 7; Council Administrative Notice Item No. 72)
14. On March 14, 2020 and as subsequently extended, 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. 52, CGS §1-200, et seq. (2019))
15. 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. 52)
16. On March 25, 2020 and as subsequently extended, Governor Lamont issued EO 7M allowing for an extension of all statutory and regulatory deadlines of administrative agencies for a period of no longer than 90 days (Council Administrative Notice Item No. 72)
17. Pursuant to Governor Lamont's EO 7B and CGS §16-50m, the Council published legal notice of the date and time of the remote public hearing via Zoom conferencing in The Day on September 1, 2020. The hearing was scheduled for October 1, 2020. (Council's Hearing Notice dated August 31, 2020; Record)
18. Pursuant to Governor Lamont's EO 7B and CGS §16-50m, on August 31, 2020, the Council sent a letter to the Town of Stonington to provide notification of the scheduled remote public hearing via Zoom conferencing and to invite the municipality to participate. (Record)
19. 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 August 31, 2020)

20. 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. 73 and 74)
21. On July 2, 2020, in lieu of an in-person field review of the proposed site, the Council requested the Petitioner submit photographic documentation of site-specific features into the record intended to serve as a “virtual” field review of the proposed site. On July 23, 2020, the Petitioner submitted such information in response to the Council’s first set of interrogatories. (Record; Applicants 2, response 20)
22. On September 9, 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, and filing of pre-hearing interrogatories. Procedures for the remote public hearing via Zoom conferencing were also discussed. Representatives of the Petitioner, Hanson, and PRESS participated in the pre-remote hearing teleconference. (Council Pre- Remote Hearing Conference Memoranda, dated September 2, 2020 and September 10, 2020)
23. Pursuant to R.C.S.A § 16-50j-21, on September 15, 2020, GCE installed two signs measuring six feet by four feet that included information about the proposed facility, the public hearing date and contact information for the Council. One sign was posted at the entrance to the golf course at Elmridge Road, and the second sign was posted at the proposed access to the west solar array off North Anguilla Road. (GCE 4; Council Pre-Remote Hearing Conference Memoranda, dated September 10, 2020)
24. Pursuant to CGS §16-50m, the Council, after giving due notice thereof, held a remote public hearing on October 1, 2020, beginning with the evidentiary session at 2:00 p.m. and continuing with the public comment session at 6:30 p.m. via Zoom conferencing. The Council provided access information for video/computer access or audio only telephone access. (Council’s Hearing Notice dated August 31, 2020; Transcript 1 – October 1, 2020 2:00 p.m. [Tr. 1]; Transcript 2 – October 1, 2020 6:30 p.m. [Tr. 2], p. 1)
25. In compliance with Governor Lamont’s EO 7B:
 - 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 October 2, October 11, October 19, October 26, November 11, and November 18, 2020, respectively; a recording and a transcript per hearing;
 - 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 hearings; 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 hearings.(Hearing Notice dated August 31, 2020; Tr. 1; Tr. 2; Record)
26. The Council continued the remote evidentiary hearing session via Zoom conferencing on October 20, 2020 beginning at 2:00 p.m., and on November 10, 2020 beginning at 2:00 p.m. (Council’s

Continued Hearing Memos dated October 2, 2020, & October 21, 2020; Transcript 3- October 20, 2020 – 2:00 p.m. [Tr. 3], p. 1; Transcript 4- November 10, 2020 – 2:00 p.m. [Tr. 4] p. 1)

Municipal Consultation

27. On January 23, 2020, GCE and the landowner met with the Town of Stonington First Selectwoman, Danielle Chesebrough, Town Planner, Keith Brynes and Wetlands and Zoning Officer, Candy Palmer, to review the Project. (GCE 1, p. 18)
28. On April 23, 2020, GCE provided site plans to Town officials. (GCE 1, p. 18)
29. On May 6, 2020, GCE conducted a site visit with Mr. Brynes and Ms. Palmer. Mr. Brynes advised GCE that once the Petition was submitted to the Council, the Town's third-party engineering consultant would review the project and provide comment. (GCE 1, p. 18)
30. Pursuant to RCSA §16-50j-40 on or about May 29, 2020, the Petitioner notified the abutting property owners of the proposed project. The Petitioner notified Town officials and state officials and agencies, of the proposed project on or about June 3, 2020. (GCE 1, pp. 18-19, App. K)
31. On September 22, 2020, Mr. Brynes, contacted GCE stating the Town's third party engineering consultant's comments were generally addressed. (GCE 8, p. 7, Exhibit A)
32. If the project is approved, GCE would hold a pre-construction meeting with the Town prior to construction. (GCE 3, p. 9, item 6)

State Agency Comments

33. Pursuant to RCSA §16-50j-40, on August 31, 2020, the following state agencies were requested to submit written comments regarding the proposed facility: Department of Energy and Environmental Protection (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 August 31, 2020)
34. No state agencies responded to the Council's request for comment on the proposed facility. (Record)

State of Connecticut Planning and Energy Policy

35. 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. (2013 CES; CGS §16a-3d)
36. 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. 52 – 2018 CES, p. 14)

37. 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.” The proposed facility will contribute to fulfilling the State’s Renewable Portfolio Standard and Global Warming Solutions Act as a zero emission Class I renewable energy source. (Council Administrative Notice Item No. 52 – 2018 CES)
38. 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. 52 – 2018 CES, pp. 110-112)
39. 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. 52 – 2018 CES, p. 112)
40. 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)
41. 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. 65 – Climate Change Preparedness Plan)
42. Governor Lamont’s 2019 Executive Order No. 3 declares the state’s goal to reach 100 percent carbon free electricity by 2040.

Competitive Energy Procurement

43. Energy produced by the project would be sold to Eversource via a non-firm tariff. (GCE 11, p. 1, item d; Tr. 3, pp. 138-139)
44. The project was awarded three zero emission renewable energy credits (ZRECs) through a competitive request for proposal process. GCE entered into three 15-year purchase contracts with Eversource for the ZRECs. The delivery date for the contracts is April 1, 2021 with options for contract extensions. (GCE 1, p. 4; GCE 3, response 24)
45. 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 Petition 1312, Finding of Fact #62)
46. The Project would not receive any incentives from the State. (GCE 3, response 24)

47. The Petitioner does not intend to participate in the ISO-NE Forward Capacity Auction. (GCE 2, response 2)

Public Benefit

48. 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))
49. The project would be a distributed energy resource facility as defined in CGS §16-1(a)(49). CGS §16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent." (CGS §16-1(a)(49); CGS §16a-35k)

Public Act 17-218

50. 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 such land as core forest." (CGS §16-50k)
51. Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the construction, maintenance and operation of solar photovoltaic electric generating facilities throughout the state. PA 17-218 does not confer the Council's exclusive jurisdiction upon DOAg or DEEP nor does it permit DOAg or DEEP to impose any enforceable conditions on the construction, maintenance and operation of solar photovoltaic electric generating facilities under the exclusive jurisdiction of the Council. (CGS §16-50k and 16-50x)
52. By letter dated April 27, 2020, DEEP's Bureau of Natural Resources determined the proposed solar facility would not have a material impact on the status of core forest. (April 27, 2020 DEEP CGS §16-50k No Material Impact to Core Forest Determination Letter, GCE 1, p. 17, App. K)
53. By letter dated June 2, 2020, DOAg determined the proposed solar facility would not have a material impact on the status of prime farmland. (June 2, 2020 DOAg CGS §16-50k No Material Impact to Prime Farmland Determination Letter; GCE 1, p. 17, App. K)
54. 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

55. GCE selected the site due to the following factors:
- a) suitability to support a solar installation;
 - b) no adverse impact to prime agricultural soil;
 - c) no adverse impact to core forest;
 - d) minimal visual impact to the surrounding area; and
 - e) suitable interconnection to the local electric grid.
- (GCE 1, pp 8-9)

56. GCE investigated numerous sites and selected several that were submitted into the ZREC auction administered by Eversource. Other sites that were submitted into the auction but were not selected include locations in the Towns of East Windsor, Lebanon, Haddam, Mystic, and Monroe. (GCE 3, response 25)
57. An alternative site layout on the property included installing 2 MW on the west side of the property and 1 MW on the east side of the property, but this layout was rejected due to wetland constraints. (GCE 3, response 17)
58. 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. 77 - *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007))

Site

59. 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))
60. The proposed site consists of two distinct Project areas, the East Project area and West Project area, (collectively, the Project) that are located on the approximate 250-acre Elmridge Golf Course (refer to Figure 1). The golf course is comprised of 3 parcels and currently has 27 golf holes in operation. The golf course would be reconfigured to 18 holes upon completion of the Project. (GCE 1, pp. 4, 6, App. F)
61. The East Project area is located on approximately 10 acres of an 87.5 acre parcel zoned Rural Residential (RR80), bounded by open space to the east, North Anguilla Road to the west, residential use to the south, and Elmridge Road to the north. The parcel contains 12 operational golf holes. The holes on this parcel would be reconfigured (refer to Figures 2 & 3). (GCE 1, pp. 4, 6, 34; Tr. 3, pp. 30-34)
62. The East Project area consists of landscaped lawn, some treed areas, paved golf cart paths, and sand traps. Site topography consists of mostly gentle slopes (2 to 9 percent) except for the western side where slopes range from 9 to 15 percent. (GCE 1, p. 34, Figure 2, App. F)
63. The West Project area is located on approximately 5 acres of a 26 acre parcel zoned Greenbelt Residential (GBR-130). The parcel contains 3 operational holes and is bounded by residential lots to the north, North Anguilla Road to the east, open space and a residential lot to the south and Interstate I-95 to the west. The 3 existing golf holes on this parcel would be abandoned (refer to Figures 2 & 3). (GCE 1, pp. 4, 6, 34; GCE 3, response 40)
64. The West Project area consists of landscaped lawn, paved golf cart paths, and sand traps. Site topography mainly consists of gentle slopes (2 to 9 percent). (GCE 1, p. 34, Figure 2, App. F)
65. The Elmridge Golf Course property is situated in a rural and residential mixed area in the northeastern corner of Pawcatuck, a village area in Stonington. (GCE 1, App. F)

Project Description

Solar Array

66. Approximately 9,600 fixed tilt solar panels, rated at approximately 395 Watts direct current (DC), would be installed at the site with 6,400 panels for the East Project area and 3,200 panels in the West Project area (refer to Figure 4). (GCE 1, p. 10)
67. The panels would be arranged two-high in a portrait orientation and set at a 25 degree angle, extending to an approximate height of 8 feet above grade and approximately 3 feet above grade at the bottom edge, depending on specific topographic conditions. (GCE 11c)
68. The solar panels would be installed on a steel post-racking system with the posts driven into the ground to an approximate depth of 9 feet. Post spacing would range from 15 to 25 feet. (GCE 1, p. 10; GCE 2, response 18; Tr. 1, p. 22)
69. Solar array rows (panel edge to panel edge) would be spaced 13 feet apart. Once installed, the horizontal width of the panel row would measure 11.89 feet (from bottom edge to top edge at 25 degree angle). (GCE 11 p. 8, item d; GCE 11c)
70. If bedrock is encountered, ground screw anchors or ballasts would be used to support racking posts. Further geotechnical work would be performed to assess soil properties for post installation. (GCE 2, response 18; Tr. 1, pp. 21-22)
71. Wiring that connects the panels would be installed in trenched conduits, connecting to string inverters at the end of the panel rows, and to on-site equipment pads. Above ground cable trays could also be used but are not preferred due to grounds maintenance issues. (GCE p. 10; GCE 2, responses 12 & 21)
72. Two electrical service concrete equipment pads (574 sq. ft.) would be installed in the East Project area, one located near the site entrance and one in the middle portion of the array. One electrical service equipment pad would be installed to service the West Project area, located near the access road entrance. The pads would support a transformer, an AC combiner and low voltage data acquisition system and telemetry equipment. A separate transformer pad (162 sq. ft) would be installed adjacent to the access road to service each project area. (GCE 1, pp. 23-24; GCE 3, response 9; GCE 11d)
73. The two Project areas would be enclosed by a 7-foot high chain link fence. Each Project area would have a swing gate to control vehicle access into each site. (GCE 1, p. 9; GCE 11c)
74. Approximately 5,000 linear feet of fencing is proposed for the Project. (GCE 1, App. D)
75. The nearest property boundary to the East Project area perimeter fence is approximately 180 feet to the south at 5 Woodland Court. (GCE 3, response 35)
76. The nearest property boundary to the West Project area perimeter fence is approximately 65 feet to the northeast at 139 North Anguilla Road. (GCE 11c)
77. The East Project area solar panels would be approximately 20-30 feet from the solar field perimeter fence, depending on location. (GCE 11c)

78. The West Project area solar panels would be a minimum 15 feet from the solar field perimeter fence. (GCE 11c)

Site Access

79. Access to the East Project area would be from the existing Elmridge Golf Course driveway and parking lot. A new 15-foot wide gravel access drive would be constructed from the parking lot into the project area. From there, an approximate 1,180-foot long, 15-foot wide, gravel drive would extend along the east side of the solar field, within the fence line. (GCE 1, p. 9; GCE 11c)
80. Access to the West Project area would be from an approximate 640-foot long, 15-foot wide gravel access drive extending west from North Anguilla Road. The access drive would extend along the east side of the solar field, within the fence line. (GCE 1, p. 9; GCE 11c)

Electrical Interconnection

81. The Project is comprised of three, independently-metered systems with a total design capacity of approximately 3.0 MW AC. The East Project area would consist of two approximate 1,000 kW solar energy systems and with the West Project area would consist of one 1,000 kW solar energy system. Each system will have its own equipment pad and utility interconnection. (GCE 1, p. 9; GCE 11, p. 10 item f; Tr. 1, p. 96)
82. The Project would interconnect to Eversource's existing distribution system on Elmridge Road and North Anguilla Road. (GCE 1, p. 10)
83. Each interconnection would be conducted in accordance Eversource's requirements. GCE has three interconnection agreements with Eversource. In accordance with the executed interconnection agreements, the change of ownership from customer to utility occurs at pole-mounted meters. (GCE 1, p. 10; GCE 2, response 13; GCE 11, response f)
84. At the point of the East Project area interconnection, the underground feeders would transition to overhead lines along Elmridge Road and would require 5 new utility poles located along Elmridge Road. (GCE 11, response f; GCE 11c)
85. The interconnection for the West Project area would require 3 new utility poles along the access road. (GCE 11c)
86. The project interconnection is not required to be reviewed by ISO-NE. (GCE 2, response 11)

Project Construction

87. The timing of construction of the East and West Project areas would depend on final project approvals as well as other factors such as manpower and landowner scheduling. The golf holes in the West Project area would be abandoned upon the conclusion of the 2020 golf season and golf course operations would not be a limiting factor this area. (GCE 2 response 29; Tr. 1, pp. 24-25)

88. Construction phasing would be performed in accordance with the requirements of the DEEP General Permit. In general, the proposed construction sequence include, but are not limited to, the following:
- a) Demarcation of work area limits;
 - b) Installation of erosion and sedimentation controls ;
 - c) Clear and grub areas where specified;
 - d) Construct sediment/stormwater management basins and related infrastructure;
 - e) Finish grade/apply topsoil to areas within the array areas;
 - f) Stabilize all slopes outside the array and seed. Apply erosion control blankets where specified.
 - g) Install solar array system and fencing; and
 - h) Remove erosion and sedimentation controls after site stabilization.
- (GCE 11c; GCE 2, response 29)
89. Site disturbance in the East Project area, including all site features, would occur over approximately 2.8 acres, and of that, 0.7 acres is related to the stormwater basin (refer to Figures 5A/5B). (CGE 3, Exh. E, p. 8; GCE 11, p. 2)
90. Site disturbance in the West Project area including all site features would occur over approximately 3.8 acres, and of that, 0.7 acres is related to the stormwater basin (refer to Figures 6A/6B). (CGE 3, Exh. E, p. 8; GCE 11, p. 2)
91. Existing turf grass would be maintained where possible to minimize erosion during construction. (Tr. 1, pp. 28, 61-62; Tr. 3, pp. 70-71)
92. Topsoil removed from the excavation of the stormwater basins and from leveling of golf course features would be stockpiled on site for reuse upon completion of earthwork and prior to the installation of the solar array. (GCE 2, responses 35 & 36; GCE 7, responses 13 & 14)
93. Areas that are re-graded would be compacted to prevent the areas from settling. Topsoil, from on-site stockpiles, would be applied to the compacted areas to a depth of six inches. (GCE 11c; Tr. 3, pp. 62-68)
94. Erosion control blankets would be installed to stabilize the detention basins, a diversion swale and on some of the re-graded slopes. (GCE 11c; Tr. 3, pp. 1-82)
95. After completion of grading within the solar array areas, disturbed areas would be hydroseeded with tackifier within 72 hours. The seed would be allowed to establish for 2 to 3 weeks for site stabilization, depending on the weather and the amount of irrigation. After site stabilization is achieved, construction of the racking system would commence. (GCE 3, response 40, Exh. E, p. 8; Tr. 1, pp. 26-28; Tr. 3, pp. 66-67)
96. If site work occurs during winter months the following procedures would be used;
- a) Installation of anchored erosion control blankets;
 - b) Application of straw mulch at a rate of four tons per acre;
 - c) Application of wood chip mulch at a minimum depth of three inches on slopes less than 2:1; and
 - d) Removal of wood chip mulch prior to site-grading.
- (GCE 2, response 23)

97. The estimated amount of cut and fill for each project area is presented in the table below;

Location	Cut (CY)	Fill (CY)	Net (CY)	
West Site	5,323	3,627	1,696	Cut
East Site	1,947	1,802	145	Cut
		Total	1,841	Cut

The excess cut from the West Project area may consist of high quality gravel and would likely be used by the landowner. (GCE 1, response 30; Tr. 1, p. 62)

98. Locations for concrete washout stations would be determined in the field by the construction contractor; however, they would be located in previously disturbed areas, away from watercourses and wetland resources. (GCE 2, response 37; Tr. 3, pp. 102-103)
99. Site construction and subsequent final site stabilization is estimated at 9 months. Construction hours would be Monday through Saturday from 7:30 AM to 5:30 PM. (GCE 1, p. 12; Tr. 3, pp. 99-100)

Traffic

100. Project equipment deliveries include, but are not limited to, the following:
- a) Module deliveries- approximately 3 trucks per MW;
 - b) Racking deliveries- approximately 3 trucks per MW;
 - c) Electrical deliveries- approximately 4-5 trucks per 2MW; and
 - d) Other equipment & mobilization - 5-6 trucks;
 - e) Heavy earth moving equipment- exact need to be determined.
- (GCE 1, App. C- Traffic Flow Plan)
101. The majority of truck deliveries would occur within the first three weeks of mobilization. Numerous trucks would also be necessary for construction demobilization. The average weight per truck axle will not exceed 12,000 pounds. (GCE 1, App. C- Traffic Flow Plan)
102. Construction vehicles to be used at the project include standard construction trucks, small earth moving equipment, and all terrain fork lift equipment. (GCE 1, pp. 21-22)
103. GCE would consult with the Town regarding construction traffic prior to the commencement of construction activities. (GCE 1, App. C- Traffic Flow Plan)

Facility Operation

104. The projected capacity factor for the Project is 14.9 percent and includes factors such as inter-row panel shading and losses from shading caused by dirt, leaves, or snow accumulating on the module surface. Clearing of snow would not economically benefit the project. (GCE 2, response 5, response 7; Tr. 1, pp. 78-79)
105. Although GCE intends to use Canadian Solar 395W BiHiKu Super High Power Bifacial PV modules for the Project, the exact solar panel model that would be used would depend upon manufacturer availability and potential model updates at the time that the Project final designs and procurement releases are complete. (GCE 1, p. 10; GCE 3, response 1)

106. The 395 Watt module has an efficiency factor of 17.6 percent with a manufacturer energy output guarantee of 30 years. (GCE 1, App. B)
107. An energy storage system is not proposed for this project. There is no mechanism in the contract to account for energy storage and thus, a policy or other mechanism to alter the contract would be necessary for an energy storage component to be installed. (Tr. 1, pp. 78-79)
108. The project is not designed to serve as a microgrid. (GCE 2, response 8)

Operations and Maintenance

109. GCE 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. (GCE 1, App. C)
110. 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.
- (GCE 1, App. C)
111. A Post-construction Stormwater Control inspection checklist has been developed and includes the following:
- stormwater management basins - inspect at least four times per year. Accumulated sediment shall be removed by hand when the depth exceeds 6 inches. Vegetation on the basins shall be mowed to a height of 4 inches. Check for rills or gullies and repair as necessary;
 - grass berm/diversion swales – inspect semiannually the first year and at least once a year thereafter, and after major storm events (storms greater than 3-inches in 24-hours), remove sediment by hand as needed. Maintain grass on swale at a height of 4 to 6 inches.
- (GCE 1, App. L)
112. 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. (GCE 1b, App. C)
113. Modules would be cleaned with water if necessary. No chemicals would be used. Water would be transported in vehicle mounted containers and distributed with a hose or sprayer. (GCE 2, response 41; GCE 3, response 7)
114. Spare modules would not be stored at the site. Individual modules can be replaced in a short period of time. (GCE 2, response 41; Tr. 1, pp. 72-73)
115. If the facility were damaged by events beyond GCE's control, repairs would be initiated within 30 days. (GCE 1, App. D)

Project Decommissioning

116. The Project has a lifespan in excess of 25 years. (GCE 7, response 23)
117. GCE provided a decommissioning plan that includes facility infrastructure removal and site restoration provisions. Project decommissioning would include the removal of all facility components, such as solar arrays, equipment, inverters, transformers, structures, utility poles, and fencing. Below grade foundations may remain in order to minimize erosion and site disturbance. (GCE 1, App. D)
118. Removal/decommissioning of the proposed solar facility at the end of its useful life would be performed in accordance with the provisions of the lease agreement executed with the landowner. (GCE 3, Exh. E, p. 4)
119. GCE would remove the facility within 150 days of the project's end life. (GCE 1, App. D)
120. GCE would notify the Council and the Town of the date of discontinued operations and would provide plans for facility removal. (GCE 1, App. D)
121. The site would be graded as needed and re-vegetated to reduce the potential for erosion. (GCE 1, App. D)
122. Decommissioning costs and materials determined to be recyclable are based on current data and trends. These parameters would vary due to the 25 year lifespan of the project. (GCE 7, response 23; Tr. 1, pp. 46-47, 63-64)
123. The solar panels that were specified for the project are not considered hazardous material. The panels are subject to Toxicity Characteristic Leaching Procedure (TCLP) where the panels are crushed and pulverized to determine if any hazardous substances above regulatory thresholds leach out. The results of the TCLP test on the subject panel determined the panels are considered non-hazardous. Although lead is used in the panel as a soldering paste, TCLP testing determined the amount was below regulatory thresholds upon panel disposal. GCE intends to use the specified panels, or similar, if the specified model number is no longer available at time of procurement. (GCE 8, pp. 5-6; Tr. 3, pp. 116-118)

Public Safety

124. The proposed project would comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC) and the National Fire Protection Association (NFPA) code. (GCE 1, p. 11)
125. The Project has been designed to comply with the Connecticut Fire Safety Code and have been reviewed by the Town Fire Marshall and Town Civil Engineer. The site access roads and turnarounds were designed in accordance with Town specifications and meet emergency access requirements. (GCE 3, response 47)
126. GCE would consult with the Town emergency responders prior to Project operation. Consultation would include, but would not be limited to, an in-field site walk, equipment identification, site access review, solar system operation overview, signage and locations of equipment shutoffs. (GCE 2, response 15; GCE 3, response 47; Tr. 1, pp. 66-67, 72-74)

127. The project would be remotely monitored and would feature remote shutdown capabilities. Manual shut-off switches can also be used to shut down or disconnect site operations. (Tr. 1, pp. 48, 83-85, 91-92)
128. In addition to solar array disconnect switches, a disconnect switch mounted on an Eversource owned/maintained utility pole can also shutdown the transmission of AC power from the inverters to the grid. This action can only be performed by Eversource. (GCE 11, p. 8, item c; Tr. 1, pp. 83-85)
129. If grid power is lost, the facility AC inverters would shut down but the panels themselves would continue to produce power since they operate on DC wiring. Groups of DC wiring can be disconnected at intermittent disconnect locations but module to module wiring would remain live when the sun is out. (Tr. 1, pp. 75-76, 83-85, 91-92)
130. The proposed project is located outside of designated Federal Emergency Management Agency floodplain and floodway areas. (GCE 1 App. L, Section 2.5)
131. The DEEP Dam Safety Division reviewed the Project and determined that proposed stormwater basin No. 2 associated with the west Project Area qualifies as a dam and would be assigned a hazard classification of "AA", which are assigned to structures that have negligible hazard potential. Once the stormwater dam is constructed, GCE must contact the Dam Safety Program and submit a dam registration form. (GCE 2, response 28; GCE 11c)
132. The nearest federally-obligated airport is the Groton-New London Airport, approximately 13 miles southwest of the proposed site. A Federal Aviation Administration (FAA) glare analysis of the proposed facility would not be required. (GCE 2, response 15)
133. 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)

Noise

134. GCE conducted a noise study of the both project areas. The proposed inverters/transformers are the main sources of noise for the Project. (GCE 10 – SLR Noise Study)
135. The noise study examined existing background noise conditions and modeled potential noise emissions from the proposed equipment. Sound levels were modeled assuming that one transformer and 8 inverters were running continuously in each of the 3 sections of the facility. (GCE 10 SLR Noise Study)
136. The predicted sound levels from the facility range from 30.1 to 35.0 dBA at the nearest property lines, well below the 55 dBA daytime noise limit for a commercial emitter to a residential receptor, as established within DEEP Noise Control Standards. (GCE 10 SLR Noise Study)
137. During most of the time, noise from facility operations would not be audible at the surrounding property lines due to the existing ambient noise from Interstate 95 west of the site. (GCE 10 SLR Noise Study)

138. Golf balls could strike the panels and make noise. GCE has walked the property with the landowner who has knowledge as to which directions the balls travel and land and the areas where errant balls are found. GCE would work with the landowner when the golf course is reconfigured to suggest fairway alignments that minimize the potential for ball strikes on the panels. (Tr. 1, pp. 49-51, 55; Tr. 3, p. 32)
139. The existing golf course fairway alignment adjacent to 5 Fairway Court has not resulted in problems with errant golf balls. Some errant golf balls have struck trees at and near 6 Woodland Court. (Tr. 4, pp. 42-44, 123-124)
140. Construction noise is exempt from DEEP Noise Control Standards. (RCSA §22a-69-108(g))

Environmental Effects

Air Quality

141. 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. (GCE 1, p. 25)
142. During construction of the proposed project, air emissions from construction vehicles would be a temporary impact. (GCE 1, p. 25)
143. If dust control is required during site construction, water would be supplied by tanker trucks on a temporary basis. (GCE 1, p. 32)

Water Quality

144. 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 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)
145. During operation, the Project would not require water use and will not generate wastewater. No potable water supplies would be provided, and no sanitary discharges would occur. (GCE 1, p. 32)
146. Water quality measures include a stormwater management design to maintain water quality both during the construction phase of the Project and after completion. (GCE 1, p. 44)
147. The entire project site is not located within a DEEP-designated Aquifer Protection Area. (CGE 3, Exh. E, p. 5)
148. The West Project Area is located within a Town-designated Groundwater Protection Overlay District (GPOD), established to protect groundwater in the area of Anguilla Brook. The aquifer is an emergency water supply for the Westerly Water Co. which provides drinking water for most of the eastern half of Stonington, as well as the Town of Westerly, Rhode Island. (CGE 3, Exh. E, pp. 1, 5; Town comments received July 2, 2020)

149. To prevent any impacts to groundwater resources, GCE would follow Best Management Practices during construction, operation and maintenance of the Project, including, but not limited to, fuel spill prevention and control and specific practices for the use of products. (GCE 2, response 17; GCE 3, Exh. E, p. 5)
150. There are several private residential drinking water wells around the periphery of the Elmridge Golf Course property. (PRESS 4b; GCE 2, Exh. C; Tr. 4, pp. 91-92)
151. No construction related impacts to residential private drinking water wells in the area are expected given that there would be no site blasting and site excavation would be limited to the stormwater basins. Additionally, the steel racking posts are corrosion resistant. (GCE 2, response 17)
152. The panels specified for the project do not contain per- and polyfluoroalkyl substances (PFAS). (GCE 3, responses 3, 13 & 14; GCE 8, p. 6)

Stormwater

153. 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; PRESS Administrative Notice No. 10, PRESS Administrative Notice No. 17)
154. 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); PRESS Administrative Notice No. 10)
155. The SWPCP incorporates project designs consistent with the *2002 Guidelines* and the *2004 Connecticut Stormwater Quality Manual (2004 Stormwater Manual)*. (PRESS Administrative Notice No. 4)
156. DEEP has the authority to enforce 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 Guidelines*. (CGS Section 22a-430b; GCE Administrative Notice 1)
157. The Council may impose a condition that requires subsequent compliance with DEEP standards and regulations. (Council Administrative Notice No. 75)
158. 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). (PRESS Administrative Notice No. 5)

159. 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. (PRESS Administrative Notice No. 5)
160. The proposed Project would require a DEEP-issued Stormwater Permit prior to commencement of construction. (CGS Section 22a-430b; PRESS Administrative Notice No. 4)
161. On July 13, 2020, GCE submitted an application for a DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (GP) for the Project. (GCE 3, response 40; Tr. 3, pp. 51-52)
162. GCE met with the DEEP Stormwater Program on May 27, 2020 for a pre-application meeting. (GCE 2, response 28)
163. DEEP recommended that site grading and disturbed area stabilization be completed prior to the construction of the racking system. (GCE 3, response 40)
164. Prior to issuance of a Stormwater permit, site plans are continually refined based on comments received from Council proceedings, the DEEP Stormwater Program, and further review by design engineers. Revisions are uploaded to DEEP's Stormwater Program filing portal for ongoing review of the stormwater application. (GCE 11, p. 9; Tr. 3 76-77, 81-82)
165. GCE contacted DEEP regarding a Project site walk; however, a site walk has not yet been scheduled. (GCE 3, response 40)
166. A Project stormwater analysis included dividing the site into multiple sub-drainage areas based on local topography that were analyzed pre and post-construction to determine the appropriate stormwater design and sizing of proposed stormwater basins. (GCE 1, App. L)
167. GCE proposes to install one post-construction stormwater detention basin in each project area. GCE 1, App. L, p. 1)
168. 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 basins during construction and then cleaned upon completion of construction. (GCE 11, p. 2; GCE 2, response 29)
169. As required by the GP, the temporary sediment basins have been designed in accordance with water quality calculations and a sediment storage analysis, (GCE 11, p. 2)
170. The temporary sediment basins would detain water that runoff from the construction area, allowing for sediment, if present, to settle. Water in the basin that exceeds the required storage volume would flow through a temporary riprap filter berm at the basin outlet weir wall. The filter berm would enhance the basin storage capacity, allowing for a reduced discharge velocity that would filter out sediment as the water discharges from the basin. (GCE 11, p. 2; Tr. 1, pp. 32-35; Tr. 3, pp. 94-97)

171. Upon completion of construction, the temporary riprap filter berm would be removed and the sediment basins cleaned for post-construction use as stormwater basins. (CGE 11c; Tr. 3, pp. 94-97)
172. As required by the GP, GCE would retain a third party monitor to perform inspections of the construction erosion and sedimentation controls and stormwater features at least once per week and after rain events, (PRESS Administrative Notice No. 4; Tr. 1, pp. 29-30)
173. The monitor would have the authority to order corrective actions, if necessary. (Tr. 1, pp. 29-30)
174. The monitor would examine the basins for sediment building up as well as the riprap outlet structure. Sediment in the basins would be removed as necessary. The riprap outlet structure would be cleaned by dismantling the structure, cleaning sediment buildup, followed by rebuilding the structure. (Tr. 1, p. 34; Tr. 3, pp. 132-133)
175. The SWPCP requires a report that documents compliance with the SWPCP, and any remedial actions taken to bring the site into compliance if corrective actions were necessary. (PRESS Administrative Notice No. 4)
176. The proposed stormwater basins are located in areas where stormwater naturally concentrates based on site topography. The basins would provide peak-flow attenuation due to land cover changes associated with the project. (GCE 1, App. L, p. 1; GCE 7, responses 8, 9 & 19; Tr. 3, 89-92)
177. The post construction stormwater basins would be designed as dry detention basins, allowing for detained water to infiltrate into the soil, promoting on-site water quality. The basins have been designed with an outlet structure that would release water once it reaches a certain level. The detained water level is based on stormwater calculations. (Tr. 3, pp. 92-93)
178. Water discharging from the sediment basins would exit through a V-notch weir outlet structure and a riprap energy dissipator and level spreader to prevent concentrated flows. (Tr. 1, pp. 39-40)
179. To assist in the design of the stormwater basins, GCE conducted in-field investigations to determine specific site conditions. (GCE 1, App. L; GCE 7, responses 18 & 19 Tr. 1, pp. 20-21)
180. A diversion swale is proposed along the slope of the East Project area that would serve to divert stormwater into the stormwater detention basin. Not all of the stormwater within the solar field area would be directed into the stormwater basin. Runoff from these areas would maintain existing flow conditions. (GCE 1, App. L; Tr. 3, pp. 108-111)
181. For the West Project area, stormwater from some of the periphery areas of the solar field would not be directed into a stormwater basin. These areas would be allowed to sheet flow, maintaining natural flow path conditions. (Tr. 3, pp. 108-111)
182. The stormwater calculations considered pre and post-construction land use in the sub-drainage areas. Land use types used in the analysis included woods, open space, grass, unpaved, pervious, and impervious gravel and concrete surface cover. (GCE 1, App. L, p. 17; GCE 3, response 4)
183. The solar panels were not considered impervious in the water quality volume calculations methodology as they are unconnected impervious areas that allow runoff from each individual panel array to fall onto the ground below, allowing the runoff to infiltrate and dissipate over the surrounding grassed surface. (GCE 1, App. L, pp. 17, 19)

184. 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. (PRESS Administrative Notice No. 4; GCE 3, response 4, response 39)
185. 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/energy dissipators, terraces or berms. (PRESS Administrative Notice No. 4)
186. In accordance with draft Appendix I and to create a more conservative stormwater management design, GCE has incorporated crushed stone level spreaders/energy dissipators into the East project solar field design in areas where slopes exceed 5 percent. The energy dissipators would include a subsurface 8-inch wide, 6-inch deep trench filled with crushed stone below each downgradient panel edge to reduce the potential for drip edge erosion and to promote infiltration. (PRESS Administrative Notice No. 4; GCE 11, pp. 8-9, Att. 3; Tr. 3, pp. 76-81, 104-108, 128-131)
187. In some areas, the proposed energy dissipators are aligned parallel to the ground slope, rather than perpendicular, which could lead to concentrated flows rather than overland sheet flows. However, the dissipators would serve a panel surface area of six square feet and would not create a significant amount of potential flow. (GCE 11c; Tr. 3, pp. 77-78, Tr. 4, pp. 84-85)
188. GCE would comply with any DEEP Stormwater Program recommendations concerning the location and function of the energy dissipators. (Tr. 3, pp. 79-80)
189. GCE performed hydrological soil group field testing and incorporated the soil group data into the stormwater analysis. In accordance with draft Appendix I, the stormwater calculations were performed with the reduction of one hydrologic soil group, from Group B soils to Group C soils for example, to appropriately size stormwater management basins. (GCE 1, App. L, pp. 10-11, 16; GCE 11, p. 1, item a; Tr. 3, pp. 87-89)
190. Stormwater calculations were performed for 2, 10, 25, and 100-year storms. The hydrological calculations indicate that the design of the proposed stormwater basins would reduce peak discharge rates below pre-construction levels. (GCE 1, App. L; Tr. 1, pp. 68-69)
191. Post-construction stormwater falling from the panels would drain across the vegetated solar field areas, infiltrating into the soil. (GCE 1, App. L)
192. 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. 48- 2004 *Stormwater Manual*, pp. 3-5, 4-3 – 4-4; GCE 1, App. L)
193. 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. 48 – 2004 *Stormwater Manual*, pp. 4-3 – 4-4)
194. 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. 48 – 2004 Stormwater Manual, pp. 4-3 – 4-4)

195. The proposed stormwater detention basins would be located a minimum of 100 feet from delineated on-site wetlands. (GCE 3, response 39; GCE 11, Exh. C)

Wetlands and Watercourses

196. 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.*)
197. 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)
198. 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)
199. 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. (CGS §22a-36, *et seq.*)
200. On-site wetlands were delineated in the fall of 2019 and early 2020 by a Professional Wetland Scientist. Survey work was conducted in accordance with the requirements of the Connecticut Inland Wetlands and Watercourses Act. (GCE 1 b, App. I; GCE 9; CGS §22a-36, *et seq.*)
201. Five wetlands, totaling 12.9 acres, were delineated in proximity to the two Project areas, denoted as Wetlands 1 through 5 (refer to Figure 7). (GCE 1, App. I)
202. The wetlands proximate to the East Project area are comprised of forested drainage corridors that eventually drain to the Anguilla Brook corridor located along the southwest property boundary. Wetlands proximate to the Western Project area consist of forested wetlands adjacent to Anguilla Brook and an emergent wetland and open pond within the golf course area. (GCE 1, App. I)

- 203. No wetlands or watercourses would be directly impacted by the proposed project. No clearing would occur within wetlands or watercourses. (GRE 11c)
- 204. The Project has been designed to maintain a 100-foot buffer between the limit of work and on-site wetlands/watercourses. (GCE 11c)
- 205. The Project site is located outside of the DEEP designated Coastal Boundary. (GCE 1, App. L)

Vernal Pools

- 206. Two potential vernal pools were identified near the Project Development areas; Potential Vernal Pool 1 located in Wetland 1 adjacent to North Anguilla Road and Potential Vernal Pool 2 located in Wetland 2 south of the West project Area. (GCE 1, App. I)
- 207. Evaluations of the two vernal pools occurred on March 25, April 20, and May 19, 2020. The survey determined that these wetlands were not active vernal pool systems. Both areas contained relatively short periods of standing water that would not support vernal pool obligate species. (GCE 1, App. I)

Visibility

- 208. Property owners have no right to an unobstructed view from structures built on adjacent property except where there is an express statutory provision or there is a contract or restrictive covenant protecting the private right to a view or vista. (PRESS Administrative Notice Item 17; *Mayer v. Historic District Commission of Town of Groton*, 325 Conn. 765 (2017); CGS §47-25)
- 209. There are no express statutory provisions, contracts or restrictive covenants granting any person a private right to a view or vista across the solar project site. (GCE 5, Response 45; PRESS Administrative Notice Item 17)
- 210. GCE performed a visual assessment of the Project that included field visits from November through May 2020 to establish the visual and scenic character of the Project area and to obtain photographs for use in the development of visual simulations from several viewpoints within the Project area. The assessment was limited to public vantage points and public roads as well as from areas of the golf course. (GCE 1, p. 37, Exh. M)
- 211. Photographs were taken at ground level, oriented to the Project site. Visual assessments are typically performed at ground level from the line of sight from/to the proposed development from publicly accessible areas. (GCE 1, p. 37, Exh. M; GCE 6, response 3)
- 212. Based on the photo reconnaissance of the area, project visibility would generally be restricted to locations with little or no intervening vegetation and from areas directly adjacent to the two Project Areas. (GCE 1, pp. 37-38, Exh. M) ,might delete this
- 213. There are no state or Town designated scenic roads adjacent to the project site. (GCE 1, p. 20)
- 214. GCE prepared photo-simulations of the East Project area using photographs taken on April 30, 2020. Five photo-locations were selected; 2 along Elmridge Road, one along North Anguilla Road, and two from the golf course side of the property boundary with 5 Woodland Court and 6 Woodland Court, respectively. All photo-simulations were developed using a photograph oriented to the project site

with computer generated facility components, and landscaping added to the photograph based on site design criteria. (GCE 1, p. 40, Exh. M)

215. The Petitioner's Project photo-simulations were developed using photographs taken by a Nikon 14X optical zoom digital camera with an estimate 18 to 24 mm lens. (Hanson 6, p. 6; Tr. 3, pp. 53-57)
216. To mimic the human eye, photographs should be taken with a 35 mm full frame camera with a 50 mm lens, otherwise, photos taken with a wider angle lens have a distorted field of view and make objects within the photograph appear farther away, and smaller, than they actually are. (Hanson 6, p. 7; Tr. 4, pp. 31-32) I

West Project Area

217. The West Project area fence line is located approximately 80 feet west of North Anguilla Road at its nearest point. Given that the road frontage in this area is relatively open due to its past use as a golf course, GCE would install a row of evergreens along the road to reduce project visibility. (GCE 1, p. 19; GCE 11c)
218. Several residential properties are located to the north of the West Project area, with the nearest property line located approximately 80 feet to the north at 139 North Anguilla Road. (GCE 1, pp. 39-40; GCE 11c)
219. Generally, an existing wooded buffer of varying density is located between the project and the residential property lines. (GCE 1, pp. 39- 40; GCE 2, Exh. C, GCE 11c)
220. GCE met with the residential property owners to the north of the West Project area. With the consent of the landowners, GCE conducted on-site visual reconnaissance at 139, 143, and 153 North Anguilla Road. GCE determined the Project would have varying degrees of visibility through vegetation from select vantage points on these properties. All three of these properties are approximately 10 to 20 feet higher in ground elevation than the Project site. (GCE 1, pp. 39-40)

East Project Area

221. The East Project area fence line is located approximately 200 feet from Elmridge Road. Visibility of the Project from the road would be minimized by the presence of two wooded buffers; one along the road and one along one of the fairways. (GCE 1, p. 38; GCE 2, Exh. C, GCE 11c)
222. The East Project area fence line is approximately 240 feet from the property at 258 Elmridge Road to the north and 418 feet from the property at 154 North Anguilla Road to the northwest. The perimeter fence would be visible from these locations through intervening vegetation. GCE would plant evergreens along the north and northwest side of the perimeter fence to enhance Project screening from these areas. (GCE 1, p. 38; GCE 2, Exh. C; GCE 11c)
223. The East Project area is not expected to be visible from North Anguilla Road, located approximately 600 feet west of the project fence line. (GCE 1, p. 38)
224. Residential properties occur to the south of the East Project area, primarily along the cul de sac at Woodland Court directly to the south and the cul de sac at Fairway Court to the southeast. A narrow band of mature trees is located along the property line, south of the open areas of the golf course. (GCE 1, p. 39; GCE 2, Exh. C; GCE 11c; Tr. 3, pp. 27-29)

225. The properties at 5 and 6 Woodland court and 5 and 6 Fairway Court abut one of the golf course fairways. The East Project area would be developed to the north of this fairway. (GCE 1, p. 39; GCE 2, Exh. C; GCE 11c)
226. The nearest residential property line to the East Project area fence line is approximately 180 feet to the south at both 5 and 6 Woodland Court. The property at 5 Fairway Court is approximately 380 feet southeast of the Project area fence line. (GCE 3, response 35; GCE 2, Exh. C; GCE 11c)
227. GCE has developed a landscape plan to screen the facility when viewed from areas to the south and southeast. The landscape plan includes a shrub hedge with mixed, native evergreen and deciduous plantings. (GCE 1, p. 42)
228. The plantings would be 5 to 6 feet tall at planting. The shrubs and trees would be maintained to a height of 10 feet and up to 15 feet, respectively. (GCE 11c; Tr. 4, p. 26)
229. Green slats would be installed on the 7.5-foot tall perimeter fence to further screen views of the solar modules. The modules would be approximately 8-9 feet above grade, with the first row of modules set 30 feet north of the fence. (GCE 1, pp. 42-43)
230. The proposed landscaping is intended to screen the facility viewed from eye level when one is standing at ground level. Landscaping would not be able to screen the facility when viewed from elevated locations, such as a second story window. (GCE 3, responses 22, 33)
231. The Town's zoning ordinance definition of "screen" or "screening" is "Dense vegetation or other landscape materials, or a combination thereof, which provide effective year-round visibility insulation from adjacent property for a minimum of six feet in height". (GCE 3, response 35)
232. On April 20, 2020, GCE sent letters/information to neighbors proximate to both project areas that GCE believed would have the greatest concerns regarding potential visual impacts. Responses were received via phone and email from several individuals to address their concerns prior to submission of the project to the Council. (GCE 1, p. 19)
233. GCE met with Mr. Hanson of 6 Woodland Court, on May 6, 2020 at Mr. Hanson's property. GCE presented a preliminary landscape plan and project photo-simulations. GCE left contact information in the event that Mr. Hanson wanted to provide additional comment. Mr. Hanson did not provide comment prior to the submission of the project on June 4, 2020. (Tr. 4, pp. 13-20)
234. No other neighbors provided comment on the proposed East Project Area landscape plan. (Tr. 4, pp. 16-17)
235. The project would be visible from various locations of Mr. Hanson's property and from various rear windows. The mature trees along Mr. Hanson's property line are widely spaced, allowing for direct views into the golf course area and towards the project site. Mr. Hanson's property is 6 to 7 feet higher in elevation than the proposed project area, allowing for visibility of the facility over the proposed screening. (Hanson 7; PRESS 4; Tr. 4, pp. 26, 38-40)
236. The Project would be visible from the property at 5 Woodland Court, abutting the golf course. (GCE 1, p. 42; PRESS 4)

237. The project would be visible from the property at 5 Fairway Court, owned by Ms. McComiskey. The existing mature trees along the property line are widely spaced and there is little understory vegetation present to screen views. Views are expected of the Project area as the fence line extends north and to the east. No landscaping is proposed along this portion of the Project area. (GCE 2, Exh. C; GCE 11c; PRESS 3; Tr. 4, pp. 89-90)
238. GCE has offered to further consult with the neighbors regarding Project landscaping. Additional landscaping could be installed adjacent to the site or along property lines abutting the golf course property. (GCE 3, Exh. 3, pp. 6-7; GCE 6, response 10; Tr. 1, p. 98; Tr. 4, pp. 22-23)
239. GCE could move the south fence line and associated landscaping approximately 10 feet to the north. (GCE 2, response 33)

Historic and Recreational Resources

240. The Project Site is not located within any Town or state designated historic districts. (GCE 1, p. 21)
241. A cultural resource assessment that included file and document review as well as a field survey of the Project area determined that the project would not impact any significant historical or archeological resources. (GCE 1, pp. 21, 27)
242. SHPO reviewed the cultural resource assessment and concurred with its findings. GCE 1, p. 27, Exh. H)

Wildlife

243. According to DEEP Natural Diversity Data Base (NDDB) mapping, the East Project area is approximately 0.19 mile southwest of a NDDB buffered area. (GCE 1, App. J)
244. On October 29, 2019, GCE submitted a preliminary NDDB review request and received a response from DEEP on November 8, 2019, stating that two state listed species are known to occur in the area of the site property: the eastern spadefoot toad and the nine-spotted lady beetle. (GCE 1, App. J)
245. GCE subsequently investigated the project site for suitable habitat for the two listed species. No suitable habitat was identified within the Project areas as a majority of the site is located on land maintained for operation of a golf course. (GCE 1, App. J)
246. In March 2020, GCE submitted the results of the species/habitat investigation to DEEP. DEEP responded on April 24, 2020 stating that because the nine-spotted lady beetle is associated with agricultural fields, wooded habitats, and grasslands, it may occur at the site. DEEP recommended the following measures to reduce impact to any beetle populations:
- Avoid using pesticides at the site. If pesticides are used, the pesticide should be applied to specific areas or be targeted to a specific pest.
 - Use native grass and herbaceous plants to re-establish vegetation in disturbed area. Use seed mixes, if necessary for native pollinators.
- (GCE 1, App. J)
247. GCE would adhere to DEEP's recommendation concerning the nine-spotted lady beetle. GCE intends to use a native pollinator habitat seed mix within both project areas. (GCE 1, pp. 26, 31)

248. The DEEP NDDB letter of April 24, 2020 concurred that the site does not contain suitable habitat for the eastern spadefoot toad and no-further action was recommended. (GCE 1, App. J)
249. The project areas are located adjacent to high-functioning, structurally and vegetatively diverse wetland systems that support a variety of wildlife species. To protect small species such as amphibians from migrating into the construction work areas, GCE would deploy exclusionary sedimentation control barriers secured to the ground along the perimeter of the construction area, establish staging and equipment storage areas to previously disturbed areas within the limits of the exclusionary fencing, and perform daily sweeps the perimeter to of the fencing for gaps and any species that may have entered the work areas. (GCE 1, App. J)
250. The proposed site perimeter fence would be designed to have a six to eight-inch gap at the bottom, between the fence fabric and the ground to allow for small animal movement. (GCE 11c)

Fisheries

251. No state-listed fish or aquatic species were identified by the NDDB as occurring on or in the area of the site. (GCE 1, App. J)
252. 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. (GCE Administrative Notice No. 1 - DEEP NDDB letter dated February 28, 2020)
253. Anguilla Brook is located along the west side of the Elmridge Golf Course property west of North Anguilla Road. The brook is approximately 280 feet west of the West Project Area. Anguilla Brook is designated as a Class "A" surface waterbody that has characteristics to support habitat for fish and other aquatic life and wildlife, recreation, and industrial and agricultural water supply. (GCE 1, App F, p. 11)
254. Fish surveys determined that Anguilla Brook supports populations of wild brook trout. (GCE 1, App. F, p. 16)
255. 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. 48 - 2004 *Stormwater Manual*, p. 8-6)
256. According to the 2004 *Stormwater Manual*, stormwater treatment practices should be designed not only for site specific conditions, but also to protect 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. 48 - 2004 *Stormwater Manual*, p. 8-6)
257. 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. 48, 2004 *Stormwater Manual*, p. 4-3)

258. The stormwater detention basins are designed as dry infiltration basins. The project, including the basins, is located a minimum 100 feet from any on-site wetland or watercourse that drains to North Anguilla Brook. (GCE 11c; Tr. 3, pp. 92-93)
259. The property owner holds a water diversion permit from DEEP to divert/withdraw up to 40,000,000 gallons of water annually from Anguilla Brook for use in irrigation of the golf course. The five-year average withdrawal for the period of 2015 -2019 is 8,400,000 gallons/year. (GCE 1, p. 32; GCE App. F)
260. The construction of the project would result in the decommissioning of 9 golf holes, and therefore water consumption for irrigation is expected to decrease by approximately 33 percent. The decrease in water consumption is expected to enhance water quality in the brook by increasing water volume. (GCE 1, p. 32)

Geology

261. According to the USDA Natural Resources Conservation Service (NRCS) database, soils in the Project area very deep, well drained loam type soils. (GCE 1, p. 26)
262. The project area soils belong in NRCS hydrologic soil Groups B and C. Soils designated as Group B have a moderately low runoff potential when thoroughly wet. Soils designated as Group C are soils having a slow infiltration rate when thoroughly wet and with a layer that impedes downward movement of water or are soils of moderately fine texture or fine texture. (GCE 1, App. L)
263. In November 2019, GCE performed a field investigation to confirm the mapped soil series and verify the hydrologic soil group. A total of five test pits (shovel tests) were dug by hand to depth of two feet below grade within project limits. In general, the soils encountered were consistent with NRCS mapping. (GCE 1, App. L; Tr. 1, pp. 60-61)
264. The entirety of the West Project Area is within Soil Group B. For the East Project Area, 81 percent is within soil Group B and 19 percent within soil Group C. (GCE 11, pp. 1-2, Att. 1)
265. To develop the stormwater management design, five deep-hole test pits were dug on the site on March 31, 2020 in the location of proposed stormwater management basins. (GCE 2, response 24; GCE 11, App. L; Tr. 1, pp. 60-61)
266. Both of the test pits in the East Project area basin encountered groundwater, one at a depth of 1.7 feet. The study indicated that this was the level of seasonally high groundwater (Spring). (GCE 1, App. L, GCE 2, response 24; Tr. 3, pp. 104-105)
267. Due to the presence of the seasonally high groundwater, the East Project area basin would be constructed so that the bottom of the basin is approximately two feet higher than the level of seasonally high groundwater. (GCE 1, App. L; GCE 2, response 26; Tr. 3, p. 90-93, 104-105)
268. The proposed realignment of the golf holes in the area of the East Project site would only change the direction of play. No re-grading is proposed that would alter post-construction stormwater flows from the East Project area. (Tr. 3, pp. 103-104)

Agriculture

269. 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 Petition 1312, Finding of Fact #227)
270. 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. 65 – Climate Change Preparedness Plan)
271. 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. 65 – Climate Change Preparedness Plan)
272. 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))
273. Although both project areas are within areas mapped as prime farmland soils by the NRCS, the development and operation of the golf course extensively disturbed the soils. DOAg subsequently reviewed the project and determined that the proposed solar facility would not have a material impact on the status of prime farmland at the site. (GCE 1, p. 26)
274. GCE intends to seed the site with pollinator species and install pollinators nesting boxes to enhance promote pollinator species. GCE is consultation with the UCONN's Department of Ecology and Evolutionary Biology and the CT Agricultural Experiment Station to develop a plan for pollinator enhancement at the site. (GCE 1, p. 26)

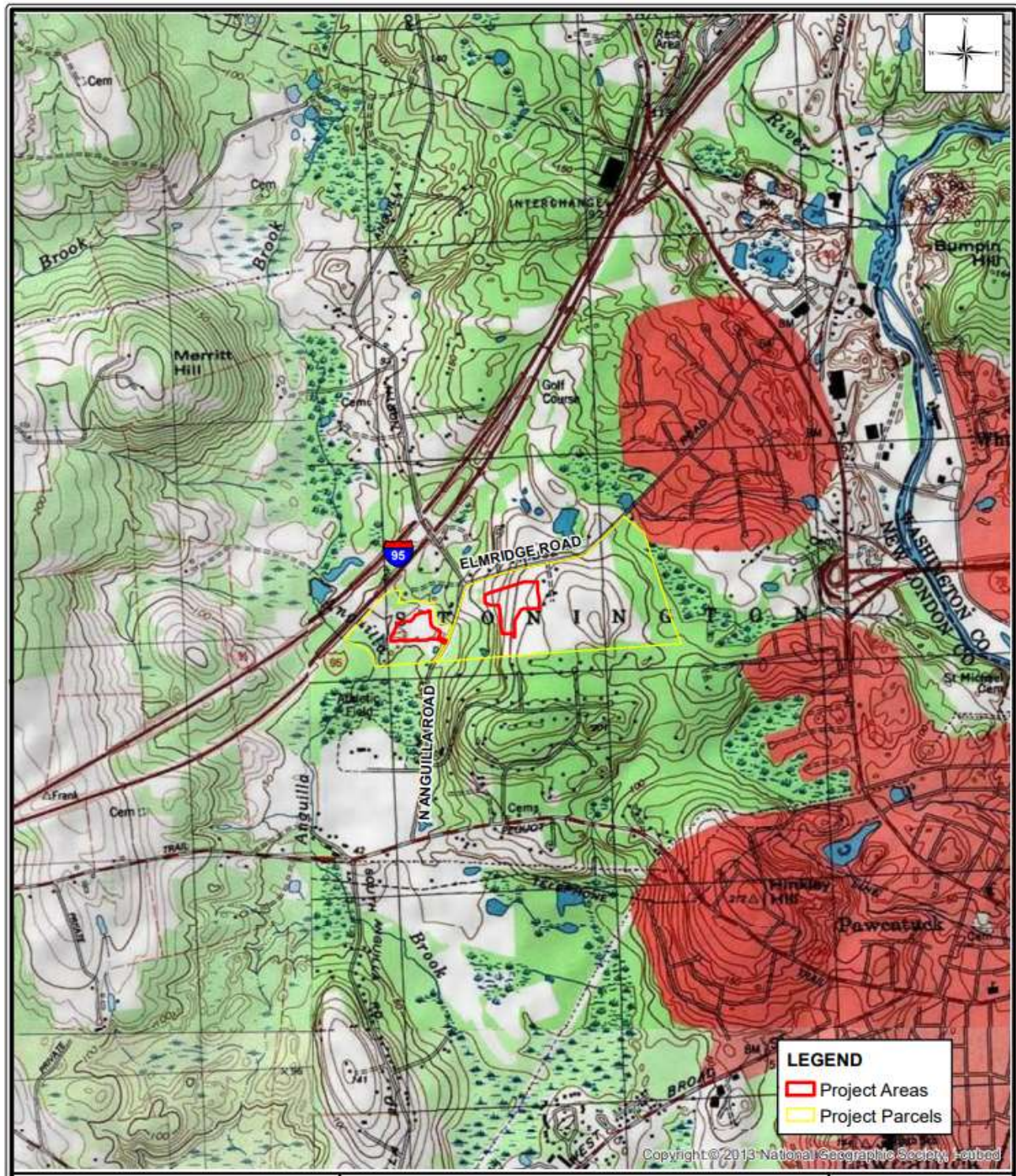
Forest and Parks

275. No state parks or forests are located adjacent to the site. (Council Administrative Notice No. 95)
276. Although DEEP's Forestland Habitat Impact Map depicts the West Project area as Forestland Habitat, the entire West Project area was cleared in the 1960's for development of the gold course. (GCE 1, p. 26)
277. The project would require the clearing of approximately 0.7 acres of edge forest to the west of the East Project Area to remove shading concerns. The clearing would not occur within 100-feet of wetlands. Some evergreen areas between some of the golf course holes would also be cleared to develop the East Project Area. No tree clearing is specified for the West project Area. (GCE 1, App. J; GCE 2, response 32; GCE 11c)
278. The project would not affect any core forest. (GCE 1, p. 31; DEEP core forest letter)

Neighborhood Concerns

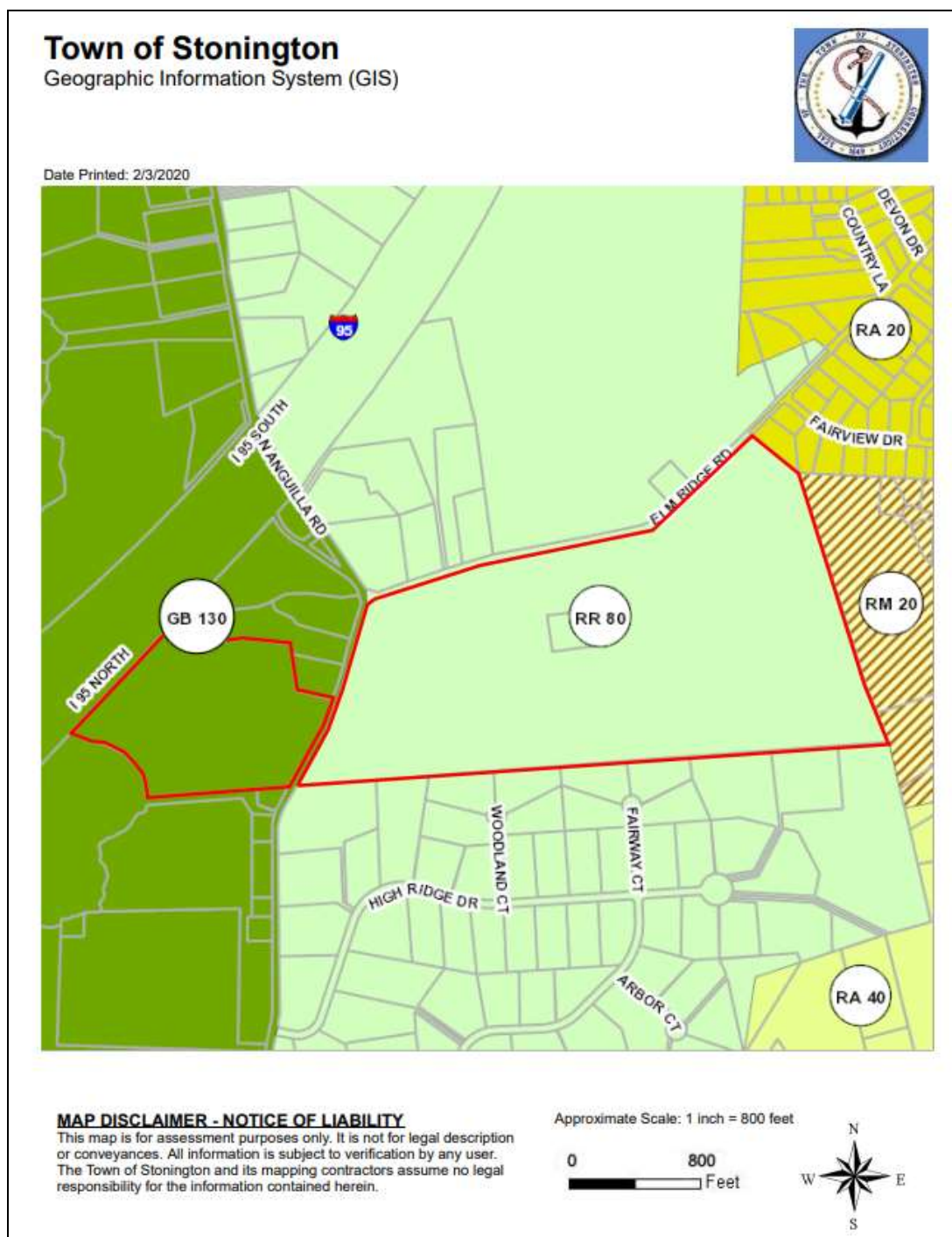
279. Under CGS § 16-50p, the Council is not required to take into account the status of property values. (CGS §16-50p; Tr. 4, pp. 6-7; *Westport v. Conn. Siting Council*, 47 Conn. Supp. 382 (2001), *affirmed*, 260 Conn. 266 (2002); *Goldfisher v. Conn. Siting Council*, 2005 Conn. Super. LEXIS 306 (2005), *affirmed*, 95 Conn. App. 193 (2006))
280. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a remote public comment hearing session on October 1, 2020 at 6:30 p.m. via Zoom conferencing. (Record; Tr. 2, p. 1)
281. Four limited appearance statements were made at the remote public comment hearing session. Concerns include, but are not limited to, the following;
- Site is within hundreds of feet of residences;
 - Visibility concerns;
 - Contamination of groundwater;
 - Reduction in property values;
 - Panel composition and related safety concerns;
 - Decommissioning concerns; and
 - Site use incompatible with town zoning.
- (Record; Tr. 2)
282. The Council received 24 written limited appearance statements regarding the proposed facility. (Record)

Figure 1 –Site Location



GCE 1, Att. 1)

Figure 2- Site Zoning



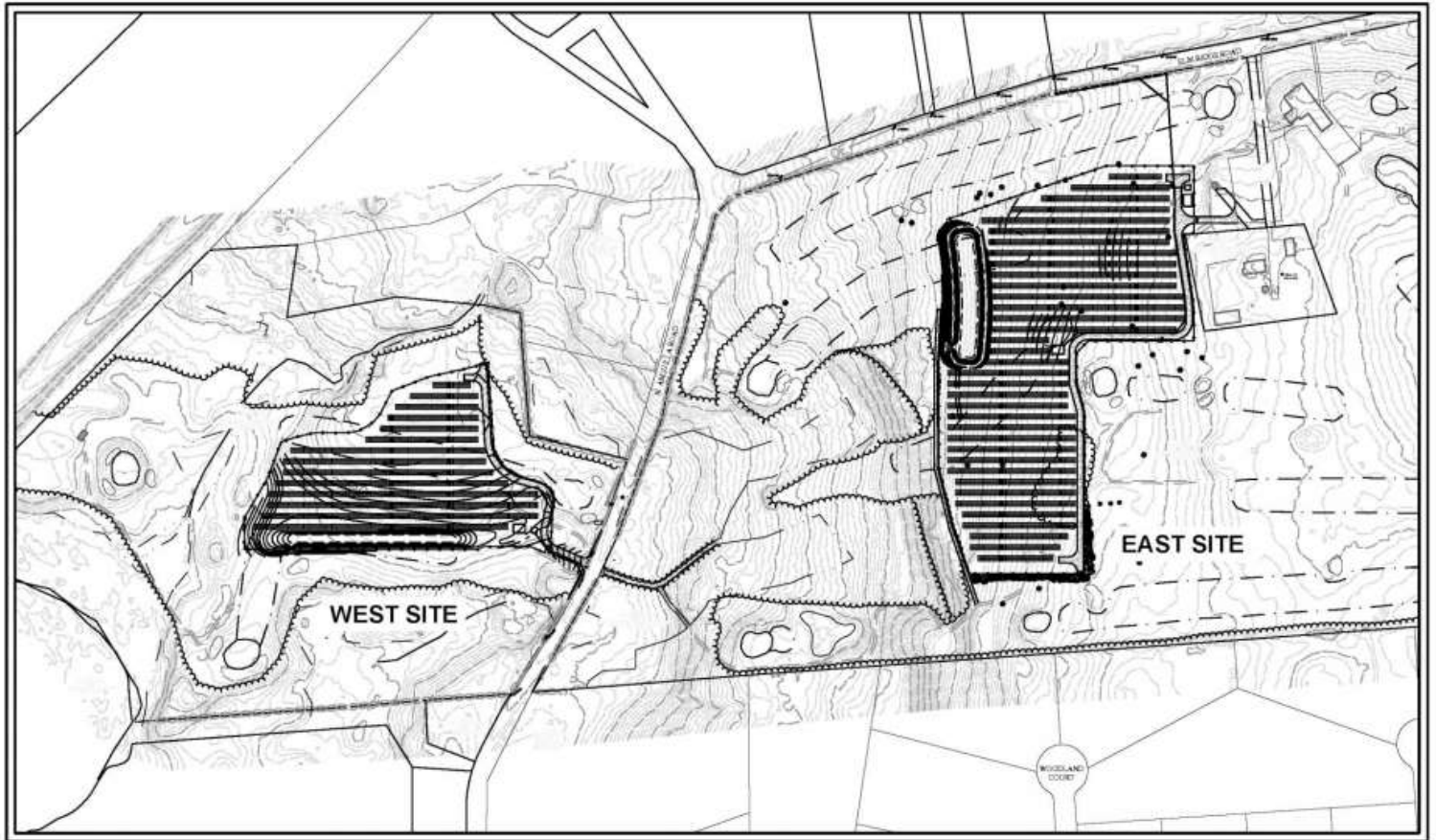
(GCE 1, Att. 3)

Figure 3 – Proposed Site



(GCE 1, Att. 2)

Figure 4 – Project Layout with Topographic Relief

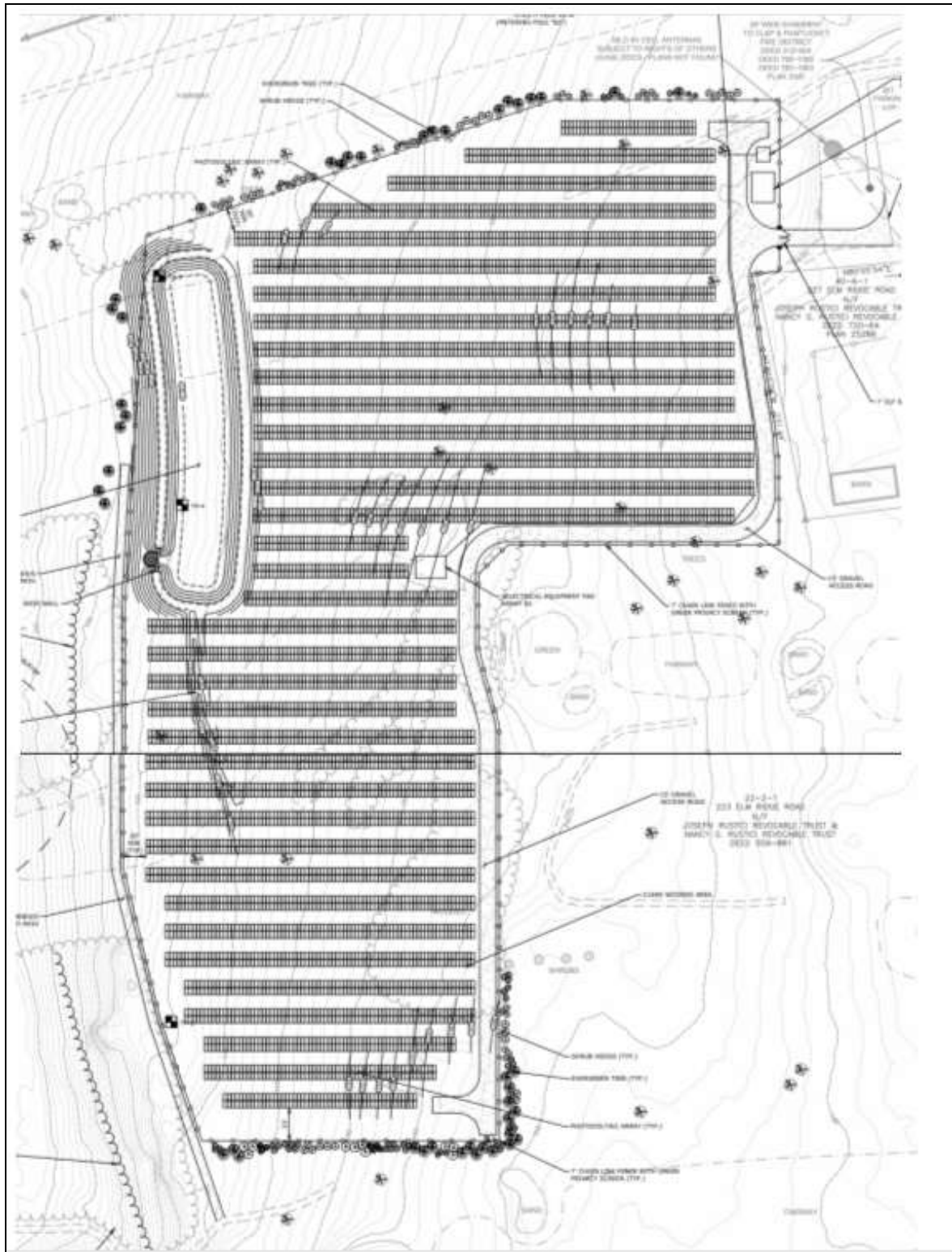


PROJECT SITE VICINITY MAP:



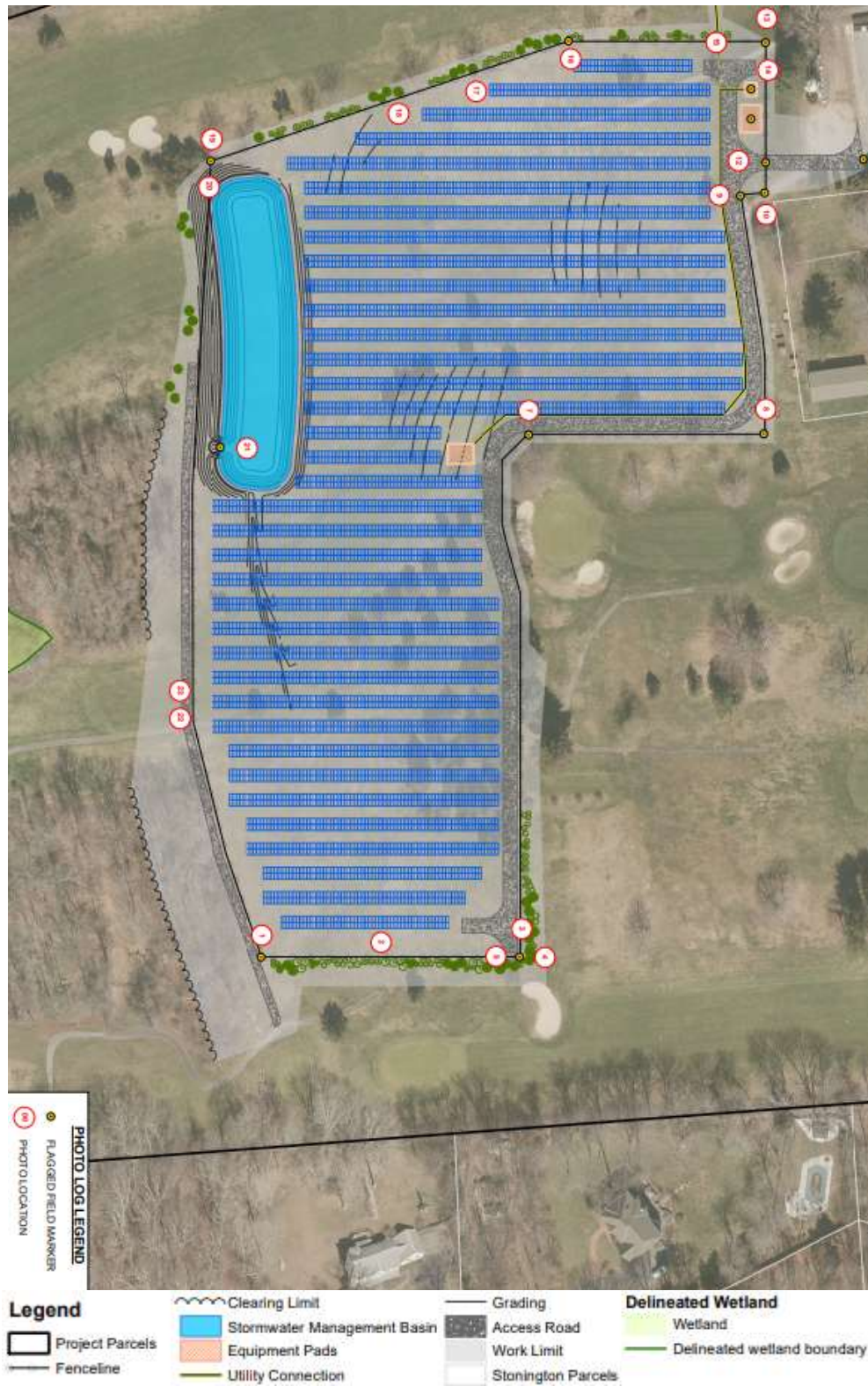
(GCE 1, Att. 5)

Figure 5A- East Project Area Site Plan



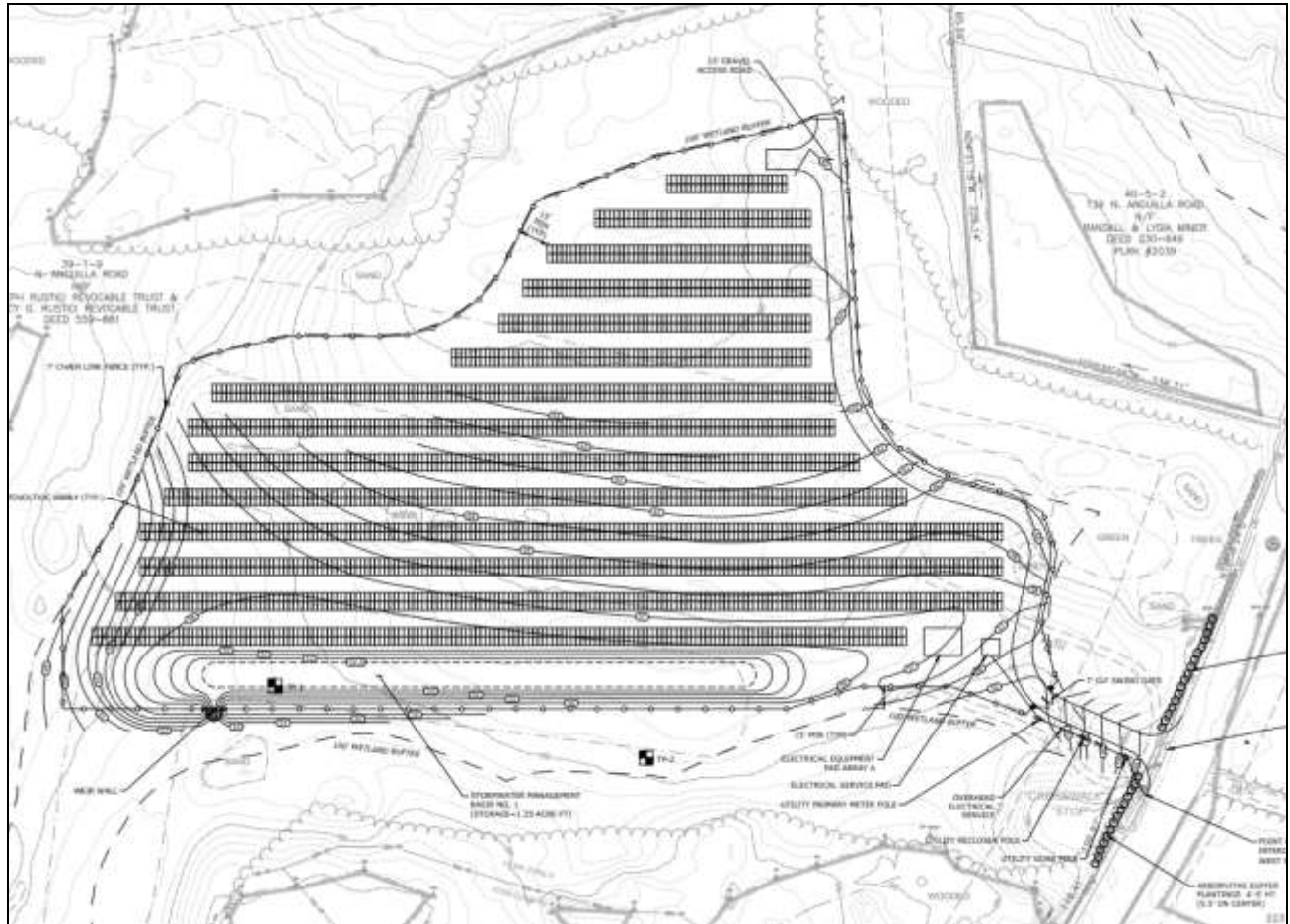
(GCE 11c) no scale

Figure 5B- East Project Area Site Layout



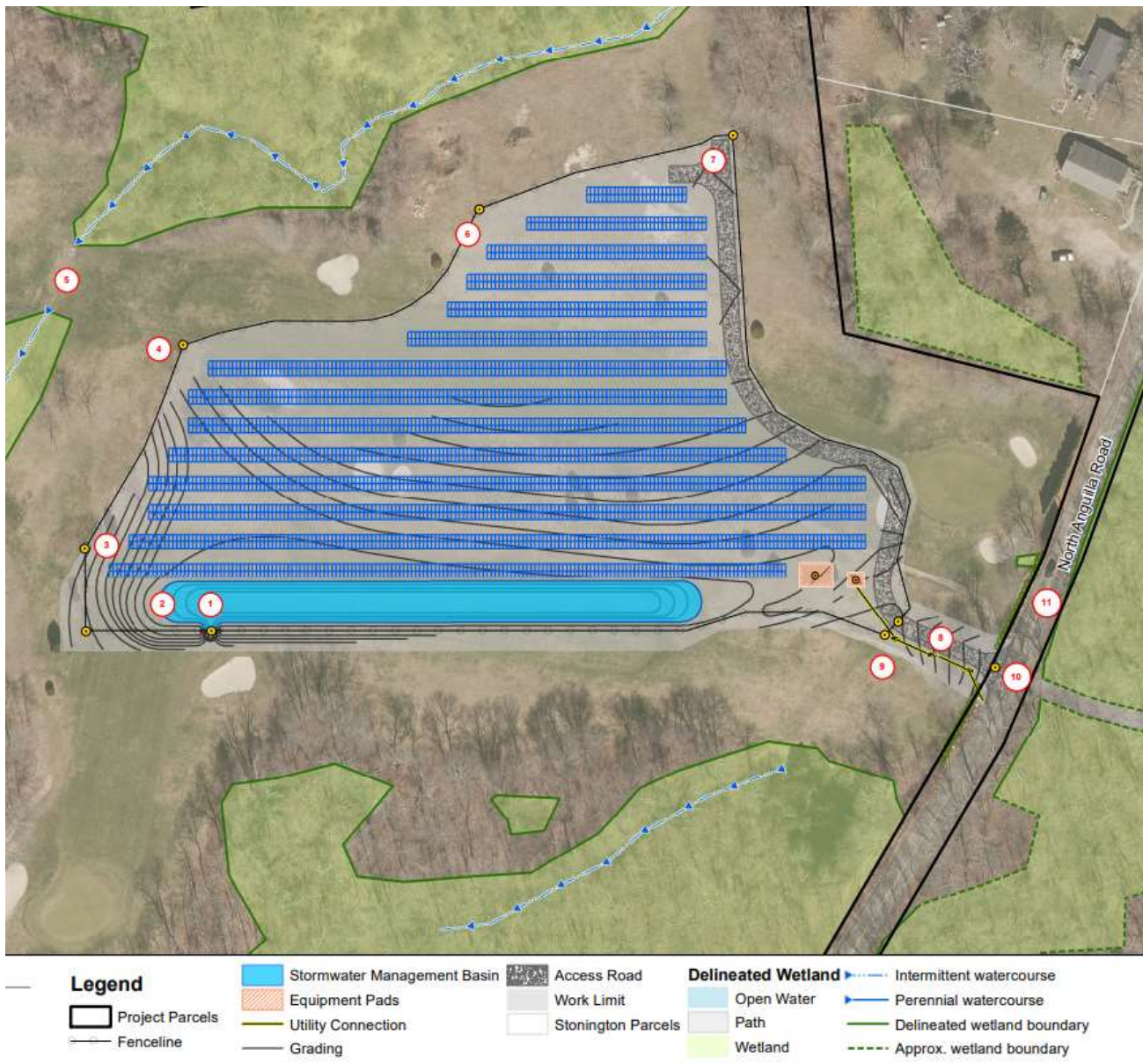
(GCE 2)

Figure 6A – West Project Area Site Plan



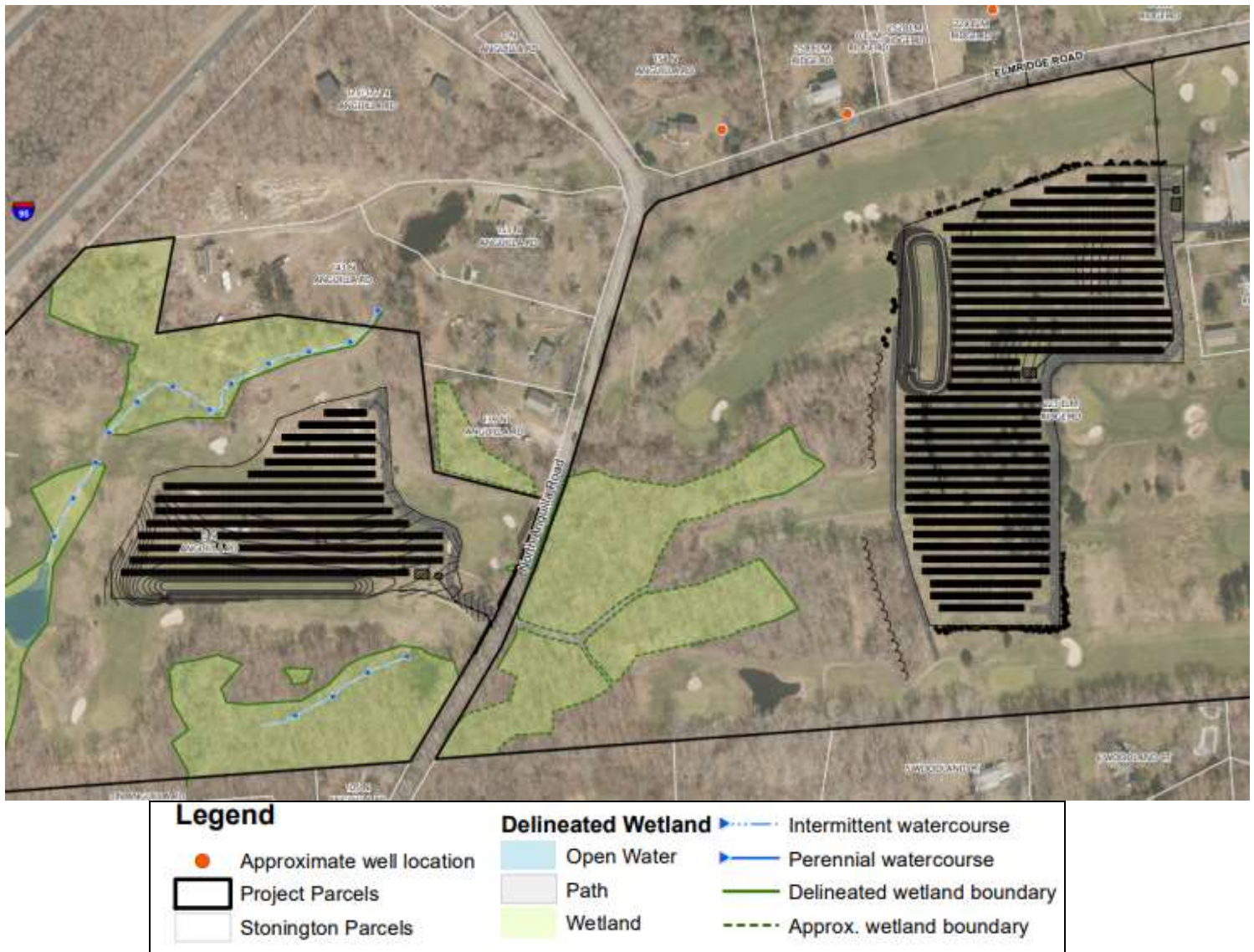
(GCE 11c) no scale

Figure 6 B - West Project Area Site Layout



(GCE 2)

Figure 7 – Project Layout with Mapped Wetlands



(GCE 2)