DRAFT

Petition No. 1421
DG Connecticut Solar II, LLC

Bristol Solar One
399 Hill Street, Bristol

Development &Management Plan
Staff Report
February 19, 2021

On November 9, 2020, the Connecticut Siting Council (Council) issued a Declaratory Ruling to Bristol Solar One LLC (BSO), pursuant to Connecticut General Statutes §4-176 and §16-50k, for the construction, maintenance, and operation of an approximately 3.25 megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located at 399 Hill Street in Bristol, Connecticut. In its Declaratory Ruling, the Council required BSO to submit a Development and Management Plan (D&M Plan).

On December 16, 2020, BSO notified the Council that ownership of the facility was transferred to DG Connecticut Solar II, LLC (DG), an affiliate of NextEra Energy Resources, LLC.

On December 22, 2020, DG submitted its D&M Plan for the project. Additional information was submitted on February 19, 2021.

The project will be on an approximately 29.6 acre parcel zoned Residential R-25. The parcel consists of mostly undeveloped agricultural land, with a farmhouse and several farm buildings located in the northeast corner of the parcel. The western extent of the site is wooded and contains a wetland. The site has road frontage on Hill Street to the west and along Minor Street to the north. Minor Street is an existing City-owned gravel road which extends west from Hill Street. Surrounding land use consists of residential use generally to the southeast and east, commercial use to the north and west, and undeveloped land to the southwest.

The project development area will occupy an approximate 18.2 acre portion of the property. Approximately 8 acres of the eastern portion of the property would remain undeveloped and available for other uses by the landowner. The western edge of the property, containing a wetland and buffering woodland, would remain out of the project development limits.

The Declaratory Ruling requires the following information to be included in the D&M Plan:

a. A final site plan including, but not limited to, final solar panel layout, access roads, electrical interconnection, fence design compliant with the National Electrical Code, equipment pads and landscaping plan;

The final site plan provided illustrates the site design, solar array arrangement, interconnection and equipment pads, perimeter fencing, access roads, and landscaping.

The site design was modified by reducing the number of solar panels from 11,492 to 10,400. The reduction in the number of panels by 1,092 was accomplished by changing the output rating of the panels used for the project, as follows:

i. The proposed 9,620 390-Watt modules were changed to 8,632 400-Watt modules.
ii. The proposed 1,872 370-Watt modules were changed to 1,768 380-Watt modules.

The overall Project footprint was reduced from 18.9 acres to 18.2 acres. The solar field will occupy an approximate 12.6 acre area. Inter-row spacing is 16 feet. The width of the panel rows is 11.4 feet.

The site will be accessed from an unimproved section of Minor Road that extends along the north property boundary. DG will improve the road by installing gravel along a 460-foot long section to a project 16-foot wide access gate. From the access gate, a 425-foot long, 15- foot wide gravel access road will extend south into the solar field to a hammerhead turnaround near the south solar array fence line.

The Project will interconnect overhead from the site to Eversource's existing 15U2 distribution circuit that extends along Minor Street. Eversource will install 4 new metering poles within an Eversource leased area located within the fenced solar array, adjacent to DG's electrical pads. Two reinforced concrete electrical equipment pads, measuring 90 feet by 20 feet and 60 feet by 20 feet, will be installed near the site access point to support the inverters, transformers, and switchgear. Underground conduit will be installed within a rock and sand trench backfilled with native compacted soil.

A seven-foot high chain link fence, compliant with the National Electrical Code, will enclose the solar array area. The fence will be installed flush with the ground. A 15-foot wide clearance will be maintained between the fence and the solar panel rows.

Landscape plantings consist of 41 ten-foot tall emerald green arborvitae that will be installed along the southeast property line. The plantings will be installed in a slightly staggered arrangement to provide for screening depth. Two 10 to 15-foot high grass berms will be constructed along the south property boundary that will also serve to provide visual screening from several abutting properties.

b. Construction site plans that comply with the DEEP-approved Stormwater Pollution Control Plan that include, but are not limited to, site clearing, grading, site phasing, construction laydown areas, erosion and sedimentation controls, and details regarding construction-related environmental mitigation measures;

The D&M Plan includes construction related details as well as environmental mitigation measures.

DG's Stormwater Pollution Control Plan is currently under review with the Department of Energy and Environmental Protection (DEEP). The construction/site plan was revised since the initial petition filing to include recommendations from the DEEP Stormwater program.

A total of three stormwater basins will be installed outside of the fenced solar array area; one to the southeast (SB-3), one to the south (SB-2) and one to the west (SB-1). A series of grass-lined drainage swales with riprap check dams would direct overland stormwater flows from the central and eastern portions of the solar array to basins SB-2 and SB-3. Basin SB-1 is a linear basin that extends along the western extent to the solar field fence line. It is located at the base of a steep grade and will receive stormwater flows from the western portion of the solar array.

Due to the reduction in the number of modules from the initial proposal, adjustments were made to the design of basins SB-1 and SB-3. These adjustments will reduce the total amount of earth work necessary at the site, reducing the cut/fill balance from 16,239 cubic yards to 9,728 cubic yards.

The D&M Plan specifies that grading associated with the stormwater basins and swales will require a cut volume of approximately 9,728 cubic yards and a fill volume approximately 1,492 cubic yards. Grading associated with the berms will require a fill volume of 8,236 cubic yards. Other earth work involves the

removal of any trees/shrubs and associated root structures within the solar array footprint; however, no mass grading and recontouring is proposed.

Approximately 2.0 acres of partially wooded (50% open canopy) and forested land will be cleared in the western portion of the site.

The D&M plan indicates the buffer to the wetland along the west edge of the site was expanded so that less grading would occur within 100 feet of the wetland. This was accomplished by combining two proposed detention basins into a single, more linear basin (SB-1). A minimum 50-foot no disturbance buffer would be maintained from the limit of disturbance. The outlets of basin SB-1 were also relocated outside of the 100-foot wetland buffer as opposed to the initial proposal that included outlets 50 feet from the wetland.

The site plans include details of erosion and sediment (E&S) controls including the use of perimeter silt fence, filter sox, temporary sediment traps, and a construction vehicle tracking pad. Other measures, such as erosion control blankets and hay bales, will be deployed if necessary. Disturbed areas would be seeded if no other construction is scheduled to occur within 30 days. Temporary soil stockpiles, surrounded by filter sox, will be located within the solar array area, away from wetlands.

The stormwater basins will be used as temporary sediment traps. Directional flow baffles will be installed within the traps to reduce water velocity, allowing for sediment to settle into the basin before water discharge through a protected outlet structure.

A site construction phasing plan has been provided with the Phase 1 elements consisting of the flagging of the limits of disturbance, installation of E&S perimeter controls, site clearing, installation of concrete pads and conduit, installation of temporary sediment traps and completion of associated grading. Phase 2 would consist of solar array construction that is limited to areas up gradient of completed temporary sediment traps and swales, site stabilization, installation of landscaping and cleaning of the stormwater management system for post-construction use.

Environmental mitigation includes on-site environmental monitoring, species protection measures, and provisions to prevent and mitigate on-site fuel spills. All Points Technology (APT) will serve as an on-site environmental monitor for the project specific to species protection measures. APT will provide contractor training, barrier inspections, species identification and relocation, monitoring of E&S controls adjacent to wetland resources, and inspection reporting.

c. Post-construction restoration plan for all disturbed areas of the site;

A semi-shade seed mix will be applied to all disturbed areas of the site. The mix, developed by New England Wetland Plants, Inc. consists of a mix of native grasses and forbs, including but not limited to, path rush, zigzag aster, sensitive fern, red fescue and wild rye. Perimeter E&S controls will be removed after site stabilization.

d. Post-construction site maintenance and vegetation management plan;

The Facility will be monitored remotely 24 hours a day, 7 days a week for system performance. Personnel will be dispatched to the site for system maintenance, if necessary.

Site inspections will be conducted several times per year of site components, infrastructure, and site vegetation. Specific facility components will be inspected in accordance with an Operations and Maintenance schedule. Site maintenance and repairs would occur, as necessary.

The stormwater management system will be inspected periodically, in accordance with an inspection schedule developed as part of the DEEP Stormwater Permit.

Vegetation management at the facility would be mostly accomplished through a livestock grazing program; however, vegetation mowing/brushing will occur if necessary. Vegetation mowing would be in accordance with DEEP recommendations.

Herbicides and pesticide use is not anticipated, but if these products are used at the site, use will be in accordance with integrated pest management principles. Use of these products would be minimized within 100 feet of wetland resources.

e. Details regarding co-use of the site for livestock;

A livestock co-use plan is included within the D&M Plan that includes rotational sheep grazing of the solar field area. The solar field will be separated into three rotational grazing zones, or paddocks, where only one paddock is grazed at any given time, allowing the other two paddocks as a rest period for re-growth.

Each paddock area will use a portion of the solar array perimeter fence and a battery powered, portable electric fence installed within the solar array to enclose the grazing area. The paddocks range in size from 3.8 acres to 4.7 acres. The grazing plan includes a stocking rate of 2.9 sheep per acre, with 15 grazing days per paddock, followed by a 45-day rest period. The number of sheep and length of grazing will vary depending on weather, seasons and forage growth. A portable water supply and supplemental feed will be provided.

f. Contact information for construction contractor;

The Construction contractor and contact information for the project has been provided.

g. ISO-NE interconnection determination, if applicable;

The project is not subject to any ISO-NE requirements.

h. Plans to comply with DEEP site clearing restrictions for the eastern box turtle and bobolink, as specified in DEEP's NDDB Determination letter dated March 27, 2020;

The D&M plan has incorporated DEEP recommended eastern box turtle and bobolink protective measures regarding site clearing restrictions. The D&M Plan includes provisions to perform site clearing during the box turtle's active season of April 1 to November 1. APT will perform an inspection of the tree clearing area prior to trees being removed. Subsequent inspections will be performed in the construction zones.

Site disturbance of bobolink habitat would be avoided during the bobolink breeding season of May 20 to August 20. If work commences in bobolink habitat after May 20, APT will perform a breeding bird survey to determine if bobolinks are nesting. If a nest is identified, a 400-foot area around the nest will be demarcated to restrict construction activity until fledging is competed.

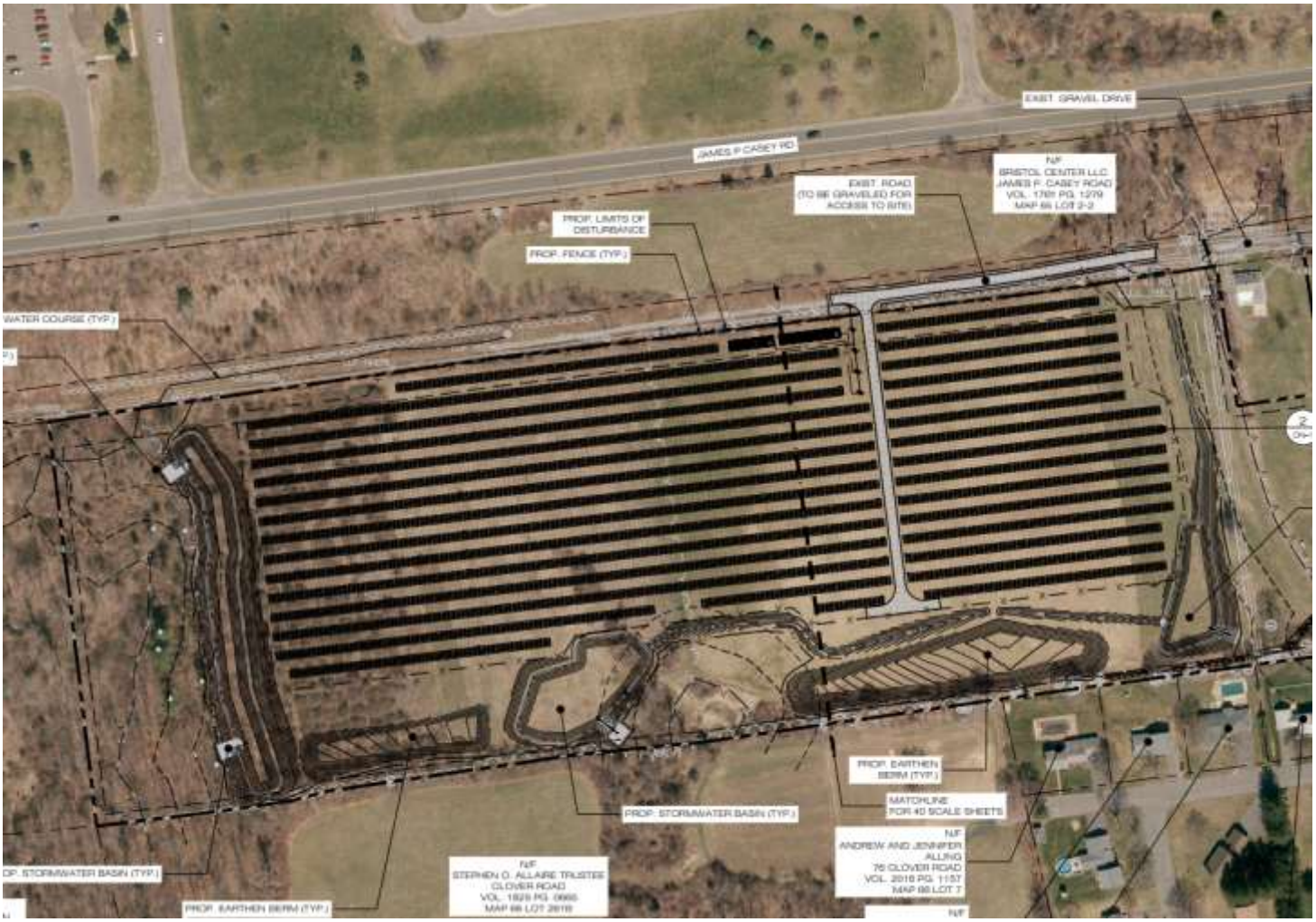
i. A copy of the DEEP Stormwater Permit prior to the commencement of construction; and

DG submitted a Notice of Permit Authorization, dated February 10, 2021, from the Department of Energy and Environmental Protection, Water Permitting and Enforcement Division of the Bureau of Materials Management and Compliance Assurance issuing a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities for the Project.

j. Consultation with the DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins prior to site construction.

DG submitted email correspondence, dated January 6, 2021, from the Dam Safety Section of the DEEP Water Planning & Management Division stating that the proposed stormwater basins/berms have been assigned a hazard classification of "AA", which classifies a structure as a negligible hazard potential dam. Although a dam construction permit is not required to construct the stormwater basins/berms, these structures are considered dams and must be registered with the Dam Safety Section.

Site Layout


JAMES P CASEY RD
EXIST. GRAVEL DRIVE
EXIST. ROAD (TO BE GRAVELED FOR ACCESS TO SITE)
N/F BRISTOL CENTER LLC JAMES P. CASEY ROAD VOL. 1769 PG. 1279 MAP 66 LOT 2-2
PROP. LIMITS OF DISTURBANCE
PROP. FENCE (TYP.)
WATER COURSE (TYP.)
PROP. EARTHEN BERM (TYP.)
PROP. STORMWATER BASIN (TYP.)
MATCHLINE FOR 40 SCALE SHEETS
N/F ANDREW AND JENNIFER ALLING 75 CLOVER ROAD VOL. 2018 PG. 1157 MAP 66 LOT 7
N/F STEPHEN O. ALLAIRE TRUSTEE CLOVER ROAD VOL. 1828 PG. 0966 MAP 66 LOT 2018
PROP. STORMWATER BASIN (TYP.)
PROP. EARTHEN BERM (TYP.)