WGKL-SW-2

Memorandum

To: Williston G Katie Lane Solar

Date: September 23, 2025

Project #: 58972.07

From: Stephanie Wyman, PE, Civil Engineer

Re: Section 248 Waste Disposal, Soil Erosion Technical Memorandum

Introduction

On behalf of Williston G Katie Lane Solar, LLC ("Petitioner") and at the request of Encore Renewable Energy ("Encore"), VHB has prepared this technical memorandum concerning the proposed solar electric generation facility ("Project") that will occupy approximately 11.1 acres of land within a 440-acre parcel owned by GlobalFoundries. The Project site is located north of Mountain View Road, between Trinity Drive and Katie Lane, in Williston, Vermont. The content of this technical memorandum presents the results of an assessment of the Project as it relates to the following criteria under 30 V.S.A. § 248(b)(5), which are given due consideration by the Vermont Public Utility Commission ("PUC") in its review of Williston G Katie Lane Solar LLC's request for a Certificate of Public Good ("CPG"):

- Waste Disposal (Section 248(b)(5) / 10 V.S.A. § 6086(a)(1)(B))
- Soil Erosion (Section 248(b)(5) / 10 V.S.A. § 6086(a)(4))

Project Description

The Project consists of the installation and operation of a solar electric generation facility within the GlobalFoundries campus. GlobalFoundries Power LLC ("GF Power") is an owned subsidiary of GlobalFoundries and operates as a public service company. The Project area was selected and designed after considering several site constraints – including topography, environmental resources, and aesthetic impacts – while maximizing the potential energy generation benefits. The Project will consist of a solar electric generation facility, capable of generating up to 2.9 MW AC. The approximately 11.1-acre fenced in Project will be separated into two subarrays. The northern subarray is located within an existing field while the southern subarray will be partially located within a fenced in area previously used as a renewable energy test location and will extend south into an area currently occupied by saplings and shrubs (refer to Exhibit WGKL-JC-2). Please see the detailed project description in the prefiled testimony of Jake Clark.

Section 248 Criteria Reviewed

Waste Disposal (10 V.S.A. § 6086(a)(1)(B))

The Waste Disposal criterion incorporated into Section 248 review provides that the Project must meet applicable health and Vermont Department of Environmental Conservation ("DEC") regulations regarding the disposal of waste and must not involve the injection of waste materials into groundwater or wells. For the Project, VHB's consideration of waste disposal involves sanitary wastewater, stormwater runoff, and general construction waste including tree and brush debris. VHB's consideration of the injection of waste materials into groundwater or wells also involves the Project's storage of transformer oil and the potential for a leak or release.

The Project will not need permanent sanitary waste treatment, will not require on-site sanitary waste treatment or use of public waste treatment facilities and will not involve any on-site waste disposal or the injection of waste materials or any harmful or toxic substances into groundwater or wells.

The Project will generate minor amounts of scrap and waste material during installation, and this waste will be disposed of or recycled at an approved disposal facility in accordance with Vermont Solid Waste Management Rules and Procedures (DEC 2020) or other applicable regulations. Construction waste generated during construction, such as office trash from the contractor's operations, or from portable toilets, will be the responsibility of the contractor to dispose of properly. The Project is not anticipated to generate any wastes during operation.

Approximately 0.03 acres of tree clearing will be necessary to widen the existing access driveway leading toward the northern array. Approximately 1.18 acres of shrub/sapling clearing and 0.18 acres of shrub/sapling trimming will be necessary for the installation of the southern array and address shading impacts. Approximately 0.61 acres of potential future operational phase vegetation management has been identified at the south and east of the Project area to maintain a maximum woody vegetation height between 15-feet and 25-feet throughout the life of the Project in that area. Woody debris generated from tree clearing, shrub/sapling clearing and vegetation management, will be sold for lumber if merchantable, offered as firewood to nearby landowners, or chipped and hauled to an approved disposal site.

To minimize the amount of new impervious surfaces being created, the Project is proposing to construct a pervious access driveway. The majority of the GlobalFoundries campus has coverage under a National Pollutant Discharge Elimination System (NPDES) Permit 3-1295; however, the portion of the parcel where the Project is located is not currently included within the permitted area. Therefore, a Vermont General Permit 3-9050 will be required to treat stormwater runoff from the new impervious surfaces, which is limited to the equipment pads due to the pervious nature of the proposed driveway.

The Project involves the installation and use of two pad-mounted transformers, sized at 1,400 kVA in the southern array and 1,600 kVA in the northern array, shown on the Project Site plans included in the petition materials. These transformers will each contain approximately 500 gallons of non-hazardous vegetable-based dielectric fluid (FR3 or similar).[1] The Project does not trigger the need to prepare a Spill Prevention Control and Countermeasure ("SPCC") plan under 40 C.F.R. § 112 ("SPCC Regulations"), because the total volume of oil storage capacity at the Project Site will not exceed 1,320 gallons. Although not subject to SPCC Regulations, the transformers will be placed within secondary containment structures to prevent the release of transformer oil to the environment. If, at the time of construction, total oil volume capacity exceeds 1,320 gallons and requires the Project to prepare an SPCC plan, one will be prepared.

Though secondary containment will be constructed to prevent the release of oil to the environment, VHB evaluated the location of the fluid-filled transformers with respect to sensitive receptors near the Project. According to the Agency of Natural Resources ("ANR") Natural Resources Atlas, there are no surface water or groundwater protection areas within the vicinity of the Project. ANR-mapped private water supply wells in the vicinity of the Project area are located more than 500-feet from the transformers. Additionally, the transformers are not located within wetlands, wetland buffers, streams, or stream buffers. The distance from sensitive receptors and proposed secondary containment structures will prevent the unlikely release of oil to waters of the U.S. or other sensitive receptors. Furthermore, the transformer fluid will be non-hazardous. Accordingly, VHB believes that the proposed transformers do not pose a potential for adverse impacts to sensitive receptors.

[1] Only containers with oil storage capacities equal to or greater than 55 gallons count toward the total oil volume.

As indicated above, the Project will meet applicable health and DEC regulations regarding the disposal of waste that have been considered and does not involve the injection of waste materials into groundwater or wells. Therefore, the Project will comply with this criterion.

Soil Erosion (10 V.S.A. § 6086(a)(4))

Act 250 Criterion 4, which is to be accorded due consideration as part of Section 248, requires a finding that the Project "will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result." (10 V.S.A. § 6086(a)(4)). Compliance with this criterion involves two considerations: (1) preventing soil erosion, and (2) preventing a reduction in the land's capacity to hold water.

According to the Natural Resources Conservation Service ("NRCS") soils report, underlying soils within the Project Site are described in the table below:

Table 1 Soil Classifications Within Project Site

Soil Classification	K-Value	Hydrologic Soil Group[2]
Adams and Windsor loamy sands, 0 to 5 percent slopes	0.10	A
Duane and Deerfield soils, 0 to 5 percent slopes	0.20	A/D
Hartland very fine sandy loam, 25 to 60 percent slopes	0.32	B

Erodibility ratings (or "K-values") indicate the susceptibility of soil to erosion by water. Values typically range from 0.02 to 0.69, with higher values more susceptible to erosion. Soils with K-values that are greater than 0.17 but less than 0.36 are generally considered to have a moderate risk of erodibility per the Vermont Standards and Specifications for Erosion Prevention and Sediment Control. The soils underlying the Project are within low to moderate risk of susceptibility to erosion. Therefore, the Project is considered to have a low-to-moderate risk of soil erosion. Any risks related to potential soil erodibility are intended to be managed via implementation of a site-specific Erosion Prevention and Sediment Control ("EPSC") plan.

Hydrologic soil groups ("HSG") established by the NRCS are based on estimates of runoff potential, with four classifications (A, B, C, and D) based on their rate of water infiltration under certain conditions, with HSG A having the least runoff potential and HSG D having the greatest runoff potential. The Project Site is primarily underlain by HSG A soils indicating a lower potential for runoff. There are also HSG B soils within the project site as well, somewhat increasing the potential for runoff. Regardless, implementation of the EPSC plan will take these site-specific factors into consideration to reduce potential for runoff.

For Project construction, direct earth disturbance is necessary for the access road construction and drainage, tree clearing/grubbing, underground electric lines, and use of a laydown/staging area. Other areas within the array have the potential to be indirectly disturbed by equipment during constructions. The total area of potential disturbance within the project limits of disturbance is approximately 14.3 acres.

[2] Soils that can be adequately drained are assigned to dual hydrologic soil groups (A/D, B/D, and C/D) based on their saturated hydraulic conductivity and the water table depth when drained. The first letter applies to the drained condition and the second to the undrained condition. For the purpose of hydrologic soil group, adequately drained means that the seasonal high-water table is kept at least 60 centimeters [24 inches] below the surface in a soil where it would be higher in a natural state (USDA NRCS 2007).

Because soil disturbance for Project construction will total more than one acre, the Petitioner will be required to obtain an authorization to discharge construction stormwater under Construction General Permit 3-9020. The Project will implement EPSC Best Management Practices ("BMPs") to minimize soil erosion and reduce the potential for sediment-laden runoff to reach receiving waters. The installation and maintenance of BMPs will manage any undue soil erosion from all areas of earth disturbance. BMPs that will be implemented as part of the Project include, but are not necessarily limited to, a stabilized construction entrance to minimize tracking of soil by vehicles, demarcation of disturbed areas with barrier tape, and installing perimeter controls such as silt fence.

Based on evaluation of the proposed Project, it is VHB's opinion that the Project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition results.

References:

Argentine, C.C. 2008. *Vermont Act 250 Handbook*. Putney Press, Brattleboro, VT.

USDA NRCS, 2007. Part 630 Hydrology - National Engineering Handbook – Hydrologic Soil Groups

ANR, 2020. Environmental Protection Rule, Water Supply Rule, Chapter 21.

ANR, 2017. Environmental Protection Rule, 2017 Vermont Stormwater Management Rule and the Agency's Design Guidance, Chapter 36, effective July 1, 2017

DEC, 2024. Investigation and Remediation of Contaminated Properties Rule. State of Vermont Agency of Natural Resources Department of Environmental Conservation Waste Management and Prevention Division. Environmental Protection Rules Chapter 35. Final Adopted Rules Effective Date: February 23, 2024.

DEC. 2025. *The Low-Risk Site Handbook for Erosion Prevention and Sediment Control*. Available: https://dec.vermont.gov/sites/dec/files/documents/Handbook_06.25.pdf

DEC. 2025. The *Vermont Standards and Specifications for Erosion Prevention and Sediment Control* (2025) Available: https://dec.vermont.gov/sites/dec/files/documents/Standards_06.25.pdf

DEC. 2019. Stormwater Management Rule - Stormwater for Unimpaired Water: Available: http://www.anr.state.vt.us/dec/rulessum.htm

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USDA-NRCS. 2003. *Vermont Soil Fact Sheet – Detailed Definitions and Explanations*. April 2003. Available online at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_010210.pdf

USDA Web Soil Survey. 2020. Accessed online at: http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm.