

**Natural Resources Assessment
4.999 MW Photovoltaic
Electric Generation Facility
Novus Buck Solar Project**

Newport Town, Vermont

Prepared by:

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I. Project Description and Summary Findings

Arrowwood Environmental, LLC (AE) conducted a natural resources assessment for the proposed Novus Buck Solar Project (“Project”) located off Buck Road in Newport Town, Vermont. The Project site is located on land that was previously disturbed as a gravel pit extraction operation. The Project will be accessed off Buck Road via an existing access drive for the gravel extraction operation, which will be widened, improved, and extended to the middle of the Project site. The Project will interconnect to the Vermont Electric Coop electric system at an existing pole on Buck Road. The Project involves no vegetation clearing, and the limits of disturbance for the Project include 19.08 acres.

AE assessed natural resources criteria under 30 V.S.A. § 248(b)(5) incorporated by the Public Utility Commission into the review of solar projects, including streams and headwaters, outstanding resource waters, shorelines, floodways, wetlands, rare and irreplaceable natural areas, necessary wildlife habitat, and rare, threatened, and endangered species. The natural resources assessment involved both a remote review of available digital databases as well as field investigation at the Project site November 4, 2025. This report outlines AE’s findings related to these natural resources criteria.

There are no streams, headwaters, outstanding resource waters, shorelines, floodways, necessary wildlife habitat, or rare and irreplaceable natural areas or at the Project site. AE concludes that the Project has been sited and designed to avoid undue adverse to these resources.

AE field review confirmed the presence of a presumed Class II wetland adjacent to the Project area and presumed Class III wetlands within and adjacent to the Project area. The Project will have no impacts on the presumed Class II wetland or associated buffer zone. The presumed Class III wetland within the Project site is a small, isolated depression in an active corn field that lacks any significant wetland functions and values.

There are no known records or occurrences of RTE plant species at the site. An RTE plant survey will be conducted to confirm the absence of RTE plant species prior to construction.

In summary, AE concludes that the Project has been sited and designed to avoid undue adverse impacts to natural resources including streams and headwaters, floodways, outstanding resource waters, shorelines, wetlands, rare and irreplaceable natural areas, necessary wildlife habitat, and rare, threatened, and endangered species.

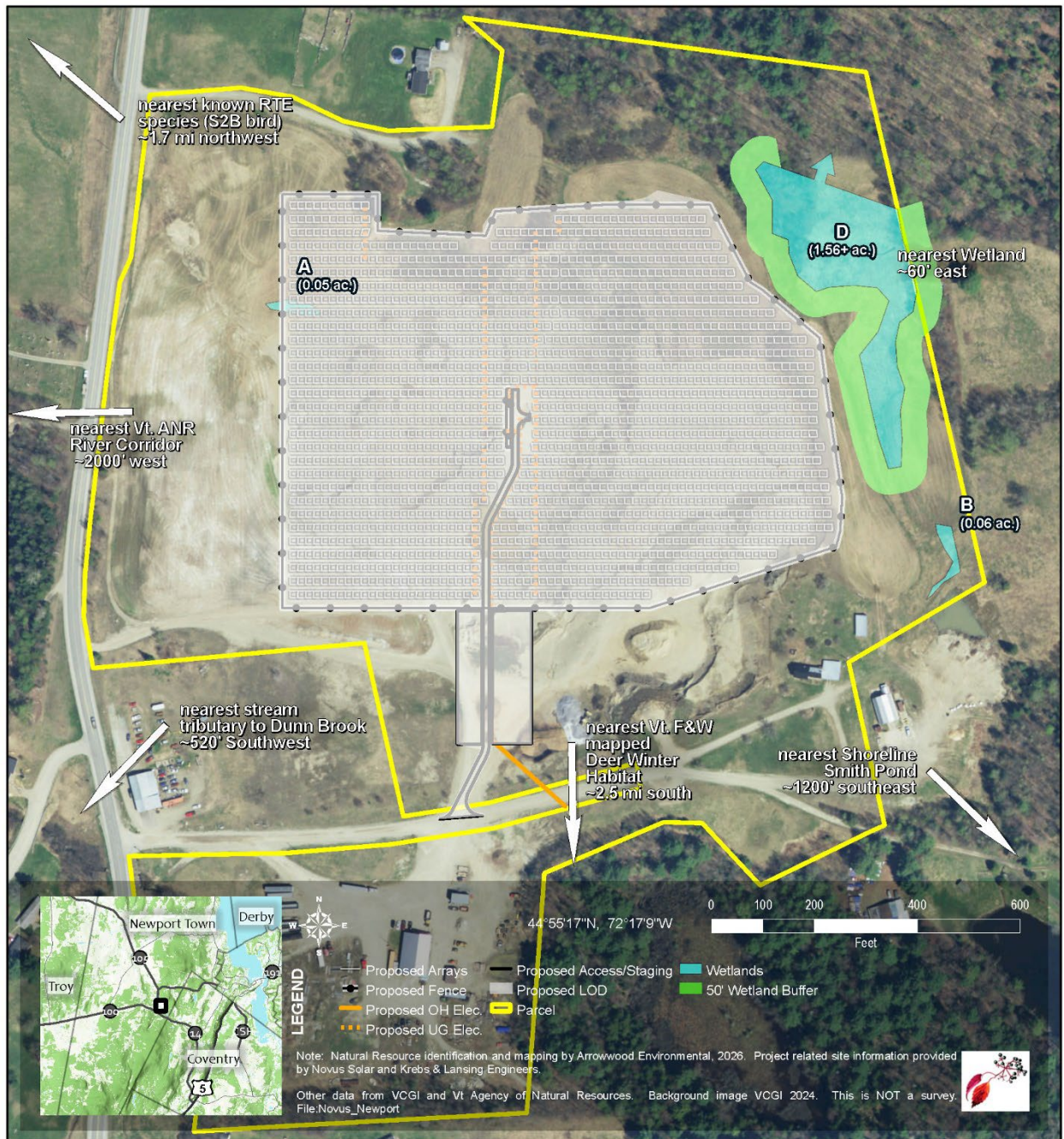


Figure 1. Project Site and Nearby Natural Resources.

II. Site Characterization

Ecologically the site is within the Northern Vermont biophysical region of the state (Thompson and Sorenson, 2019). The Project is located at approximately 980 feet above mean sea level according to U.S. Geologic Survey (“USGS”) topographic data and sits on a wide, relatively flat plateau. The mapped bedrock that is underlying the site is phyllite and quartzite from the Cram Hill Formation of the Newport Center Area (Ratcliffe et al. 2011). The soils in the Project area consist of Pits, sand and Pits, gravels, and Colton-Duxbury complex (NRCS Soil Survey). The Project site is located within a former gravel pit that has been partially and will be completely regraded as a component of site reclamation. The majority of the Project area is currently characterized by exposed soil, and an area of active agricultural corn field to the west of the proposed gravel access road at the approximate center of the arrays. The corn field is within an already reclaimed area of the gravel pit.



Figure 2. Project Area (11/4/25)

III. Criterion 1(A) Headwaters

A site is considered to be a Headwater if it meets any of the following criteria: it is characterized by steep slopes and shallow soils; it is above 1,500 feet in elevation; it has a drainage area of less than 20 square miles; it is within the watershed of public water supplies; or if it provides significant recharge to aquifers. The headwaters assessment involved both a remote review of the USGS topographic map and Vermont Hydrography Dataset (streams, rivers, and waterbodies) and field investigations. The Project site does not meet any of the criteria for a headwater.

Nonetheless, the Project will comply with applicable health and environmental regulations. Waste generated during construction and operation of the Project will be disposed of in accordance with applicable Vermont DEC regulations. The Project includes two 2800kVA transformers with secondary oil containment and two equipment pads. The Project has no onsite sanitary wastewater systems, and therefore no associated injection of sanitary wastewater into the ground. The proposed Project will not result in a reduction in the quality of ground or surface waters in the area. For these reasons, we conclude that the Project will have no undue adverse impact on headwater areas.

IV. Criterion 1(D) Floodways

AE reviewed the FEMA DFIRM (Digital Flood Insurance Rate Map Database) and the VT ANR's Flood Ready Atlas to identify floodways or flood fringes. AE also reviewed ANR's river corridor data layer on the VT ANR's Flood Ready Atlas.

The Project is not located within a 100-year Zone Area and will not restrict or divert the flow of floodwaters or significantly increase the peak discharge of a river or stream within or downstream from the area of development. The Project is not located within a river corridor. The closest river corridor is approximately 2000' to the west of the Project. Therefore, the Project will not have any undue, adverse impacts on floodways

or river corridors, nor will they endanger the health, safety, and welfare of the public or riparian owners as it relates to flood events or fluvial erosion.

V. Criteria 1(E) Streams and Section 248(b)(8) Outstanding Resource Waters

The stream assessment involved both a remote review of the USGS topographic map, Vermont Hydrography Dataset (streams, rivers, and waterbodies), LiDAR derived topography, and field investigation.

There are no surface waters within the Project area. The closest stream is an unnamed tributary to Dunn Brook located ~520' southwest of the Project. The Project will not result in any clearing of forest vegetation within the riparian buffer zones (as measured 50' from top of bank/top of slope/ and edge of wetland) of any stream resources. For these reasons, we conclude that the Project will have no adverse impact on streams.

The Agency of Natural Resources has listed four waterways as Outstanding Resource Waters (ORW): Batten Kill River in towns of East Dorset and Arlington; Pike's Falls/Ball Mountain in the town of Jamaica; Poultney River in the towns of Poultney and Fair Haven; and Great Falls, Ompompanoosuc in the town of Thetford. There are no waters which intersect the Project that have been designated as an ORW. Therefore, the Project will not result in any impact on ORWs.

VI. Criterion 1(F) Shorelines

AE reviewed USGS topographic maps, the Vermont Hydrography Dataset (streams, rivers, and waterbodies), and digital orthophotography. The site of the proposed Project is not located on the shoreline of a river, lake, pond, or reservoir. The closest shoreline to the Project is that of Smith Pond ~1200' to the southeast of the Project. The Project will not result in any clearing of forest vegetation along the shores of the pond. Therefore, the proposed Project will result in no adverse impact to shorelines.

VII. Criterion 1(G) Wetlands

The wetland assessment involved both a remote review of available maps (including Vermont Significant Wetland Inventory Maps and the NRCS Soil Survey) and a field inventory component conducted in November 2025. The protocols put forth in the USACE's *Corp of Engineers Wetlands Delineation Manual* (2009 Regional Supplement for the Northcentral and Northeast Region) were employed for delineating wetlands as is the standard practice in Vermont.

AE field review confirmed the presence of a presumed Class II wetland adjacent to the Project area (~60' to the east) and presumed Class III wetlands within and adjacent to the Project area. Per the wetland survey protocol, AE flagged wetland boundaries in the field and mapped the boundary with a GPS unit capable of sub-meter accuracy. The wetland in the Project site is presumed Class III wetland due to small size (<0.5 acres) and lack of connection to a stream. This wetland is an isolated depression in an active corn field that lacks any significant wetland functions and values. The proposed impacts to the Class III wetland qualify under the United States Army Corps of Engineers Nationwide Permit #51. The wetland delineation is shown on the Project site plans and in Figure 1.

The Project will have no impacts on the presumed Class II wetland or associated buffer zone.

For these reasons, the proposed Project will have no undue adverse impact on significant wetland resources.

VIII. Criterion 8 Rare and Irreplaceable Natural Areas

The Rare and Irreplaceable Natural Areas assessment involved both a remote review of available digital maps for the Project area and a field review in November 2025. AE reviewed digital orthophotography, the NRCS Soil Survey, the 2011 Bedrock Geologic

Map of Vermont, and the Wildlife Natural Heritage Inventory (NHI) Rare, Threatened and Endangered Species digital database.

The Project area is characterized as former gravel pit. The majority of the site is currently exposed soil with soil stockpiles with an area of active agricultural cornfield to the west of the proposed gravel access road. These areas do not constitute a significant natural community or a Rare and Irreplaceable Natural Area (RINA). No RINAs are present within the Project area. Since there are no RINAs in the Project area, there will be no adverse impacts on any Rare and Irreplaceable Natural Areas.

IX. Criterion 8(A) Necessary Wildlife Habitat and Rare, Threatened and Endangered Species

The wildlife habitat assessment involved both a remote review of available digital maps for the Project area and a field inventory component. A remote review of available digital databases was conducted to identify and map necessary wildlife habitat (including State of Vermont Deeryard data layer, USGS Topographic map, and “VT HYDRODEM” elevation data) in the Project area. The field inventory component involved characterizing vegetation natural communities and recording observations of wildlife signs or sightings during field surveys.

The site assessment was conducted in November 2025 to assess wildlife, wildlife habitats, and threatened and endangered animal species.

A. Necessary Wildlife Habitats

1. White-tailed Deer Wintering Habitats

There are no mapped VT Fish and Wildlife Department white-tailed deer (*Odocoileus virginianus*) winter habitats (DWA) in the Project area. The closest mapped DWA is located approximately 2.5 miles south of the Project area. The Project will result in no clearing of trees. AE confirmed the absence of historic or recent deer wintering activity

as well as lack of forested areas containing significant enough softwood canopy closure to be considered DWA habitat in the Project area. The proposed Project will have no adverse impact on DWA resources.

2. Black Bear Habitat

There is no bear habitat identified by the Vermont Fish and Wildlife Department within the Project area and no observations of bear use or feeding (including bear claw scarring, bear dens, scat) were made during the field inventories of the forests and wetland within the Project area. The woodlands adjacent to the Project area do not contain beech or oak stands. No potential black bear spring feeding wetlands were identified. The Project will therefore have no adverse impact on black bear habitat.

3. Grassland Bird Habitat

The Vermont Fish and Wildlife Department (VFWD) considers grassland bird habitat to be easily identifiable, concentrated, and essential for the reproductive success and survival of a suite of birds. Grasslands used by many species of grassland birds consist of large expanses (minimum of ~20 acres) of native grasses with little or no woody vegetation. The Project area is characterized as former gravel pit. The majority of the site is currently exposed soil with soil stockpiles. There is an area of active agricultural cornfield to the west of the proposed gravel access road. Site conditions do not provide suitable habitat for grassland bird species and the site therefore does not qualify as potential grassland bird habitat (Vermont Fish and Wildlife Department, 2021). The Project will have no adverse impact on grassland bird habitat.

4. Amphibian Breeding Habitat/Vernal Pools

The Vermont Department of Fish and Wildlife considers intact well-functioning breeding pools that are interconnected to intact upland forest necessary wildlife habitat for pool-breeding amphibians. Field assessments conducted in November 2025 did not identify any potentially functioning vernal pools in the Project area. The Project will have no undue adverse impact on vernal pools.

B. Rare, Threatened and Endangered (RTE) Species

The RTE species review involved both a remote review of available digital maps for the Project area as well as a field survey. AE reviewed digital orthophotography, the NRCS Soil Survey, the 2011 Bedrock Geologic Map of Vermont, and the Wildlife Natural Heritage Inventory (NHI) Rare, Threatened and Endangered Species digital database.

In reviewing the NHI digital database, there are no records or occurrences of RTE plant species in or directly adjacent to the Project site.

1. RTE Animal Species

The Project area is within predicted summer ranges for both Northern long-eared bat (State and Federally listed) and Tricolored bat (State listed). Vermont Fish and Wildlife Department has issued guidance that project clearing constituting greater than 1% of the total forested area within a 1 square mile radius of a project triggers review for habitat loss of these endangered species. The Project involves no tree clearing and will therefore have no impact on roosting bats.

The Project is not in an area that potentially provides summer roosting habitat for Indiana bat, there are no old or abandoned buildings potentially providing roosting habitat for little brown bat proposed for demolition, and there are no known bat hibernacula or maternity roosts within one mile of the Project site. The Project will have no undue adverse impact on RTE animal species.

2. RTE Plant Species

There are no known records or occurrences of RTE plant species at the site. The Project area is characterized as former gravel pit. The majority of the site is currently exposed soil with soil stockpiles that will be regraded as part of the overall gravel pit reclamation. There is an area of active agricultural cornfield to the west of the proposed gravel access road that was formerly part of the gravel pit. Site conditions are not likely to provide appropriate habitat for RTE plant species, and an RTE plant survey will be conducted to confirm the absence of RTE plant species prior to construction.

X. References

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- Ratcliffe, N.M., Stanley, R.S., Gale, M.H., Thompson, P.J., and Walsh, G.J., 2011, Bedrock geologic map of the Vermont: U. S. Geological Survey Scientific Investigations Map 3184, scale 1:100,000.
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