SS-BT-2

Section 248 Historic Resources Assessment

FPS SHAFTSBURY SOLAR PROJECT

Shaftsbury, Vermont

Prepared for **VT Real Estate Holdings 1 LLC ("Shaftsbury Solar")**
58 Commerce Road
Stamford CT, 06902

Prepared by **VHB**
40 IDX Drive, Bldg 100, Suite 200
South Burlington, VT 05403

Date: April 5, 2023

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Appendices

1.0 Introduction

At the request of Petitioner VT Real Estate Holdings 1 LLC (to be referred to as "Shaftsbury Solar"), VHB has prepared this technical memorandum concerning the proposed Shaftsbury Solar Project ("SSP" or "Project"), a solar electric generation facility that will occupy 83 (+/-) acres across four parcels of land that total 182 (+/-) acres. The Project site is located off Holy Smoke Road in Shaftsbury, 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) and the Act 250 criteria referenced therein:

- Historic Sites – as defined by 10 V.S.A. § 6001(9)

The Vermont Public Utility Commission ("PUC") will apply this criteria in its review of Shaftsbury Solar's request for a Certificate of Public Good ("CPG"):

Section 248 of Title 30 requires applicants to obtain a certificate of public good ("CPG") from the Public Utility Commission ("PUC") before beginning site preparation or construction of electric transmission facilities, electric generation facilities, and certain gas pipelines within Vermont.

With respect to historic resources, section 248 requires the PUC to make a finding that the Project will not have an undue adverse effect on historic sites. This is called a "positive finding." As defined in Act 250 (10 V.S.A. § 6001(9)), and as applied in the PUC process, "historic site" is any site, structure, district, or archaeological landmark that has been officially included in the National Register of Historic Places ("National Register") and/or the State Register of Historic Places ("State Register"), or which is established by testimony of the Vermont Advisory Council on Historic Preservation as being historically significant and thereby eligible for State Register listing.

The purpose of this Historic Resources Assessment ("Assessment") is to assist the PUC and Vermont Division for Historic Preservation ("DHP") in their review of the Project. DHP relies on Rule 4 of the Vermont Historic Preservation Rules to guide its review and to provide the PUC with a recommendation. Those rules consider both State Register listed and State Register eligible properties and require that a project be reviewed for direct effects on historic sites as well as indirect effects within a project's Area of Potential Effect ("APE") defined in Section 3.2 below.

This Assessment follows the Historic Sites Process under DHP Rule 4. It describes the proposed Project; explains the methodology employed to identify historic sites within or in the vicinity of the Project; assesses the integrity of the historic sites identified; and recommends a determination of effect on the above-ground historic sites. The work required to complete this report was undertaken by Britta Tonn and Kaitlin O'Shea, Senior Preservation Planners at VHB,

alongside Matthew Shoen and Jenny Fulton, Preservation Planners at VHB. Ms. Tonn oversaw and supervised all work performed in the assessment.

On-site archaeological resources were evaluated by the University of Vermont Consulting Archaeology Program ("UVM CAP") and by Crown Consulting Archaeology, LLC ("CCA"). An Archaeological Resource Assessment ("ARA") prepared by UVM CAP in 2018 and an updated ARA prepared by CCA in 2023 are included as Appendix C of this report. The archaeological findings have been incorporated into the analysis section (Section 5.0) of this report.

2.0 Methodology

To prepare this Historic Resources Assessment, DHP standards were followed. These standards are modeled on the regulations established by the Advisory Council on Historic Preservation to implement Section 106 of the National Historic Preservation Act (36 CFR 800). DHP requires project review to identify potential impacts to historic buildings, structures, historic districts, historic landscapes and settings, as well as to known or potential archaeological resources. VHB conducted the above-ground assessment for this Project, which included both desktop and field research, while UVM CAP and CCA conducted the archaeological assessments, which are attached as Appendix C.

Existing literature used to complete this assessment included the resources available at the DHP's Online Resource Center; specifically, the Vermont Historic Sites & Structures Survey ("VHSSS")[1] and the National Register and State Register listings.[2] Using this literature, VHB identified known historic sites within the Project area to determine the effects of the proposed Project on these historic sites.

Following the review of existing literature, VHB Preservation Planner Jenny Fulton visited the Project site to confirm the desktop research, determine the APE, and review potential effects. After conducting fieldwork, a literature review, and reviewing site plans and equipment specifications provided for the Shaftsbury Solar project, the Project's potential effects to above-ground historic sites were assessed. Although DHP has not developed specific guidance or criteria for solar projects, it has developed "Criteria for Evaluating the Effect of Telecommunication Facilities on Historic Resources for both Direct and Indirect Impacts."[3] Because of the similarity of the issues involved, and based upon recommendations by DHP staff, those criteria were used for the assessment of effect.

[1] The VHSSS is also now referred to as the Vermont Architectural Resource Inventory (VARI)
[2] www.orc.vermont.gov
[3] http://accd.vermont.gov/strong_communities/preservation731/review_compliance/telecom_criteria

The guidelines are established to avoid adverse or undue adverse effects caused by direct or indirect impacts.

The DHP Criteria are explained as follows:

> "*The installation of telecommunications facilities, transmission lines, wind power facilities and other similar projects may affect historic resources directly and indirectly. Evaluations of project impacts are made on an individual case-by-case basis and focus on direct and indirect impacts of a substantial nature. Use of this criteria further implements any applicable state and federal review standards*" [such as the abovementioned Act 250 criteria].

The methodologies used to complete the archaeology evaluations are included in the two ARAs in Appendix C.

3.0 Description of Proposed Project and Area of Potential Effect

The Project is sited on approximately 83 (+/-) acres within four parcels that total approximately 182 acres, west of U.S. Route 7 ("U.S. 7") and south and west of Holy Smoke Road in the Town of Shaftsbury, Bennington County, Vermont. See **Appendix A**, and **Appendix B** Photographs 1-6.

3.1 Project Description

The proposed Project is a 20 megawatt ("MW") (AC) solar electric generation facility to be located within an approximately 83 (+/-) -acre fenced footprint within the Project parcels. The parcels are located off Holy Smoke Road and U.S. 7 in Shaftsbury, Vermont (Refer to Exhibit SS-RW-2).

The Project consists of ground-mounted, fixed-tilt solar modules mounted on metal racks arranged in rows running east to west in three distinct areas, or "sub-arrays." The entire Project will be enclosed by perimeter fencing. Shaftsbury Solar has received conceptual approval from VTrans to utilize a temporary access from U.S. 7 for heavy duty vehicles during construction, and an existing access from Holy Smoke Road to service light duty vehicles during construction and permanent operations. In addition to the solar arrays, Shaftsbury Solar will install a Project substation and an adjacent substation to be owned and operated by Green Mountain Power ("GMP"), in order to interconnect with GMP's existing 46 kV transmission line that is located on the northeastern proportion of the Project property.

In order to install the Project arrays and other equipment, Shaftsbury Solar will rebuild a segment of a public waterline owned and operated by the North Bennington Water Department. In addition, the Project will involve construction of new onsite graveled access roads, temporary laydown yards, operational stormwater treatment systems, and landscape berms and plantings.

The Project is largely sited in non-forested areas, but tree clearing of field hedgerows and along some forest margins will be necessary in order to facilitate construction, reduce impacts from shading, and provide areas for stormwater treatment. The Project will involve earth disturbance from tree stump grubbing, as well as limited grading for construction of various Project elements.

Please refer to the prefiled testimony of Reed Wills and Stephanie Wyman for further descriptions of the Project, and the site plans provided in their testimonies as Exhibits SS-RW-2 and SS-SW-2.

3.2 APE Description

The APE, as defined by 36 CFR 800.16(d), revised August 5, 2004, is:

"*the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and undertaking and may be different for different kinds of effects caused by the undertaking.*"[4]

The proposed Project site occupies several agricultural fields and a section of an adjoining woodlot, both of which are located on the eastern shoulder of a hill overlooking U.S. 7. Onsite topography varies from flat or gently sloping areas to steeper slopes, especially into the forest block to the west of the Project site, with elevations ranging from approximately 1,279 to 1,380 feet above mean sea level. The Project site is situated in an area marked by mown agricultural fields, rolling hills, tree breaks, patches of vegetation, larger swathes of forestland and scattered dwellings. Immediately west and uphill of the Project site is Hale Mountain, an approximately 1420-foot mountain that prevents the Project site from being significantly visible from Shaftsbury village. Holy Smoke Road parallels a portion of the north boundary of the Project site, running east to west, before turning due north and continuing downhill away from the Project site. Within the APE and beyond, Holy Smoke Road is lined by mature, deciduous trees. The area downhill and north of the Project site is characterized by private residences and mown agricultural fields interspersed by tree breaks. The area downhill and south and east of the Project site is a woodlot interspersed with small wetlands, beyond which is a tree break, a small knob known as Harrington Cobble, and U.S. 7. The State Register-listed

[4] Note "historic properties" are synonymous with "historic sites" as defined by DHP.

Shaftsbury Center Historic District, the nearest historic district to the Project site, is approximately two miles west on the far side of Hale Mountain, outside of the APE.

3.2.1 APE - Direct Effects

The APE for direct effects consists of the footprint of the Project, depicted on the map in **Appendix A**.

3.2.2 APE - Visual Effects

VHB examined the potential for visual effects on historic properties on Holy Smoke Road and determined that the APE for visual effects is limited by intervening topography, mature vegetation, and existing residential tree screens. The Project site is located on the east-facing slope of a hillside surrounded by forestland and by meadows bordered by trees. The nearest property that is 50 years old or older, 605 Holy Smoke Road (construction date pre-1973), is located to the north, well downhill of the Project site and screened by trees and topography. 605 Holy Smoke Road was determined to be outside the APE given its location on the northern downslope from the Project site and by the quantity of mature trees and other vegetation which screen the Project site from its east, south, and west elevations (see Photo 15). Furthermore, the Project design provides for the planting of additional trees to the north of the arrays to further minimize the Project site's visibility along Holy Smoke Road from other nearby properties.

One potentially visible component of the Project will be the temporary access road proposed along U.S. 7 and tree clearing in the northwest portion of the Project for the road and substation. The access road will travel west from U.S. 7 and connect with existing pathways which interlink the agricultural fields. Taking into account the access road and substation construction, VHB examined the potential for visual effects on properties to the east of U.S. 7 along Waite Cemetery Road, East Road, and Reservoir Road (see Photo 16). Due to the distance of these roads from the Project site, as well as intervening topography such as the elevated berm upon which U.S. 7 sits and mature tree cover, the Project will be screened from view. As such, the properties along these roads were excluded from the APE because there is no potential for the Project to cause alterations in the character or use of any of these properties.

The Center Shaftsbury Historic District was also examined to determine if the Project would have visual effects on the historic district which is approximately two miles west of the Project site. Following a site visit to the historic district, VHB determined that the Project would not affect the Historic District due to the intervening shoulder of Hale Mountain which screens the Project site, as well as the historic district's approximately two-mile distance from the Project site (see Photo 17). The Center Shaftsbury Historic District was subsequently excluded from the

APE because there is no potential for the Project to cause alterations in the character of the historic district.

In forested areas of the APE, the APE for Visual Effects is generally set back 50 feet from the APE for Direct Effects.

The complete APE for the Project that encompasses both the APE for Direct Effects and Indirect Effects is depicted on the map in **Appendix A**.

4.0 Significance and Integrity of Above-Ground Historic Resources

There are five (5) properties within the APE, which are listed in Table 1 below. They are identified by alphabetical labels on the map in **Appendix A**. None of these properties have been surveyed and listed in the State Register or National Register. None of the properties in the APE are recommended eligible for the State Register due to their age (less than 50 years old) and lack of exceptional historic or architectural significance. A brief analysis regarding the eligibility of these five (5) resources follows Table 1.

There is one above-ground property located within the APE for direct effects due to being located within Project site. 1004 Holy Smoke Road and its associated garage are located at the northeast corner of the Project site, within the Project parcel (see **Appendix A**, Map ID A). The house and garage were built ca. 2006 and are described in greater detail below (see Photos 1, 8, 10). There are no other buildings on the Project site. See **Appendix B**, Photographs 1-6.

Table 1. APE Properties

Map ID	Photo #	Street Address / Name	Town	Date of Construction	State Register Eligibility
A	1, 8, 10	1004 Holy Smoke Road	Shaftsbury	2006	Ineligible due to age
B	1, 9	1035 Holy Smoke Road	Shaftsbury	1993	Ineligible due to age
C	11	907 Holy Smoke Road	Shaftsbury	ca. 1995	Ineligible due to age
D	13	708 Holy Smoke Road	Shaftsbury	1987	Ineligible due to age
E	15	662 Holy Smoke Road	Shaftsbury	2021	Ineligible due to age

A. 1004 Holy Smoke Road

1004 Holy Smoke Road is a two-story, four-bays-by-two, wood-framed gabled dwelling raised on a rectangular plan with two subordinate cross-gables, asphalt shingle roof, synthetic enclosure system, and concrete foundation. The first story is primarily a two-bay garage with the bays sheltered by an asphalt shingled overhang cantilevered from the east gable (façade). The second story living quarters are accessed from the rear west elevation via wooden stairs leading to a deck and features modern vinyl windows in pairs and singles as well as skylights. The roof ridge has a square vented cupola. There is an exterior brick veneer chimney on the south elevation. The construction date of 2006 is based on 2003 and 2006 aerial photographs and real estate listing information.

Associated with the dwelling at 1004 Holy Smoke Road is a one-story, single bay, wood-framed gabled garage/outbuilding raised on a rectangular plan with an asphalt shingle roof, vertical board siding, and concrete foundation. The gable front entry is oriented north and consists of a centered overhead garage door and adjacent man door. Apart from a skylight in the east roof pitch there are no other visible openings. The construction date of 2006 is also based on 2003 and 2006 aerial photographs and real estate listing information.

The property is less than 50 years old and lacks the exceptional historic and architectural significance to be eligible for listing in the State and/or National Registers under Criterion Consideration G (properties that have achieved significance within the past 50 years).

B. 1035 Holy Smoke Road

1035 Holy Smoke Road is a two-story, three-bays-by two, wood-framed, gabled vernacular dwelling erected on a rectangular plan with flanking one-story gabled wings, the westernmost forming a hyphen with a two-story, two bay, gable-front garage/barn. It has an asphalt shingle roof, clapboard sheathing, concrete foundation, and New Traditional detailing. There is a symmetrical eaves-front entry oriented south, shed dormers, and center chimney. The construction date of 1993 is based on 1992 and 2003 aerial photographs and real estate listing information. The property is less than 50 years old and lacks the exceptional historic and architectural significance to be eligible for listing in the State and/or National Registers under Criterion Consideration G (properties that have achieved significance within the past 50 years).

C. 907 Holy Smoke Road

907 Holy Smoke Road is a two-story, four-bays-by-two, wood-framed, gabled, Cape-style dwelling erected on a rectangular plan with centered, south-facing eaves-side entry flanked by paired 6/9 vinyl windows and a large bay picture window, and four gabled dormers. It has an asphalt shingle roof, synthetic cladding and windows, concrete foundation, and Neo-Colonial details which continue through the attached one-story, two-bay gabled garage which has its entry in the gable and oriented west. The construction date of ca. 1995 for this dwelling is based on a comparison of 1992 and 2003 aerial photographs and real estate listing information.

There is an associated one story, one-bay, wood-framed gabled outbuilding to the west of the dwelling, with asphalt shingle roof, vertical board cladding, paired barn doors on the south

gable end, and concrete foundation. There are three windows on the eaves side. The construction date of ca. 1995 is based on 1992 and 2003 aerial photographs.

The property is less than 50 years old and lacks the exceptional historic and architectural significance to be eligible for listing in the State and/or National Registers under Criterion Consideration G (properties that have achieved significance within the past 50 years).

D. 708 Holy Smoke Road

Holy Smoke Road is a two-story, three-bays-by-two, wood-framed, gabled vernacular dwelling raised on a rectangular plan with one-story gabled hyphen joining it to a one-and-a-half story, two-bay gabled garage. It has an asphalt shingle roof, synthetic cladding and windows with shutters, and a concrete foundation. The eaves-side, centered entry is oriented north as are the gable-front garage bays, while the west elevation has a wooden deck and the south elevation a pair of sliding patio doors opening onto a yard. The construction date of 1987 is based on real estate listing information, architectural style, and 1965 and 1992 aerial photographs. The property is less than 50 years old and lacks the exceptional historic and architectural significance to be eligible for listing in the State and/or National Registers under Criterion Consideration G (properties that have achieved significance within the past 50 years).

E. 662 Holy Smoke Road

662 Holy Smoke Road is a two-story, three bays-by-one, wood framed, gabled vernacular dwelling raised on a rectangular plan, with asphalt shingled roof, synthetic cladding and windows, and a concrete foundation. The symmetrical, eaves-side façade is oriented northeast with a simple pedimented portico supported by square pressure-treated posts with kneebraces sheltering an entry with full-height sidelights. The southeast and northwest gable ends are without openings. The southwest (rear) elevation is screened from view by a line of mature deciduous trees. The construction date of this dwelling is based on two VHB Cultural Resources staff site visits, 2018 and 2022, between which the dwelling was erected. The property is less than 50 years old and lacks the exceptional historic and architectural significance to be eligible for listing in the State and/or National Registers under Criterion Consideration G (properties that have achieved significance within the past 50 years).

Based upon VHB's research and analysis, there are no above-ground historic resources present at the Project site that would be in the APE for direct effects. Likewise, there are no off-site above-ground historic resources present that would be in the APE for visual effects.

5.0 Determination of Effect

5.1 Above-Ground Historic Resources

The potential effects of the Project on above-ground historic sites were reviewed using DHP Criteria, described in Section 2.0 above.

Based on these guidelines and after the preceding evaluation, there are no above-ground historic sites within the APE. Therefore, VHB recommends that **the Project will have No Effect on above-ground historic sites**. This recommendation evaluates both direct and indirect impacts on above-ground historic sites. The evaluation included potential effects such as significant alteration or deterioration of the setting or character of a historic site, creating a focal point that would distract from a historic site, and intruding upon the viewshed of a historic site.

5.2 Archaeological Resources

The original ARA (2018) prepared by UVM CAP and the updated ARA (2023) prepared by CCA both conclude: "…no areas of archaeological sensitivity were identified, and no additional archaeological study is recommended." Please refer to the ARAs included in **Appendix C** for more information.

6.0 Conclusion

VHB recommends a finding that the proposed Project will result in "No Effect" to above-ground historic sites and archaeological resources.

7.0 References

Johnson, Curtis B., Ed and Elsa Gilbertson, Assistant Ed. *The Historic Architecture of Bennington County Including a Listing of the Vermont State Register of Historic Places*. Montpelier, VT: The Vermont Division for Historic Preservation, 1988.

Story, Kenneth. "Center Shaftsbury Historic District." National Register of Historic Places Inventory/Nomination Form, September 23, 1988.

Zillow. https://www.zillow.com/ (accessed February 23, 2023).

Appendix A

Project Location Map & Area of Potential Effect

April 28, 2023

662 HOLY SMOKE

708 HOLY SMOKE RD

907 HOLY SMOKE RD

1035 HOLY SMOKE RD

1004 HOLY SMOKE RD

Indirect Area of Potential Effect

Direct Area of Potential Effect

HOLY SMOKE RD

EAST RD

US-7

Project Location

SHAFTSBURY

GLASTENBURY

BENNINGTON

WOODFORD

\\vhb.com\gis\proj\SBurlington\58071.01 Freepoint Shaftsbury\Project\FPS Shaftsbury NR 2022_Rev\FPS Shaftsbury NR 2022_Rev.aprx

0 200 400 Feet

VT Real Estate Holdings 1 LLC - Shaftsbury Solar | Shaftsbury, Vermont

Project Location and Area of Potential Effect Map

Direct Area of Potential Effect (APE; VHB)

Indirect Area of Potential Effect (APE; VHB)

A Ineligible APE Property (VHB)

Parcel Boundary (VCGI)

Sources:
Background Imagery by VCGI (Collected in 2022)
VCGI (Vermont Center for Geographic Information - Various Dates)
VHB - 2023

Appendix B

Photographs

Site Photographs

All photographs were taken by Jenny Fulton, Preservation Planner with VHB on November 4, 2022, unless otherwise noted.

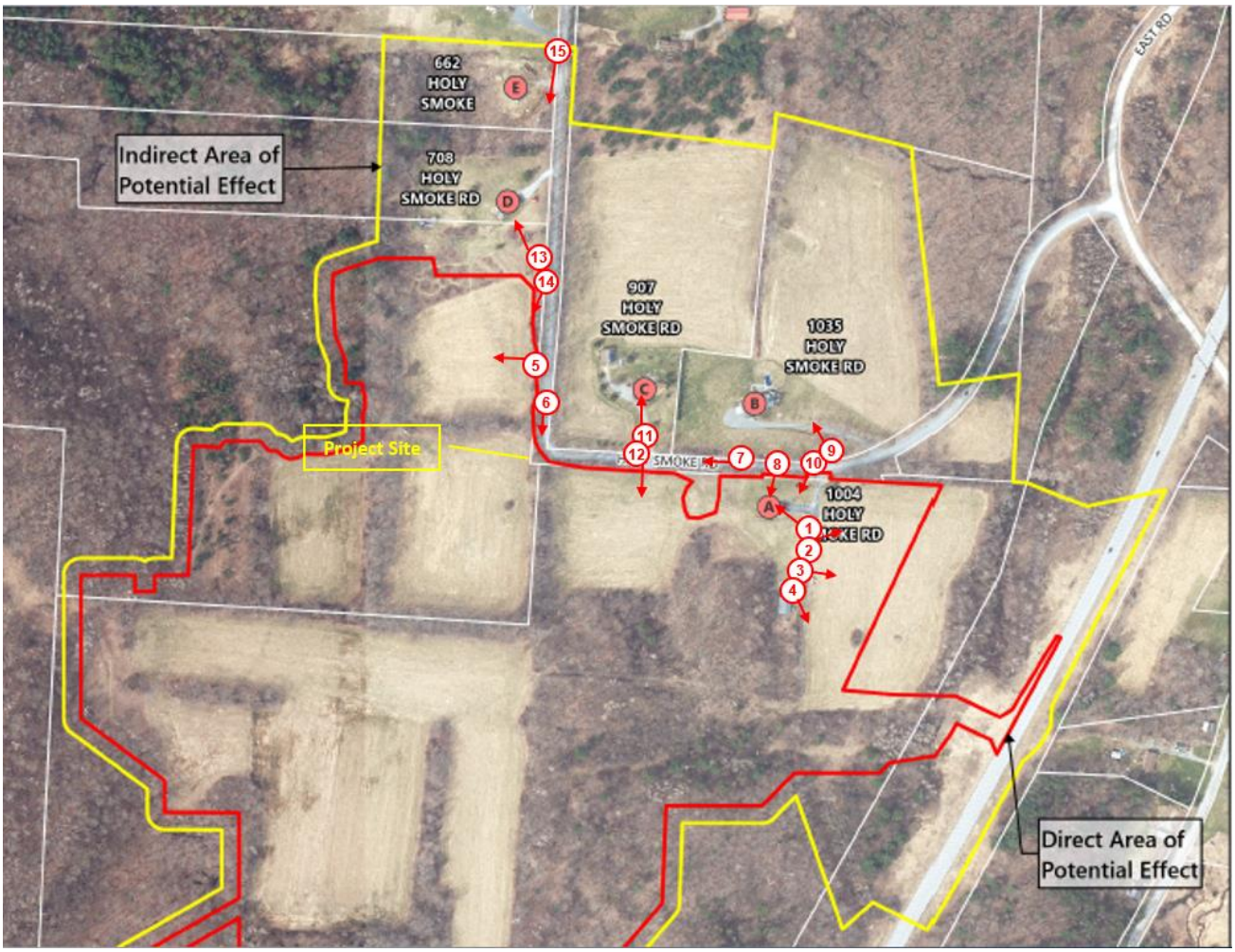

Photo Location Map 1: Project Site and vicinity.

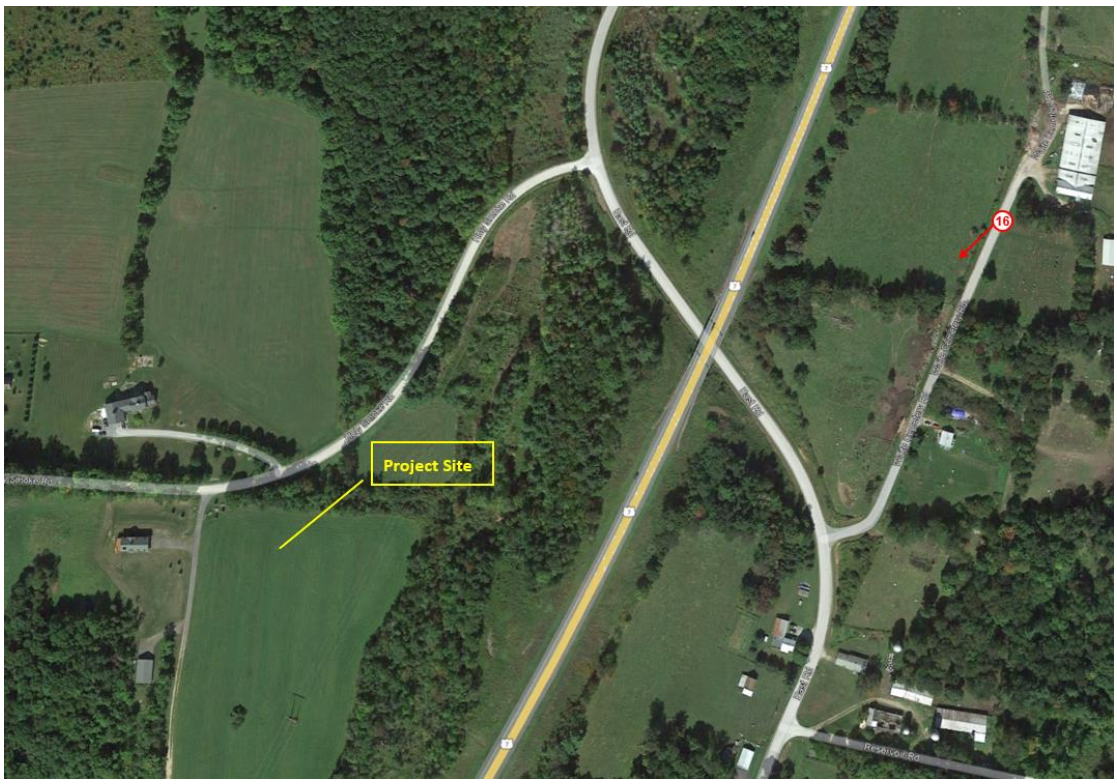

Photo Location Map 2: East Road and Waite Cemetery Road

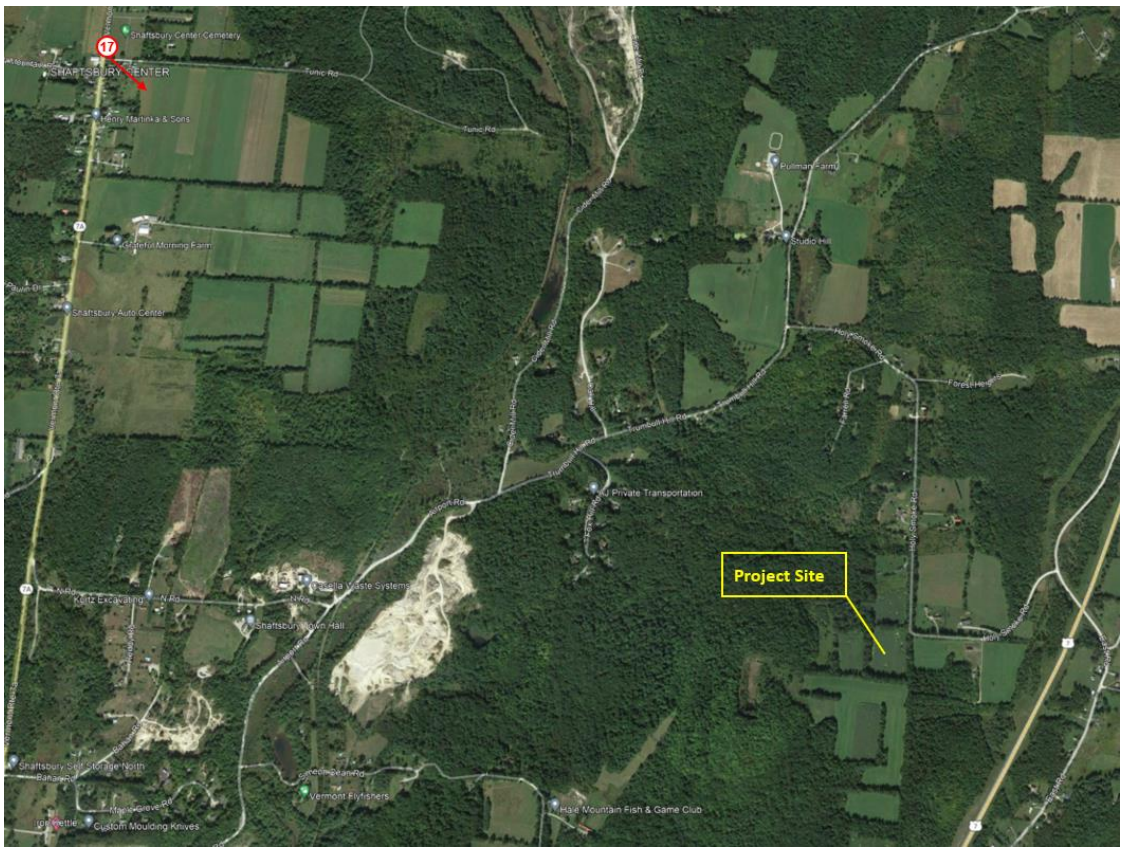

Photo Location Map 3: Center Shaftsbury Historic District

Photograph 1: Looking north from the Project site. 1004 Holy Smoke Road (Map ID A) is in the foreground, on the project site parcel. 1035 Holy Smoke Road (Map ID B) is visible beyond the line of deciduous trees which border Holy Smoke Road.

Photograph 2: Looking northeast from the Project site. Holy Smoke Road follows the line of trees and then curves away north and downhill where it passes underneath Route 7.

Photograph 3: Looking east across the Project site towards Route 7.

Photograph 4: Looking southeast across the Project site towards Route 7.

Photograph 5: Looking west towards the Project site (northerly field) from Holy Smoke Road. It marks the northernmost extent of the Project site.

Photograph 6: Looking south toward the Project Site from the bend in Holy Smoke Road. This is the crest of the road and where it bends sharply to the east.

Photograph 7: Looking west on Holy Smoke Road. The Project site is located to the left. Mature deciduous trees line either side of Holy Smoke Road where it abuts the Project site and beyond.

Photograph 8: Looking south from Holy Smoke Road at 1004 Holy Smoke Road (Map ID A). The dwelling is in the foreground and the garage is in the background. These two buildings are located on the Project site parcel. They were constructed in 2006.

Photograph 9: Looking northwest from Holy Smoke Road at 1035 Holy Smoke Road (Map ID B). The Project site is southwest of this dwelling and partially screened by the trees bordering the road. This dwelling was constructed in 1993.

Photograph 10: Looking southeast at Project site from 1035 Holy Smoke Road. In foreground is a driveway presently serving 1004 Holy Smoke Road which creates an opening in the tree screen. To the left and right, out of camera frame, the Project site is partially screened by trees bordering Holy Smoke Road.

Photograph 11: Looking north at 907 Holy Smoke Road (Map ID C). The Project site is south of the property, partially screened from view by trees bordering Holy Smoke Road. This dwelling was constructed circa 1990.

Photograph 12: Looking south at the Project site from 907 Holy Smoke Road which is located behind the camera view and partially screened by the trees bordering the road. This field adjoins the western edge of the field depicted in Photographs 1-4.

Photograph 13: Looking northwest at 708 Holy Smoke Road (Map ID D) from the northernmost boundary of the Project site. 708 Holy Smoke Road was constructed in 1987.

Photograph 14: Looking southwest towards Project site from 708 Holy Smoke Road out of frame on right. On camera left, Holy Smoke Road continues uphill to where it bends sharply to the east. The Project site is visible beyond the first tree break.

Photograph 15: Looking southwest at 662 Holy Smoke Road (Map ID E). The Project site is screened by trees and topography in upper left quadrant of frame. The dwelling was constructed in 2021. Properties to the east (including 605 Holy Smoke Road) and north of this property are excluded from the APE due to the downhill slope of Holy Smoke Road and mature trees, as visible at left.

Photograph 16: Looking southwest toward Project site from Waite Cemetery, on the eastern side of Route 7. The Project site is 0.3 miles away, out of view, screened by trees.

Photograph 17: Looking southeast toward Project site from the Center Shaftsbury Historic District, approximately 2 miles away from the Project site. The Project would not be visible from this location. Photo by Mike Willard of VHB, January 16, 2023.

Appendix C

Archaeological Resource Assessments

The University of Vermont

June 22, 2018

Adam R. Crary, PWS, PWD
Senior Ecologist
VHB
40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403-7771

RE: Archaeological Resources Assessment for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont

Dear Adam,

Attached, please find an Archaeological Resources Assessment for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

A field inspection and background research determined that no areas of archaeological sensitivity, for either pre-Contact Native American sites or historic period Euroamerican sites exist within the limits of the proposed project area. As a result, no additional archaeological work is recommended.

Please feel free to contact me if you have any questions.

Sincerely,

Charles Knight, Ph.D.
Assistant Director

CONSULTING ARCHAEOLOGY PROGRAM
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Archaeological Resources Assessment for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont

Submitted to:

Adam R. Crary, PWS, PWD
Senior Ecologist
VHB
40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403-7771

Submitted by:

Charles Knight, Ph.D.
University of Vermont
Consulting Archaeology Program
111 Delehanty Hall
180 Colchester Ave.
Burlington, VT 05405

Report No. 1145

June 22, 2018

Archaeological Resources Assessment for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont

Project Description

VHB proposes the Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont (Figure 1). The proposed project will construct a 20 MW solar array on a +/- 167 acre parcel immediately west of VT Rte 7 in Shaftsbury, Vermont (Figure 2). The proposed array will construct a fix-tilt, ground mounted racking system with 80,605 modules. Additional project elements will include a gravel access road down the center of the length of the array, as well as across its width, connecting with VT Rte 7, and numerous equipment pads adjacent to the access road.

The University of Vermont Consulting Archaeology Program conducted an Archaeological Resources Assessment (ARA) as part of the Section 248 permitting process and identified no areas as sensitive for pre-Contact Native American or historic period Euroamerican archaeological sites.

Study Goal

The goal of an ARA (or "review") is to identify portions of a specific project's Area of Potential Effects (APE) that have the potential for containing pre-Contact and/or historic sites. An ARA is to be accomplished through a "background search" and a "field inspection" of the project area. For this study, reference materials were reviewed following established guidelines. Resources examined included the National Register of Historic Places (NRHP) files; the Historic Sites and Structures Survey; and the USGS master archaeological maps that accompany the Vermont Archaeological Inventory (VAI). Relevant town histories and nineteenth-century maps also were consulted. Based on the background research, general contexts were derived for pre-Contact and historic resources in the study area.

Archaeological Site Potential

No known pre-Contact Native American archaeological sites exist within the limits of the proposed project area, and none are known from less that 3.5 km of the project alignment. The closest known archaeological sites are several historic period kilns located approximately 3.5 km to the southeast. The lack of known archaeological sites in and/or adjacent to the project area does not mean that the area is devoid of pre-Contact native American occupation. Rather, it may just reflect the fact that little regulatory archaeology has been conducted in the area that may have identified such sites. The high concentration of sites along the Walloomsac River, and its major tributaries, to the south indicate that the general area was attractive to Native American occupation.

In regard to historic period resources, the historic 1856 Wallings map (Figure 4) and the 1869 Beers map (Figure 5) depict no historic development within the proposed project parcels. Several residences are depicted along Holy Smoke road, but these residences are likely those that are still inhabited there today. The proposed project area does not contain any structures that have been listed on either the National or State Registers of Historic Places. As a result, no historic period archaeological sites are expected within the proposed project parcel.

Desk Review

As part of the desk review, the UVM CAP utilized the Vermont Division of Historic Preservation's (VDHP) predictive model for identifying pre-Contact Native American archaeological sites. The Shaftsbury Freepoint Solar Project area scores 0 on the Predictive Model, due to its location more than 180 m from any environmental sensitivity factors. In addition to the paper-based predictive model, the desk review uses a Geographical Information System (GIS) developed jointly by the UVM CAP, and its consultant Earth Analytic, Inc., which operationalizes the paper-based model. It does this by applying the VDHP's sensitivity criteria to all lands within the State of Vermont. In these maps, archaeological sensitivity is depicted by the presence of one or more overlapping factors, or types of archaeological sensitivity (i.e. proximity to water, etc.). The Shaftsbury Freepoint Solar Project area is located in an area that contains one sensitivity factor, which is: Level Terrain (see Figure 1).

Field Inspection

A field inspection of the project area was carried out on June 15, 2018 by Charles Knight, Assistant Director of the UVM CAP. Knight walked the entire project area. The project area consists of numerous individual parcels that are fallow meadows, separated by hedgerows and historic stone fences. In general, these parcels are topographically elevated and sloped. The central area within the proposed array includes a relatively level and broad ridge top, which slopes to the west, east and north. It is this level area that appears to be the location of the proposed gravel access road down the center of the proposed project area (see Figure 2). In the northern-most portion of the project area, the field slopes fairly steeply towards the north (Figure 6). In the largest of the open fields, located in the center of the array area, the beginning of the level central ridge can be seen, while the sides slope away to the north (Figure 7). A large section of woods is included in the array limits in this central zone. The woods are hummocky for the most part, but several areas are relatively level, and they border a steep bedrock cliff along the western edge (Figure 8). This bedrock outcrop can be seen just beyond the project limits in the southwest corner in the Lidar image in Figure 3. The southern parcels contain the land that is the most level of the entire project parcel (Figure 9). However, at this point the landform slopes to the east (Figure 10), likely related to the Harrington Cobble, which is just beyond the eastern edge of the project boundary. Close to Holy Smoke Road, the proposed project limits envelope a modern residence. To the east of the residence the land slopes steeply to the east and VT Rte 7 (Figure 11). To the west of the residence to land gently slopes to the northwest, then levels out into a relatively level area where the bend in Holy Smoke Road occurs (Figure 12).

While level areas exist within the proposed project parcel, there are no archaeologically sensitive variables, such as water channels, ponds, or alluvial landforms that would mark the level areas as archaeologically sensitive. Furnace Brook exists 350 m east of the eastern edge of the proposed project, and approximately 850 m east of the level, central ridge within the middle of the project parcels. As a result, proximity to Furnace Brook cannot be considered as a sensitivity factor. No tributaries or heads-of-draw of Furnace Brook were identified during the inspection, nor were any tributaries of any water courses to the north identified. For these reasons, no portion of the proposed project area is considered archaeologically sensitive.

Conclusions

VHB proposes the Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont. The UVM CAP conducted an Archaeological Resources Assessment of the proposed solar project and identified no areas as archaeologically sensitive for pre-Contact Native American sites. The proposed project area encompasses upland landforms that contain mostly slope. The central section of the proposed array covers a relatively level and broad ridge top, with the rest of the landform sloping away from this to the north and east. No environmental sensitivity factors, such as water channels, ponds and/or alluvial landforms were identified within the project limits. As a result, no areas of archaeological sensitivity were identified, and no additional archaeological study is recommended.

Thank you for working with us on this project. Please let me know if you have any questions or comments.

Charles Knight, Ph.D.
Assistant Director

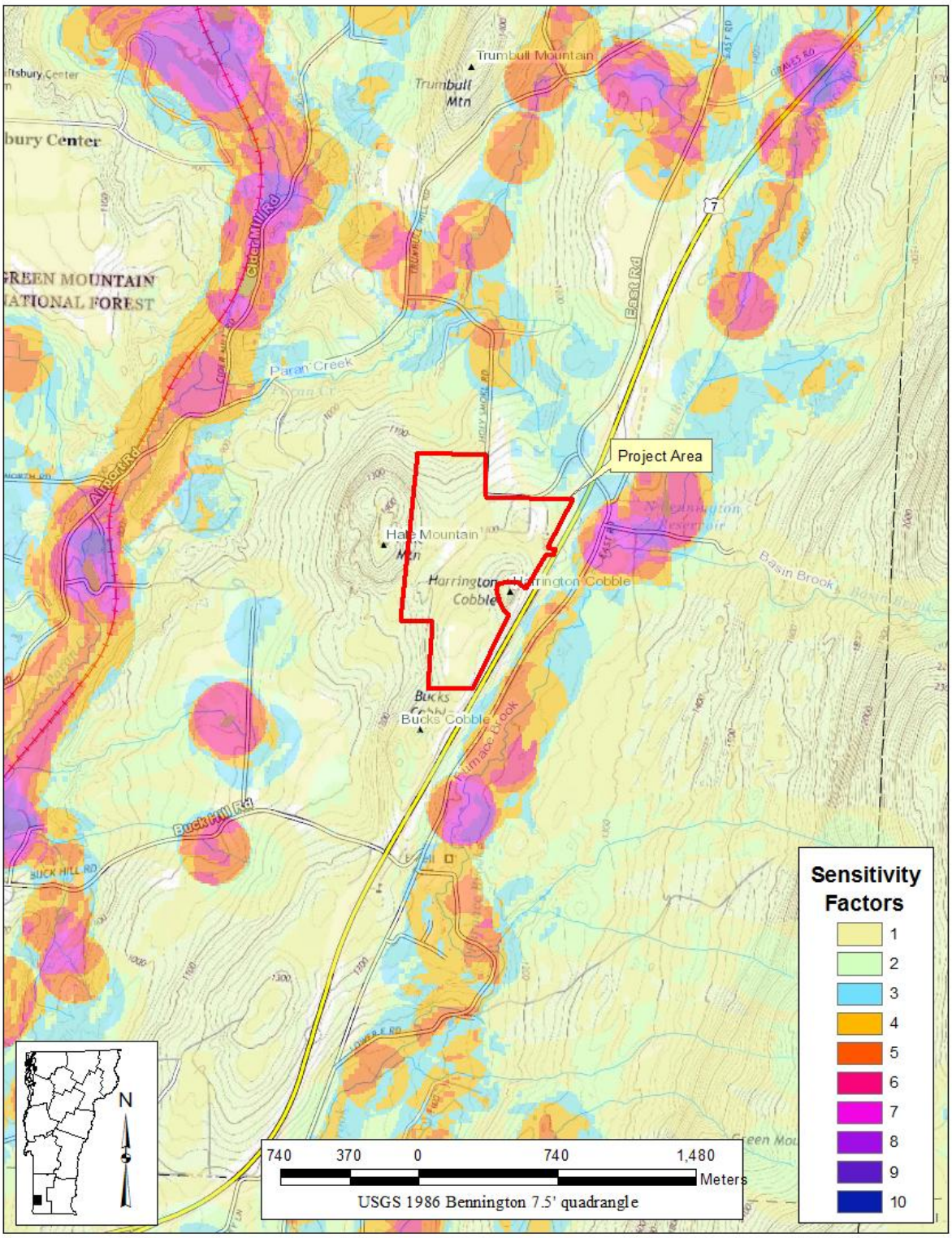

Figure 1. Map showing the location of the proposed Shaftsbury Freepoint Solar Project, in relation to archaeological sensitivity factors, Shaftsbury, Bennington County, Vermont.

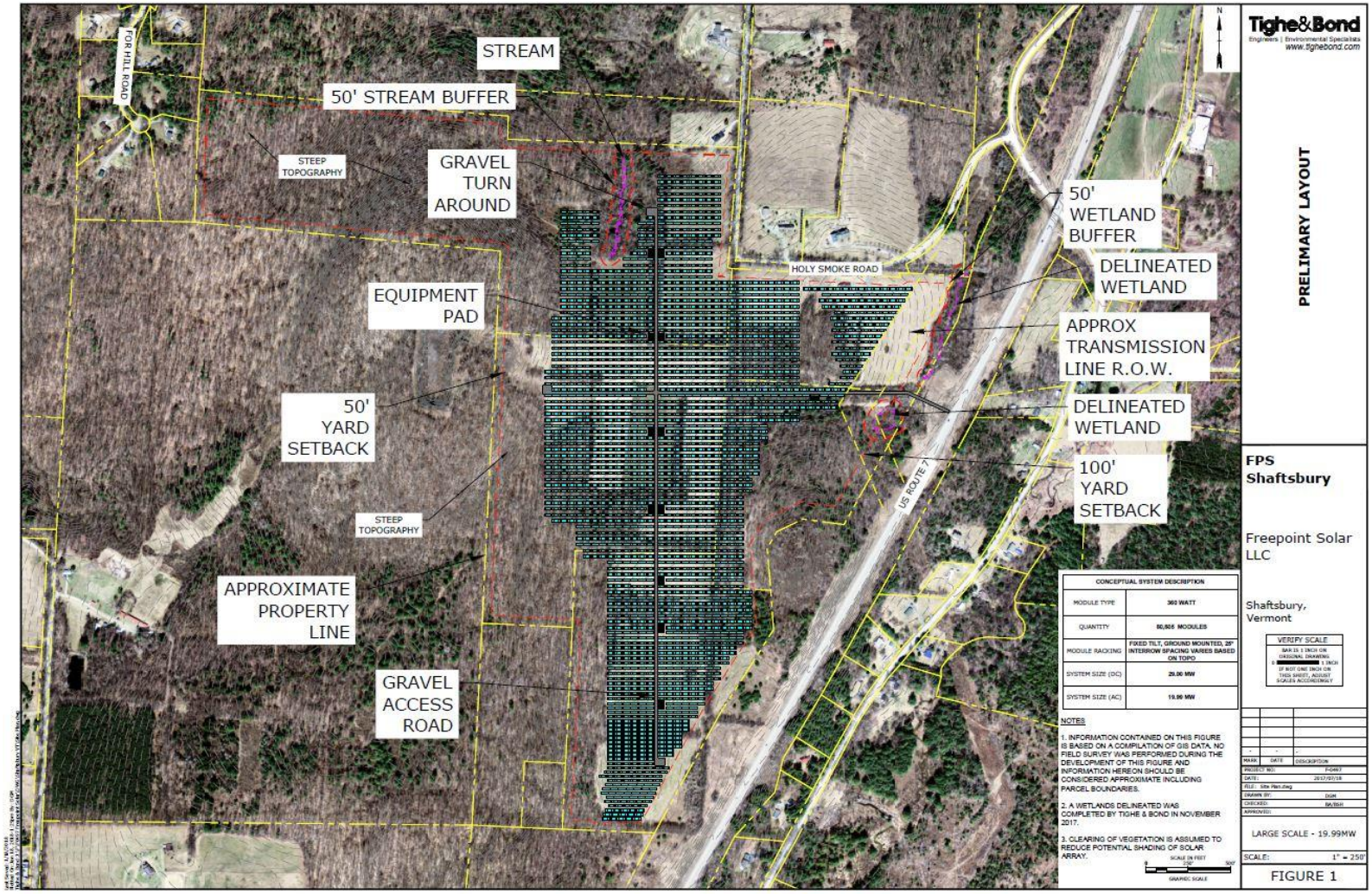

Figure 2. Schematic diagram showing the limits of the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

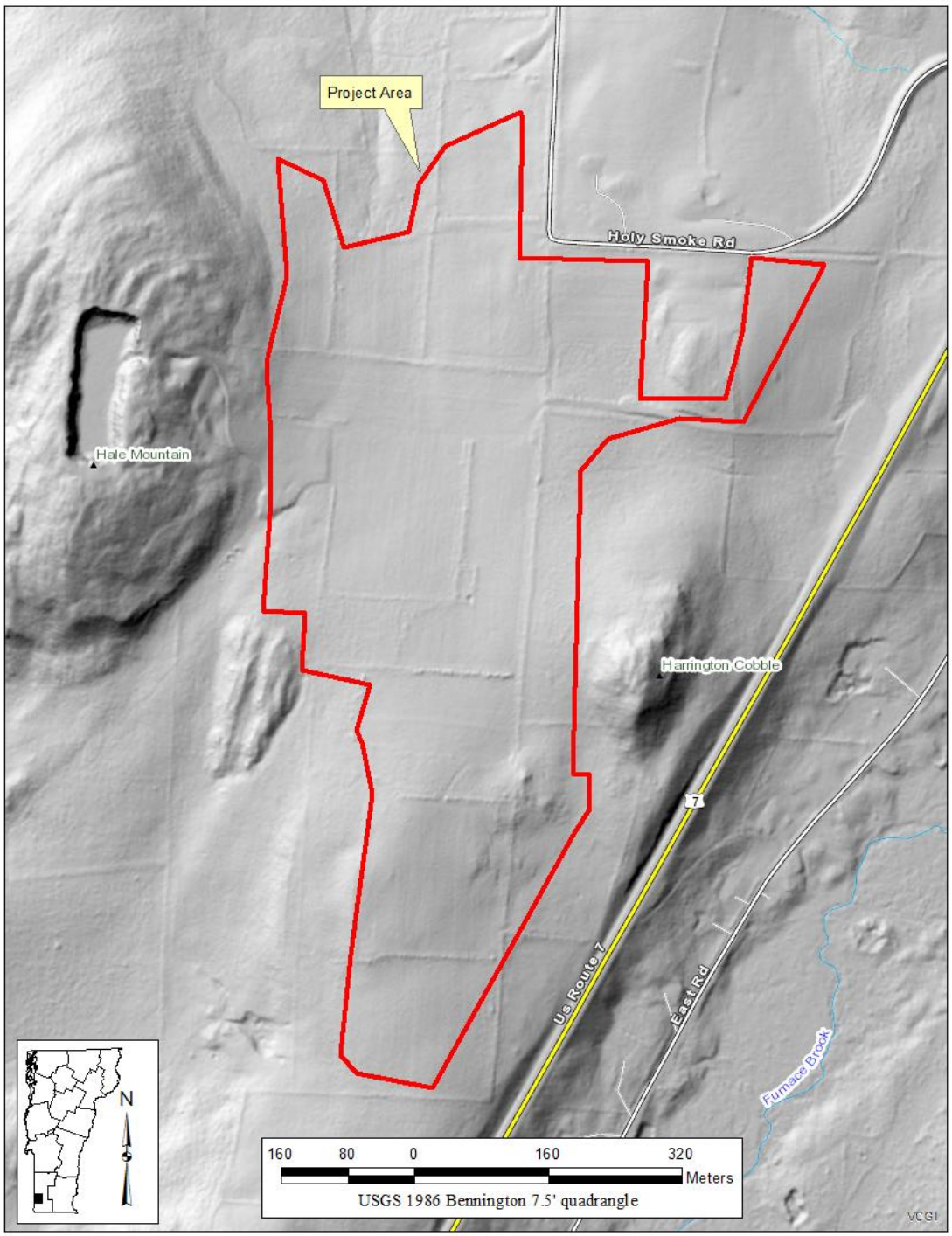

Figure 3. Lidar map of the major topographical features in the area of the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

Figure 4. Historic 1856 Wallings map of the project alignment for the Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

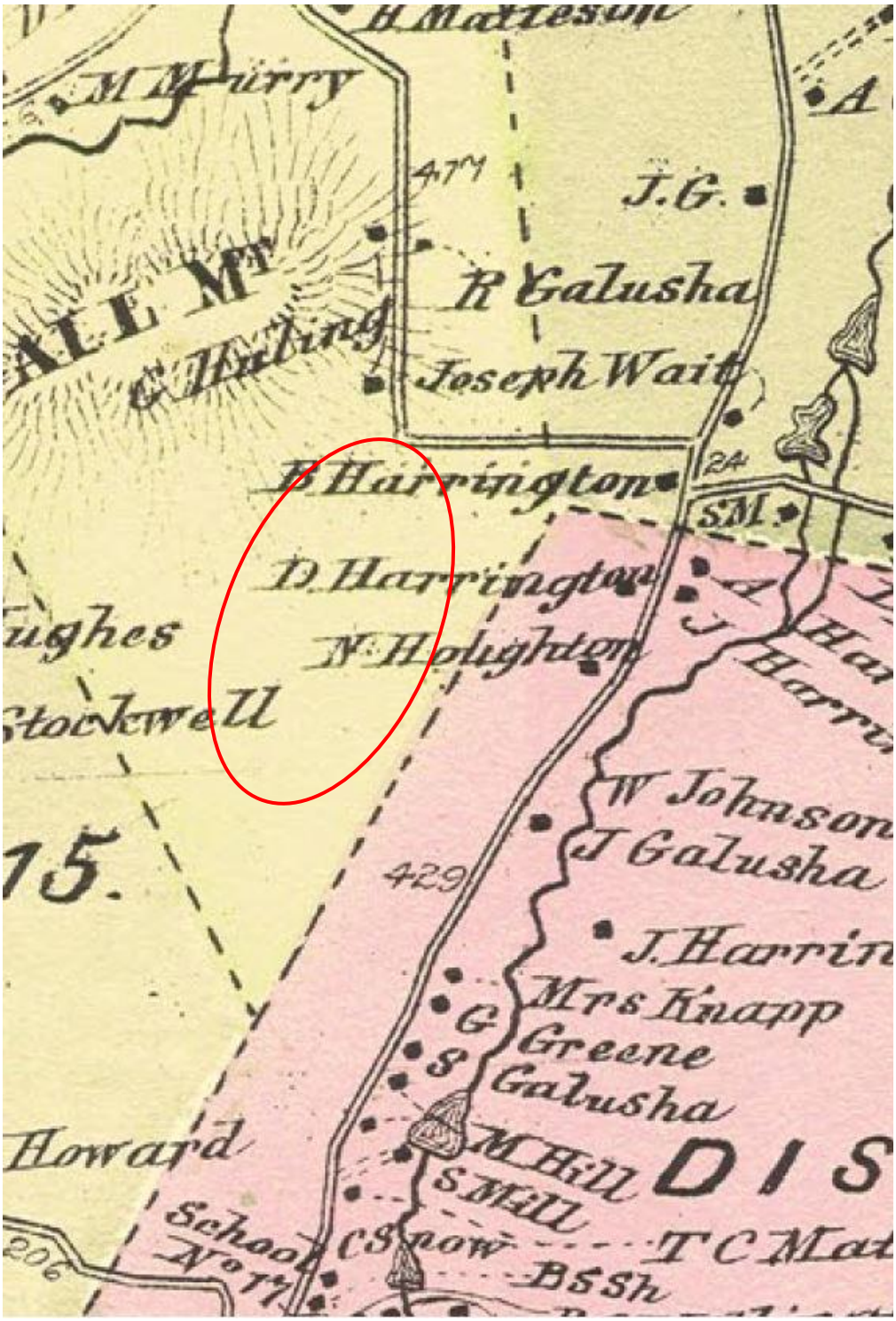

Figure 5. Historic 1869 Beer's atlas of the proposed alignment of the Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 6. Photos looking north (a), and southwest (b) across the northern-most section of the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 7. Photos looking southeast (a) and east (b) across the largest open parcel in the center of the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 8. Photos looking north (a), and northwest at the bedrock cliff edge (b) in the woods in the western edge of the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 9. Photos looking south (a) and southwest (b) across one of the southern parcels within the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont. Note the general levelness of the central portion of photo a, and the slope to either side.

a

b

Figure 10. Photos looking northeast (a), and east (b) across one of the southern parcels within the limits of the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 11. Photos looking northeast (a), and southeast (b) across the parcel east of a residential house immediately south of Holy Smoke Road, for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 12. Photos looking northeast (a), and north (b) across the parcel west of a residential house immediately south of Holy Smoke Road, for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont.

Supplemental Archaeological Resources Assessment Report for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont

Submitted to:

Britta Tonn
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Submitted by:

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50 Main Street
Winooski, VT 05404-0358

February 21, 2023

CCA Report
No. 2023-004

Supplemental Archaeological Resources Assessment Report for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont

Project Description

Shaftsbury Solar proposes the Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont (Figure 1). The proposed project will construct a 20 MW solar array on a +/- 191 acre parcel immediately west of US Rte 7 in Shaftsbury, Vermont (Figure 2). The proposed array will construct a fix-tilt, ground mounted racking system. Additional project elements within the project's Area pf Potential Effects (APE) will include a gravel access road down the center of the length of the array, as well as across its width, connecting with US Rte 7, and numerous equipment pads adjacent to the access road.

The University of Vermont Consulting Archaeology Program conducted the original Archaeological Resources Assessment (ARA) of the proposed project as part of the Section 248 permitting process in June, 2018 (Knight 2018). They identified no areas as sensitive for pre-Contact Native American or historic period Euroamerican archaeological sites. Since that initial ARA, project plans have been revised and are addressed in this supplemental ARA report.

The Archaeological Resources Assessment (ARA)

The goal of an ARA (or "review") is to identify portions of a specific project's APE that have the potential for containing pre-Contact and/or historic sites. An ARA is to be accomplished through a "background search" and a "field inspection" of the project area. For this study, reference materials were reviewed following established guidelines. Resources examined included the National Register of Historic Places (NRHP) files; the Historic Sites and Structures Survey; and the USGS master archaeological maps that accompany the Vermont Archaeological Inventory (VAI). Relevant town histories and nineteenth-century maps also were consulted. Based on the background research, general contexts were derived for pre-Contact and historic resources in the study area.

Archaeological Site Potential

As stated in the original ARA, there are no known pre-Contact Native American archaeological sites within the limits of the proposed project area, and none are known from less than 3.5 km of the project alignment. The closest known archaeological sites are several historic period kilns located approximately 3.5 km to the southeast. The lack of known archaeological sites in and/or adjacent to the project area does not mean that the area is devoid of pre-Contact native American occupation. Rather, it may just reflect the fact that little regulatory archaeology has been conducted in the area that may have identified such sites. The high concentration of sites along the Walloomsac River, and its major tributaries, to the south indicate that the general area was attractive to Native American occupation.

In regard to historic period resources, the historic 1856 Wallings map (Figure 4) and the 1869 Beers map (Figure 5) depict no historic development within the proposed project parcels. Several residences are depicted along Holy Smoke Road, but these residences are likely those that are still inhabited there today. The proposed project area does not contain any structures that have been listed on either the National or State Registers of Historic Places. As a result, no historic period archaeological sites are expected within the proposed project's APE.

Desk Review

As part of the Desk Review, the Vermont Division of Historic Preservation's (VDHP) 2015 predictive model matrix for identifying pre-Contact Native American archaeological sites is employed for the project area. As stated in the VDHP Guidelines: "The predictive model is intended to identify areas with a high potential for containing significant precontact Native American sites." A completed matrix for the proposed project is presented in Figure 6. As can be seen, the Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington scores 8 on the Predictive Model, due to its location within 90 m of an intermittent stream.

Site Visit

The project area was originally visited on June 15, 2018 by me, Charles Knight, when I was the Assistant Director of the UVM CAP. At that time, I walked the entire project APE and identified several areas of level terrain and other areas of slope. I concluded that although there were areas of level terrain throughout the project area, there also were no archaeologically sensitive variables, such as water channels, ponds, or alluvial landforms that would mark the level areas as archaeologically sensitive.

The central area within the proposed array includes a relatively level and broad ridge top, which slopes to the west, east and north. In the northern-most portion of the project area, the field slopes fairly steeply towards the north (Figure 7). In the largest of the open fields, located in the center of the array area, the beginning of the level central ridge can be seen, while the sides slope away to the north (Figure 8). A large section of woods is included in the array limits in this central zone. The woods are hummocky for the most part, but several areas are relatively level, and they border a steep bedrock cliff along the western edge (Figure 9). This bedrock outcrop can be seen just beyond the project limits in the southwest corner. The southern parcels contain the land that is the most level of the entire project parcel (Figure 10). However, at this point the landform slopes to the east (Figure 11), likely related to the Harrington Cobble, which is just beyond the eastern edge of the project boundary. Close to Holy Smoke Road, the proposed project limits envelope a modern residence. To the east of the residence the land slopes steeply to the east and US Rte. 7 (Figure 12). To the west of the residence, the land gently slopes to the northwest, then levels out into a relatively level area where the bend in Holy Smoke Road occurs (Figure 13). As a result, I concluded that no areas of archaeological sensitivity exist within the proposed project's APE, and as such no additional archaeological study was recommended.

The new project layout does not change the conclusions from the original ARA. The project area still encompasses areas that are too far from any archaeologically sensitive variables to suggest that any portion of the project's APE is archaeologically sensitive, except for the presence of an intermittent stream that was not noticed during the original field inspection (Figure 14). Other than the stream, no additional archaeological sensitivity factors were observed.

Conclusions

Shaftsbury Solar proposes the Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont. Crown Consulting Archaeology, LLC conducted a supplemental Archaeological Resources Assessment of the updated project design, and came to the same conclusion as the original ARA. The proposed project's APE is mostly comprised of sloped landforms. The central section of the project's APE is comprised of a relatively level and broad ridge top, with the rest of the landform sloping to the north and east. No environmental sensitivity factors, such as water channels, ponds and/or alluvial landforms were identified within the project limits. As a result, no areas of archaeological sensitivity were identified, and no additional archaeological study is recommended.

Thank you for working with us on this project. Please let me know if you have any questions or comments.

Charles Knight, Ph.D.
Principal Investigator

Citations

Knight, Charles
2018 Archaeological Resources Assessment for the proposed Shaftsbury Freepoint Solar Project, Shaftsbury, Bennington County, Vermont. University of Vermont Consulting Archaeology Program, Report No. 1145

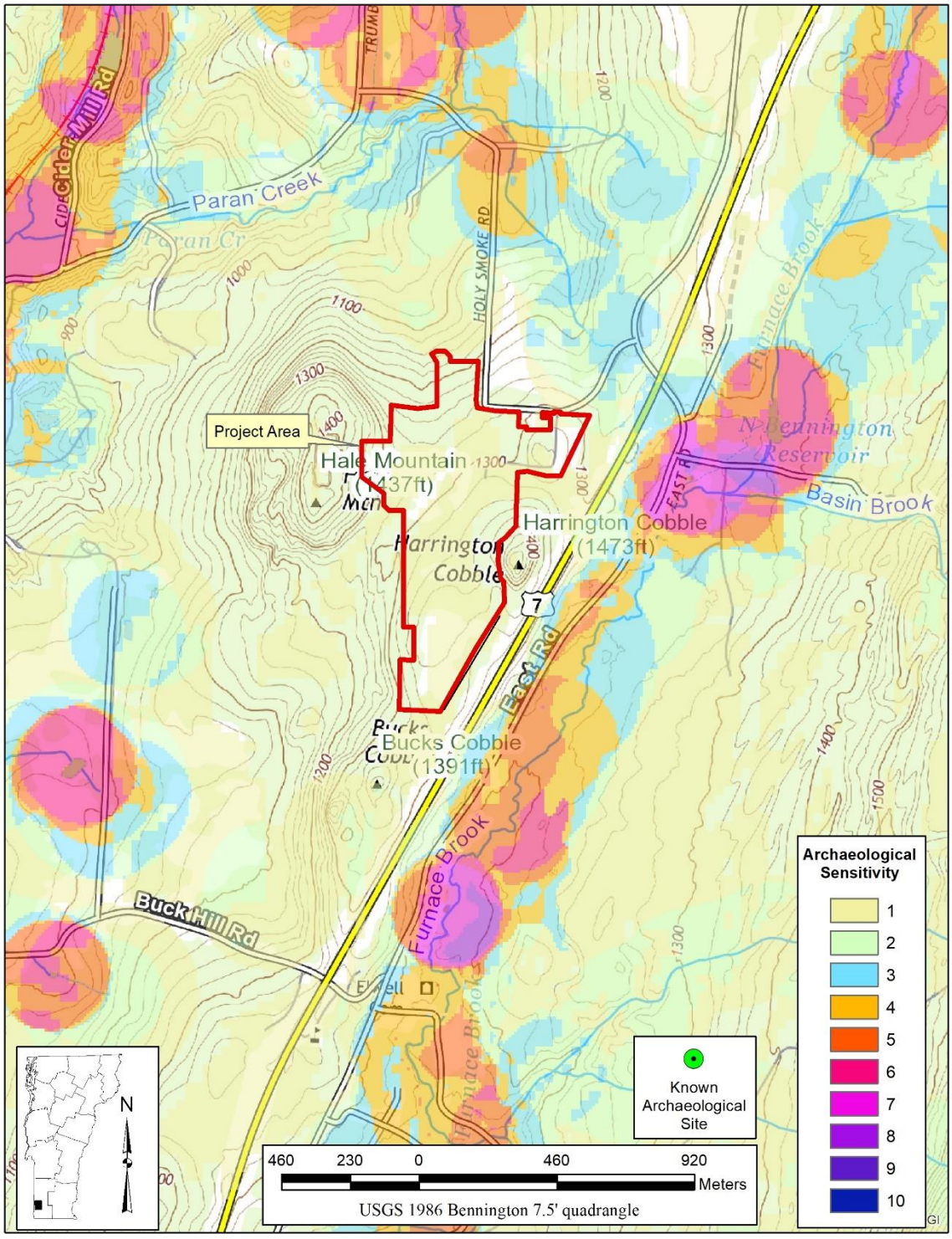

Figure 1. Map showing the location of the proposed Shaftsbury Freepoint Solar Project, in relation to known archaeological sites and archaeological sensitivity factors, Shaftsbury, Bennington County, Vermont.

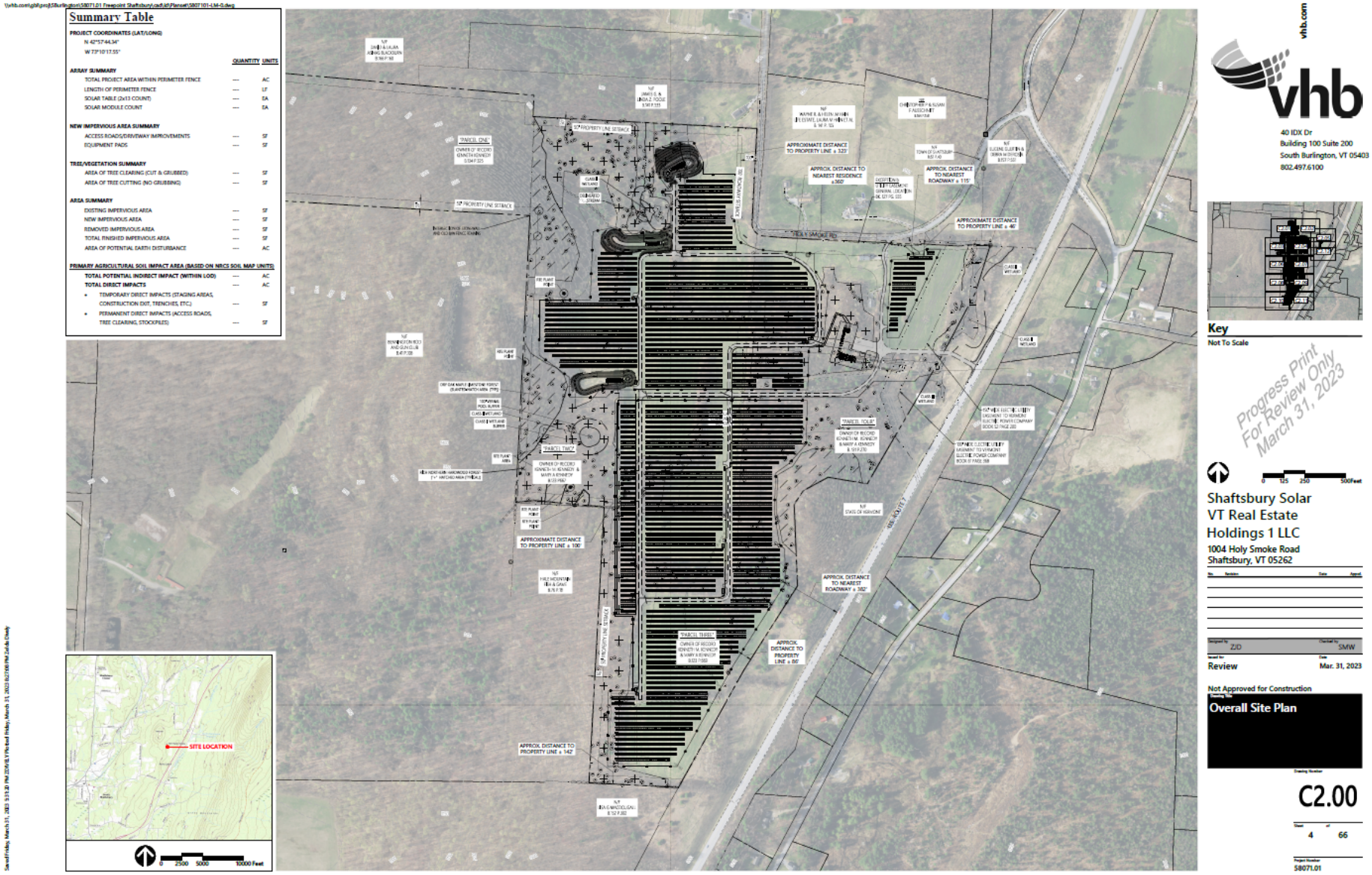

Figure 2. Aerial photograph from the site plan showing the limits of the Area of Potential Effect for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

Figure 3. Close-up Aerial photograph showing the limits of the Area of Potential Effects for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

Figure 4. Historic 1856 Wallings map of the project alignment for the Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

Figure 5. Historic 1869 Beer's atlas of the proposed alignment of the Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

VERMONT DIVISION FOR HISTORIC PRESERVATION

Environmental Predictive Model for Locating Pre-contact Archaeological Sites

Project Name: Shaftsbury Solar Project | County: Bennington | Town: Shaftsbury
DHP No.: | Map No.: | Staff Init.: | Date: February 10, 2023

Additional Information:

Environmental Variable	Proximity	Value	Assigned Score
A. RIVERS and STREAMS (EXISTING or RELICT):			
1) Distance to River or Permanent Stream (measured from top of bank)	0- 90 m 90- 180 m	12 6	
2) Distance to Intermittent Stream	0- 90 m 90-180 m	8 4	8
3) Confluence of River/River or River/Stream	0-90 m 90 –180 m	12 6	
4) Confluence of Intermittent Streams	0 – 90 m 90 – 180 m	8 4	
5) Falls or Rapids	0 – 90 m 90 – 180 m	8 4	
6) Head of Draw	0 – 90 m 90 – 180 m	8 4	
7) Major Floodplain/Alluvial Terrace		32	
8) Knoll or swamp island		32	
9) Stable Riverine Island		32	
B. LAKES and PONDS (EXISTING or RELICT):			
10) Distance to Pond or Lake	0- 90 m 90 -180 m	12 6	
11) Confluence of River or Stream	0-90 m 90 –180 m	12 6	
12) Lake Cove/Peninsula/Head of Bay		12	
C. WETLANDS:			
13) Distance to Wetland (wetland > one acre in size)	0- 90 m 90 -180 m	12 6	
14) Knoll or swamp island		32	
D. VALLEY EDGE and GLACIAL LAND FORMS:			
15) High elevated landform such as Knoll Top/Ridge Crest/ Promontory		12	
16) Valley edge features such as Kame/Outwash Terrace**		12	

17) Marine/Lake Delta Complex**		12	
18) Champlain Sea or Glacial Lake Shore Line**		32	
E. OTHER ENVIRONMENTAL FACTORS:			
19) Caves /Rockshelters		32	
20) ☐ Natural Travel Corridor ☐ Sole or important access to another drainage ☐ Drainage divide		12	
21) Existing or Relict Spring	0 – 90 m 90 – 180 m	8 4	
22) Potential or Apparent Prehistoric Quarry for stone procurement	0 – 180 m	32	
23)) Special Environmental or Natural Area, such as Milton acquifer, mountain top, etc. (these may be historic or prehistoric sacred or traditional site locations and prehistoric site types as well)		32	
F. OTHER HIGH SENSITIVITY FACTORS:			
24) High Likelihood of Burials		32	
25) High Recorded Site Density		32	
26) High likelihood of containing significant site based on recorded or archival data or oral tradition		32	
G. NEGATIVE FACTORS:			
27) Excessive Slope (>15%) or Steep Erosional Slope (>20)		- 32	
28) Previously disturbed land as evaluated by a qualified archeological professional or engineer based on coring, earlier as-built plans, or obvious surface evidence (such as a gravel pit)		- 32	
** refer to 1970 Surficial Geological Map of Vermont			
		Total Score:	8
Other Comments :			
0- 31 = Archeologically Non- Sensitive **32+ = Archeologically Sensitive**			

April 8, 2015

Figure 6. Completed VDHP predictive model matrix of the APE for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 7. Photos looking north (a), and southwest (b) across the northern-most section of the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 8. Photos looking southeast (a) and east (b) across the largest open parcel in the center of the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 9. Photos looking north (a), and northwest at the bedrock cliff edge (b) in the woods in the western edge of the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 10. Photos looking south (a) and southwest (b) across one of the southern parcels within the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont. Note the general levelness of the central portion of photo a, and the slope to either side.

a

b

Figure 11. Photos looking northeast (a), and east (b) across one of the southern parcels within the limits of the proposed Shaftsbury FSolar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 12. Photos looking northeast (a), and southeast (b) across the parcel east of a residential house immediately south of Holy Smoke Road, for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

a

b

Figure 13. Photos looking northeast (a), and north (b) across the parcel west of a residential house immediately south of Holy Smoke Road, for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

Figure 14. Intermittent stream observed within the Area of Potential Effects of the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

Crown Consulting Archaeology, LLC

PO Box 358
50 Main Street
Winooski, VT 05404-0358

February 21, 2023

Britta Tonn
Preservation Planner
VHB
40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403-7771

RE: Supplemental Archaeological Resources Assessment Report for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont

Dear Britta,

Attached, please find Supplemental Archaeological Resources Assessment Report for the proposed Shaftsbury Solar Project, Shaftsbury, Bennington County, Vermont.

Crown Consulting Archaeology, LLC., conducted an ARA of the proposed project and no portion of the project's APE contains areas of archaeological sensitivity. As a result, the proposed project will not impact significant cultural resources and no additional archaeological study is recommended.

Thank you for your interest in working with us on this project. Please feel free to contact me if you have any questions.

Charles Knight, Ph.D.
Principal Investigator