December 13, 2017

Kirk Shields
Green Mountain Power
163 Acorn Lane
Colchester, VT 05446

RE: End of Field Letter for Archaeological Phase II Site Evaluation at Site VT-CH-1218 within the Proposed Milton Mears Farm Road Solar Project, Milton, Chittenden County, Vermont

Dear Kirk:

From November 15th to 17th, 2017, the University of Vermont Consulting Archaeology Program (UVM CAP) conducted an archaeological Phase II site evaluation of pre-Contact era Native American site VT-CH-1218 located within the Area of Potential Effects (APE) of the proposed Green Mountain Power (GMP) Milton Mears Farm Road Solar project, Milton, Chittenden County, Vermont (Figures 1 and 2). Site VT-CH-1218 was previously identified by the UVM CAP in early October, 2017, during a surface inspection of the plowed ground surface of the APE. As defined at that time, the site consisted of nine lithic artifacts recovered from the visible ground surface in the northwestern portion of the APE (Figure 3). For management purposes, the UVM CAP designated four spatially discrete loci at the site, based on horizontal artifact distribution and local topography (see Figure 3). The Phase II site evaluation was undertaken to better determine each loci’s size, function, age(s), integrity and potential significance as part of Vermont's Section 248 permit review process.

**Phase II Field Methods and Results**

To initiate the Phase II evaluation studies at each loci, a continuous horizontal metric grid was established across the APE containing the four loci of the site. The horizontal metric grid was constructed at one meter intervals with the southwestern corner of each interval designated with a northing and easting numerical designation (e.g. N400 E300). Once installed, 50 x 50 cm (20 x 20 in) in size test pits were excavated at each loci at 5 m (16 ft) metric grid intervals. The intensity of the test pit sampling at each loci was predicted upon the types of Phase I artifacts, their distributions and local topography at each loci. In addition to the test pit sampling, one or two 1 meter square test units was also excavated at each loci to better understand the local soil stratigraphy as well as loci artifact content.
At the time of the Phase II study, the ground was saturated, and daily temperatures were mostly below or just above freezing. The UVM CAP field crew processed all excavated soils through 0.64 cm (1/4 in) mesh screens as the ground surface was frozen and soils were freezing in smaller 0.32 cm (1/8 in) mesh screens. All soils were excavated in arbitrary 10 cm (4 in) vertical levels with respect to the local soil stratigraphy. A representative wall of each test pit and test unit was schematically drawn according to soil strata, texture and color. Each test unit, as well as select test pits and daily field activities, were documented in color digital camera format. The locations of select test pits and test units were recorded at each loci to ensure their proper placement on appropriate maps and figures.

**Locus 1**

Locus 1 was defined during the Phase I site identification survey by the recovery of two lithic debitage specimens located approximately 35 m (115 ft) apart along a gentle north-facing slope and intermediate terrace associated with a prominent, broad gully (see Figure 3). The Phase II subsurface testing included the excavation of a total of 16, 50 x 50 cm (20 x 20 in) test pits and a one meter square test unit, for a total sample size of 5.0 m$^2$ (53.8 ft$^2$). The subsurface testing was focused in the two locations of the Phase I surface collected artifacts.

Designated as the “Southern Section” of Locus 1, eight test pits, spaced at 5 m (16 ft) grid intervals, were excavated in the vicinity of Phase I surface-collected artifact catalog #100, a quartzite debitage specimen (Figure 4). No additional artifacts were recovered from these test pits. Because this area is located on the north-facing slope, the soils in this portion of the APE were relatively dry.

The “Northern Section” of Locus 1 was located on the intermediate terrace alongside the prominent gully. A total of eight test pits and a one meter square test unit were excavated in the vicinity of surface-collected artifact catalog #107, a chert debitage specimen (see Figure 4). One test pit, designated N485 E270SW, produced one quartzite and one chert debitage specimen from 0-20 cm (0-8 in) below the ground surface and within the uppermost historic era plowzone stratum. A one meter square test unit, designated N482 E275, was excavated in the vicinity of the Phase I surface collected chert debitage specimen (see Figure 4). A total of four quartzite debitage specimens were recovered from the test unit, two from the northwest quadrant and one each from the southwest and southeast quadrants. All of the debitage was recovered from 0-10 cm (0-4 in) below the ground surface and from within the uppermost historic era plowzone stratum. In addition to these artifacts, a quartzite debitage specimen was recovered from the ground surface approximately 50 cm (20 in) to the north of the test unit. Based on the cumulative Phase I and II artifact assemblage of Locus 1, activities related to stone tool production appear to have occurred. Because lithic debitage is not temporally diagnostic, the age of Locus 1 is not known.

**Locus 2**

Locus 2 of site VT-CH-1218 is located on a prominent elevated landform that is bounded on the northwest and west by gullies. Locus 1 is located to the north and below along an
intermediate terrace. Locus 2 was identified by the recovery of three Phase I surface-collected lithic tools, a chert projectile point tip fragment (catalog #101), a chert scraping/processing tool (catalog #102), and a quartzite projectile point tip fragment (catalog #103) (see Figure 3). The Phase II subsurface testing included the excavation of eleven test pits and a one meter square test unit, for a total sample size of 3.75 m² (39.5 ft²) (see Figure 4). The test unit was emplaced in the midst of the Phase I surface-collected artifacts at metric grid coordinate N403 E306. No additional artifacts were recovered at Locus 2 as a result of the Phase II subsurface testing.

**Locus 3**

Locus 3 is located to the northeast and east of Locus 2 and was identified by the recovery of three widely spaced lithic artifacts, a quartzite Levanna type projectile point (catalog #104), a chert debitage specimen (catalog #105), and a quartzite Swanton corner-notched projectile point (catalog #106) (see Figure 3). The landform including Locus 3 is generally level with a prominent brush-covered ledge outcrop at its southwestern corner. The Phase II subsurface testing at Locus 3 included the excavation of ten test pits and two one meter square test units for a total sample size 4.5 m² (48.4 ft²) (see Figure 4).

The subsurface test pit sampling around the Phase I surface-collected Levanna type projectile point included five test pits in a “cluster” pattern (see Figure 4). In addition to these test pits, a one meter square test unit was excavated at metric grid coordinate N402 E385 (see Figure 4). No additional artifacts were recovered as a result of the Phase II testing in this portion of Locus 3.

The subsurface testing in the vicinity of the Phase I surface-collected Swanton corner-notched projectile point was identical in pattern to that undertaken around the Levanna type projectile point (see Figure 4). No additional artifacts were recovered as a result of the Phase II testing in this portion of Locus 3.

**Locus 4**

Locus 4 is located along the northern margins of the APE just to the east of a secondary gully that trends to the west and north (see Figure 3). Locus 4 was identified by the recovery of a single surface-collected artifact, a quartzite projectile point fragment (catalog #108) (see Figure x). The Phase II testing at Locus 4 included the excavation of six test pits and a one meter square test unit at metric grid coordinate N512 E415 (see Figure 4). No additional artifacts were recovered as a result of the Phase II testing in Locus 4.

**Soil Stratigraphy**

The soils encountered across site VT-AD-1218 include an uppermost historic era plowzone stratum which was underlain by intact subsoil strata. In some areas, deep plowing has impacted well into the subsoil sequence. On average, the historic era plowzone ranged in thickness from 20-35 cm (8-13.7 in). The plowzone is characterized as brown to dark grayish brown silt loam with gravels and silty clay loam with light gravel. The subsoil strata are characterized as light olive brown to light yellowish brown silty clay or silt loam with gravels.
Due to the variable plowing, the test pits and test units were excavated to depths ranging from 45-65 cm (17.7-25.5 in) below the ground surface.

**Recommendations and Conclusions**

The University of Vermont Consulting Archaeology Program (UVM CAP) conducted an archaeological Phase II evaluation study at pre-Contact era Native American site VT-CH-1218, Loci 1-4, within the Area of Potential Effects (APE) of the proposed Milton Mears Farm Road Solar project located in Milton, Chittenden County, Vermont. The Phase II study entailed the excavation of a total of 43, 50 x 50 cm (20 x 20 in) test pits, and 5 one meter square test units across a contiguous horizontal metric grid. As a result of the Phase II study, only a limited quantity of lithic debitage was recovered from Locus 1. No additional archaeological resources were identified in Loci 2-4. In terms of interpreting site VT-CH-1218, the cumulative Phase I and II artifacts, and their horizontal distribution, suggests that the site represents multiple, short-term activity areas where limited hunting, stone tool production/maintenance, and resource processing activities occurred over several time periods spanning millennia, including the Early Archaic period, possibly the Late Archaic period, and the Middle/late Woodland periods. Based on the artifacts recovered and the topographic setting of the APE, it appears that this landform provided pre-Contact era populations with important resources and likely, a viable transportation corridor between Lake Champlain and the Lamoille River Valley. However, the results of the Phase I and II archaeological studies indicate that none of the loci within site VT-CH-1218 contain potentially significant archaeological resources. As all of the artifacts were recovered from a historic era plowzone context and no intact cultural features were identified, the UVM CAP determines that no further archaeological study is recommended as the construction of the proposed project will not disturb significant archaeological resources. Therefore, the UVM CAP recommends that no further archaeological study is warranted prior to proposed project construction.

Please feel free to contact us if you have any questions regarding this study.

Sincerely,

Geoffrey A. Mandel
Research Supervisor

Charles Knight, Ph.D.
Assistant Director
Figure 1. Topographic map showing the location of the proposed Milton Mears Farm Road Solar project, Milton, Chittenden County, Vermont.
Figure 2. Map showing the Area of Potential Effects (APE) of the proposed Milton Mears Farm Road Solar project in relation to archaeological sensitivity factors, Milton, Chittenden County, Vermont.
Figure 3. Map showing the locations of Loci 1-4 of site VT-CH-1218 within the proposed Milton Mears Farm Road Solar Project, Milton, Chittenden County, Vermont.
Figure 4. Map showing the location of the Phase II test pits and test units at site VT-CH-1218, in relation to the Phase I surface artifacts, for the proposed Milton Mears Farm Road Solar Project, Milton, Chittenden County, Vermont.