

**Section 14**  
**Historical and Archeological Reports**

#### **14.0 HISTORICAL AND ARCHEOLOGICAL REPORTS**

Agency correspondence from the Maine Historic Preservation Commission (MHPC) is provided in Appendix 14-1. In this correspondence, MHPC indicated that targeted archaeological surveys would be needed to identify potential pre-historic/Native American sites, and that surveys would be needed to identify historic aboveground structures in the area. To address these requests, Highland Wind LLC conducted historic architecture, Euro-American archeological, and prehistoric archeological investigations to determine what impact the Project might have on these resources. Reports from these three investigations (historic architecture, Euro-American archeological and prehistoric archeological) are included in this section of the permit application and have been sent to MHPC for review.

## **Appendix 14-1**



MAINE HISTORIC PRESERVATION COMMISSION  
55 CAPITOL STREET  
65 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333

JOHN ELIAS BALDACCI  
GOVERNOR

EARLE G. SHETTLEWORTH, JR.  
DIRECTOR

September 18, 2008

Ms. Lisa MacDonald  
Stantec Consulting  
30 Park Drive  
Topsham, ME 04086

Project: MHPC #1598-08 – Highland Wind Project  
Town: Highland Plantation, ME

Dear Ms. MacDonald:

In response to your recent request, I have reviewed the information received August 15, 2008 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act.

No archaeological survey has been done in the project area, so there are no known archaeological sites. Archaeological survey will be necessary for prehistoric/Native American archaeological sites at powerline and access road crossings of streams, and where powerlines or access roads intersect glacial outwash/esker surficial deposits. In addition, a survey for bedrock exposures that may have been used as stone tool raw material sources (quarries) by Native Americans must be undertaken on the highlands where turbines and associated access roads and powerlines will be located. A list of qualified prehistoric archaeologists is enclosed along with material explaining the Phase I/II/III approach to archaeological survey. This information can also be found on our website: [www.maine.gov/mhpc/project\\_review](http://www.maine.gov/mhpc/project_review) This office must approve any proposal for archaeological fieldwork.

Regarding architectural resources, I have concluded that there are no National Register listed or known National Register eligible properties in the project area. However, no architectural survey of the project area has ever been conducted. I have concluded that additional information is necessary to identify historic above ground properties within the proposed undertaking's area of potential effect (APE). Therefore, in order to determine whether such resources exist, a Section 106-specific architectural survey will need to be completed in accordance with our survey guidelines and associated forms, which are both downloadable from our website: [www.maine.gov/mhpc/project\\_review](http://www.maine.gov/mhpc/project_review) (see tabs in the white box on the left side of the webpage under Project Review) Please also find attached our revised photographic policy to be referenced in lieu of the policy in our on-line survey manual. Any computer generated template other than that provided by MHPC must be approved by MHPC prior to submission.

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September 18, 2008  
MHPC #1598-08

No changes to the survey forms are to be made without consulting MHPC. Please note that the APE may include properties that have been surveyed as part of prior project reviews. A list of historic preservation consultants is enclosed for your information.

Once the information mentioned above is received, we will forward a response regarding the results of our evaluation. Please contact Robin Stancampiano of my staff if we can be of further assistance in this matter.

Sincerely,

A handwritten signature in cursive script that reads "Kirk F. Mohney".

Kirk F. Mohney  
Deputy State Historic Preservation Officer

enc.



JOHN ELIAS BALDACCI  
GOVERNOR

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Review and Compliance Consulting/Contracting (Active)**

EARLE G. SHETTLEWORTH, JR.  
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ANGUS S. KING, JR.

GOVERNOR

EARLE G. SHETTLEWORTH, JR.

DIRECTOR

## CONTRACT ARCHAEOLOGY GUIDELINES

June 10, 2002

This document is provided as background information to agencies, corporations, professional consultants or individuals needing contract archaeological services (also known as Cultural Resources Management archaeology) in Maine. These guidelines are based on state rules (94-089 Chapter 812).

### Project Types

The vast majority of contract archaeology survey work falls into one of three categories. **Phase I** surveys are designed to determine whether or not archaeological sites exist on a particular piece of land. Such work involves checking records of previous archaeology in the area, walking over the landscape to inspect land forms and look for surface exposures of soil and possible archaeological material, and the excavation of shovel test pits in areas of high probability.

**Phase II** surveys are designed to focus on one or more sites that are already known to exist, find site limits by digging test pits, and determine site content and preservation. Information from Phase II survey work is used by the Maine Historic Preservation Commission (MHPC) to determine site significance (eligibility for listing in the National Register of Historic Places). **Phase III** archaeological work, often called data recovery, is careful excavation of a significant archaeological site to recover the artifacts and information it contains in advance of construction or other disturbance.

Archaeological sites are further divided into two broad categories of culture, **prehistoric** (or Native American), and **historic** (or European-American). Different archaeological specialists are usually needed for prehistoric or historic sites because the nature of content and preservation and site locations are quite different.

### Scope of Work

In responding to a project submission, the MHPC may issue a letter specifying which type of archaeological survey is needed (prehistoric, historic or both) and at what level (Phase I, II, or III). Often the response letter contains further information, such as the suspected presence of an historic site of a certain age, or a statement that only a portion of the project parcel in question is sensitive for prehistoric sites and only that portion needs archaeological survey.

Once the project applicant has one or more scopes of work (proposals) from appropriate archaeologists (see below), the applicant should submit their preferred proposal (*without attached financial information or bid total*) to the MHPC for approval. MHPC will not comment upon cost, but will comment on the appropriateness of the scale and scope of the work. An approval from MHPC of the scope of work is the applicant's guarantee that, if the field and laboratory work are done according to the scope, and appropriately described in writing, the results will be accepted by MHPC.

The final written report on the project must also be submitted to MHPC for review and comment.



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### Finding an Archaeologist

At the time that MHPC issues a letter requiring archaeological survey work, MHPC will also supply one (or more) lists of archaeologists (Levels 1 and/or 2, historic or prehistoric) appropriate to the type of work (Phase I, II, III, historic or prehistoric). Archaeologists on the Level 2 Approved Lists can do projects of any level, including Phase I archaeological survey projects. Level 1 archaeologists are restricted to doing Phase I surveys, and certain planning projects for municipal governments.

MHPC maintains lists of archaeologists interested in working in different geographic areas of Maine, and those who are qualified in different types of work. The archaeologists themselves indicate their availability (except for short-term absence) to MHPC on a periodic basis, so archaeologists on the list can be expected to respond to inquiries. The applicant should solicit proposals or bids for work from archaeologists whose names appear on the list supplied by MHPC.

These archaeologists' names are taken from lists of archaeologists approved for work in Maine by MHPC under a set of rules establishing minimal qualifications, such as previous supervisory experience in northern New England, and an appropriate graduate degree. *However, the inclusion of an archaeologist on one of these lists should not be interpreted as an endorsement by the MHPC beyond these limited qualification criteria. Moreover, the MHPC cannot recommend the services of an individual archaeologist.*

### Project Final Report

Whatever the archaeological survey result, a final report on the project should be submitted by the applicant to the MHPC. The MHPC will review the report, and issue further guidance or issue a "clearance" letter for the project.



JOHN ELIAS BALDACCI  
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DIRECTOR

## Maine Historic Preservation Commission

### Photographic Policy

#### *Supplement to the Guidelines for Identification: Architecture and Cultural Landscapes Survey Manual. 26 June 2008*

#### Architectural Survey

The following is required of grant funded, MDOT, and Federal agency surveys and encouraged with volunteer surveys.

##### A. Black and White Film.

Each resource shall be photographed with black and white film. This film shall be developed and a contact print made from the negatives. The negatives and contact print shall be indexed to the survey forms and the corresponding digital images (see below) and submitted with the survey.

If the facilities are available, surveyors may choose to print each film image, utilizing a true black and white photographic process and printed preferably on non-resin coated fiber based paper. The finished photographs need to be thoroughly washed, printed with borders, and measure 3 ½ x 5 inches. These photographs may be mounted on the survey forms using archivally safe adhesive, such as Elmer's Glue. Photographs attached with paperclips or staples will not be accepted.

##### B. Digital Images

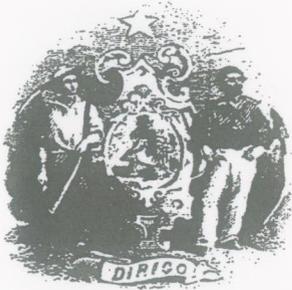
An identical (or nearly identical) image shall be taken of each resource with a digital camera. The original image size must be no smaller than 1600 x 1200 pixels at 300 pixels per inch. The digital images shall be saved in RGB color format. All digital images shall be burned onto a CD-R Gold or DVD-R Gold disk, and labeled with project name/ pin #/ surveyor name and date. The individual images must be labeled in a manner that allows them to be linked to the specific survey form.



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Each digital image shall be uploaded onto survey form in the MHPC/MDOT Survey website, (once it is on-line). A test image, in black and white, shall then be digitally printed directly onto a blank survey form (using the required cover-stock). If the printed image is clear (no bleeding), then all the survey images can be printed directly onto the forms (in black and white), when the forms are printed from the website. If the test image is not clear, then all the digital images should be printed onto photographic paper as specified below and this image will then be affixed to the submitted copy of the survey using archivally safe adhesive. The digital images shall be indexed to the survey forms and the black and white negatives.

Digital image printing: The following printer/ink/paper combinations have been found to meet a 75 year archival standards. All digital images printed for architectural surveys must meet this standard.

**NOTE:** The list below includes products known at this time to meet the minimum documentation specifications established for the submission of architectural surveys. The list is not intended to be restrictive or comprehensive, and does not constitute, and shall not be taken as, endorsement by the Maine Historic Preservation Commission of any of the specific products or manufacturers identified.

Epson Stylus Photo 1400	Epson ClariaA Hi-Definition Inks@	Premium Presentation Paper Matte Epson Ultra Premium Glossy Photo Paper
Epson Style Mate	Epson Picture Mate Pigment Inks	Epson PictureMate Paper
Epson Stylus CX4800 (contains scanner)	Epson DURABrite Ultra Pigmented Inks	Premium Presentation Paper Matte Epson Ultra Premium Glossy Photo Paper
Hewlett-Packard Photosmart 325 and 475	HP Vivera 95 dye-based Inks	Epson HP Premium Plus Photo Paper
Hewlett-Packard Photosmart 8450	HP Vivera dye-based Inks	HP Premium Plus Photo Paper
Hewlett-Packard Photosmart B9180	HP Vivera Pigment Inks	HP Advanced Photo Paper Glossy HP Photo Matte Paper
Hewlett-Packard Photosmart C6180 (all in one series)	HP Vivera Inks	HP Premium Plus Photo Paper
Lexmark Home Photo Center P6250	Lexmark Evercolor Dye/ Pigment Hybrid Photo Inks	Lexmark Premium Photo Paper High Gloss

MAINE HISTORIC PRESERVATION COMMISSION

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**National Register Photographs.**

All photographs provided to MHPC for submission with a National Register of Historic Places nomination must conform to the National Register Photographic Policy as stated by the National Park Service. This policy is available on line at:  
<http://www.nps.gov/history/nr/policyexpansion.htm>



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**Historic Preservation Consultants**

The following list includes architectural and landscape historians, historians, and preservation planners who appear to meet the minimum National Park Service professional qualification standards in 36 CRF 61. Inclusion on this list does not represent an endorsement by the Maine Historic Preservation Commission.

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January 14, 2010

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Stantec Consulting  
30 Park Drive  
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Project: MHPC #1598-08 -- Highland Wind Project, Historic Architectural  
Reconnaissance Survey  
Town: Caratunk, Highland Plt., Kingfield, Lexington, Moscow, Pleasant Ridge Plt., ME

Dear Mr. Ryan

In response to your recent request, I have reviewed the architectural survey information received December 16, 2009 to continue consultation on the above referenced project pursuant to Section 106 of the National Historic Preservation Act, as amended.

With regard to the identification of historic properties, the Commission concurs with the recommendations of the architectural survey report that the following properties are potentially eligible for listing in the National Register of Historic Places -- although further information and evaluation would be necessary to confirm eligibility:

- Cold Spring Ridge Farm, terminus of Reed Road, New Portland, Survey Map No. 63; and
- Farmstead, 1142 Long Falls Dam Road, Lexington, Survey Map No. 66

In addition, the National Register listed Arnold Trail to Quebec Historic District is partially located within the area of potential effect, as are the Wyman Dam, at the terminus of Station Road, Moscow (Survey Map No. 44) and the Appalachian National Scenic Trail, both of which have been previously determined by our office to be eligible for listing.

We do not agree that the following properties are also potentially eligible:

- Farmstead, 62 Mayfield Road/Rt. 16, Moscow (substantial alterations have been made to all three elements of the complex); and
- House, 105 Canada Road/Rt. 201, Moscow (modest vernacular house with compromised porch that lacks architectural significance).

The Commission requests additional information pertaining to the history and functions of the buildings recorded as Survey Map Nos. 50.3 and 50.4 that are part of the farmstead located on Barron Road, east side, approximately 0.35 miles south of Ridge Road in Pleasant Ridge Plantation. These two buildings do not appear to be mixed use barns as indicated on the survey



forms, and their form is not typical of common agricultural outbuildings.

Based on the photographs and information recorded on survey forms, it appears that the following ancillary buildings (referred to by Survey Map No.) were incorrectly recorded on Historic Barn/Agricultural Structure survey forms and should, instead, have been recorded on Historic Building/Structure survey forms or continuation sheets as appropriate: 15.3; 18.2; 25.2; 28.2; 34.2; 36.1; 47.1; 48.1; 69.1; 71.1; 71.2; and 79.2. Please submit corrected forms.

As to the effect of the proposed undertaking on historic properties, the survey report concluded that Survey Map Nos. 44, 63 and 66 will have no views of the Project, although there may be distant views (6-7 miles) from the roads in front of these properties. Based on this information, it does not appear that there will be any affect on these three properties. Therefore, we do not require the submittal of additional information to confirm the eligibility of Survey Map Nos. 63 and 66. However, we do request the following additional information relating to the Arnold Trail and Appalachian Trail, respectively:

- Visual simulations of the proposed wind turbines from areas along the Arnold Trail where they will be visible;
- The location of the two visual simulations of the wind turbines from the Applachian Trail identified on a topographic map; and
- Copies of any comments from other agencies or the public relating to the undertaking's impact on cultural resources.

Upon submittal of this additional information, we will continue our review of the proposed undertaking. Please contact Christi Mitchell of our staff if you have any questions regarding the architectural survey.

Sincerely,



Kirk F. Mohney  
Deputy State Historic Preservation Officer

**REPORT**

**HISTORIC ARCHITECTURAL RECONNAISSANCE SURVEY  
HIGHLAND WIND FARM PROJECT**

**Caratunk, Highland Plantation, Kingfield, Lexington, Moscow,  
Pleasant Ridge Plantation  
Somerset County, Maine**

Carey L. Jones  
Stephen Olausen

Prepared for:

**Stantec**  
30 Park Drive  
Topsham, Maine 04086

Prepared by:

**PAL**  
210 Lonsdale Avenue  
Pawtucket, Rhode Island 02860



## SUMMARY

Name of Survey: Highland Wind Architectural Reconnaissance Survey

Location: Highland Plantation, Somerset County, Maine

Sponsoring Agency or Group: Highland Wind LLC

Survey Dates: May 18, 2009 to May 22, 2009

Name of Surveyor: PAL, Inc.  
210 Lonsdale Avenue  
Pawtucket, RI 02860

Level of Survey: Reconnaissance

Area Surveyed: An 8-mile radius from the project area location equal to a 223,176 acre area.

Areas of Potential Effect: Direct Impact: 1,223 acres  
Indirect Impact: 116,309 acres

Number of Buildings Surveyed: The Highland Wind Architectural Reconnaissance Survey identified 86 properties containing 150 individual resources.



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## INTRODUCTION

This report presents the results of a historic architectural reconnaissance survey conducted for the proposed Highland Wind Project (Project) located in Highland Plantation, Somerset County, Maine (Figure 1). The purpose of the survey was to identify historic architectural properties within the Project's Area of Potential Effect (APE) and to provide information to the Maine Historic Preservation Commission (MHPC) regarding the potential direct or indirect effects on historic architectural properties. This report was prepared in support of the Project proponent's, Highland Wind LLC, applications for a Land Use Regulation Commission (LURC) Grid-Scale Wind Energy Development Permit and U.S. Army Corps of Engineers Section 404 of the Clean Water Act license.

### **Project Description**

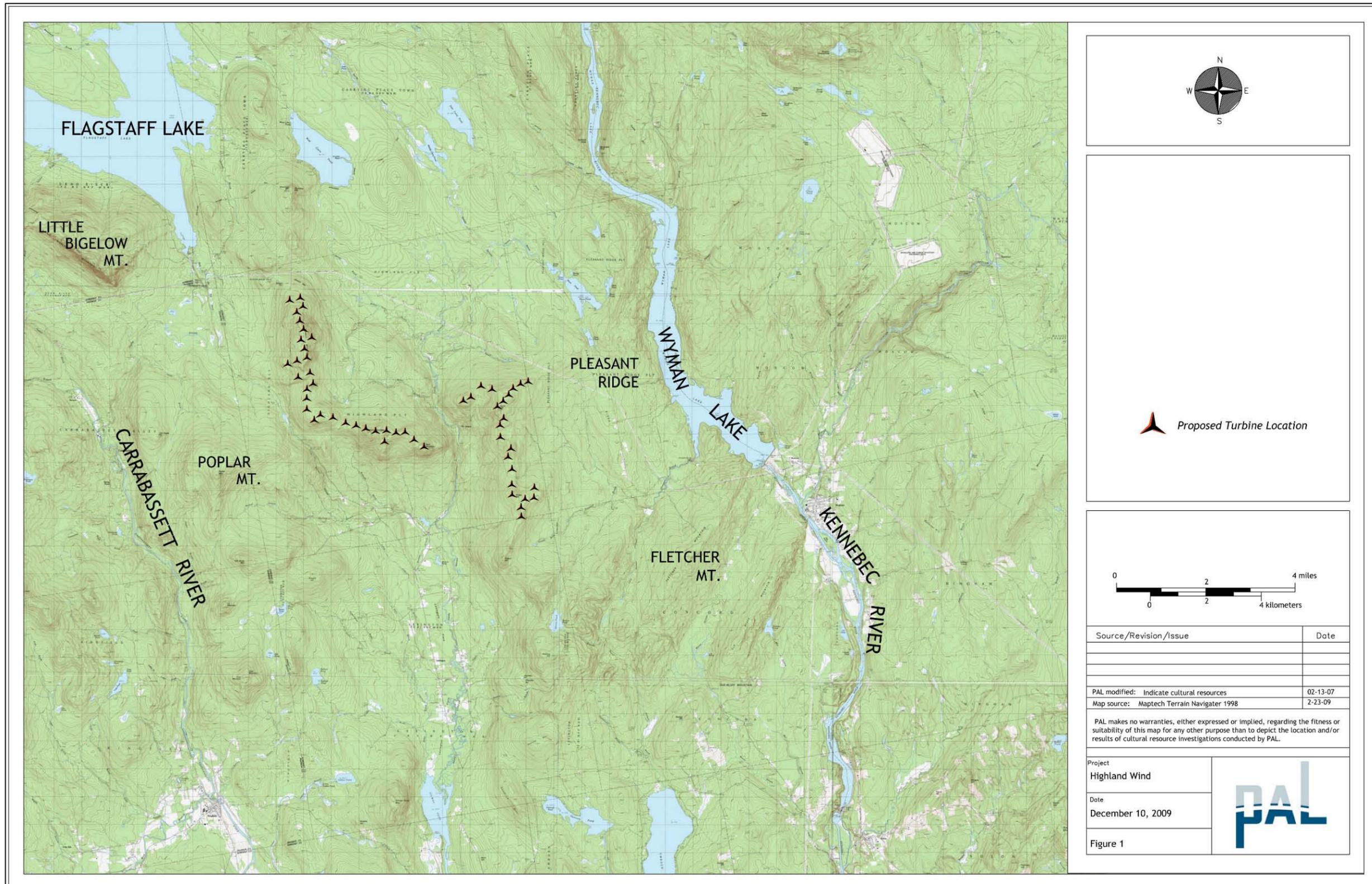
The Project, as proposed by Highland Wind LLC, involves the construction of up to 48 turbines and associated collector lines in two distinct strings along approximately 9.5 miles of Stewart Mountain, Witham Mountain, Bald Mountain, Burnt Hill, and Briggs Hill. The western string will include 26 turbines on the ridgeline of Stewart Mountain, Witham Mountain, and Bald Mountain. The eastern string of the Project will include 22 turbines on the northeastern end of Burnt Hill and extending south to Briggs Hill. The height of the turbines will range from 410 to 428 feet.

In addition to the turbines, an electrical collector system will transfer power from the turbine to a proposed collector substation located north of Whitham Mountain. The collector lines will be located underground along the ridgeline to reduce the Project footprint and to reduce maintenance costs. The approximately 11-mile generator lead will connect to an existing substation at the Wyman Dam and will be transferred to the Central Maine Power Company (CMP) system. To the greatest possible extent existing logging roads will be utilized.

### **Project Location and Setting**

The Highland Wind Project is located in northeastern Somerset County, Maine. The area surrounding the Project includes the towns of Caratunk, Concord, Lexington, Moscow, New Portland, and Pleasant Ridge Plantation and is composed of a rural landscape defined by large expanses of dense deciduous forest, winding rivers, freshwater lakes, and an undulating rocky terrain formed by clusters of mountains.

North of the Project site, the area is defined by Hilltop Mountain and the Bates Ridge, both reaching an elevation of approximately 1,800 feet. Flagstaff Lake, a large water body, is located northwest of the Project site. Smaller water bodies to the north include East and West Carry ponds. The area east of the Project site is defined by the Pleasant Ridge and Fletcher Mountains, which reach a height of 1,400 and 1,600 feet, respectively. Located to the east of Pleasant Ridge is Wyman Lake, a 13-mile-long lake fed by the Kennebec River and terminating with the Wyman Dam, a large hydroelectric power facility. Directly south of the Project site is Hutchins Hill, approximately 1,800 feet in height. Farther south is Chandler Hill, Hackett Hill, and Goodrich Hill, each 1,000 to 1,300 feet in height. Directly west of the Project site is the Little Bigelow Mountain Range, part of the Bigelow Range that runs through Somerset and Franklin counties and is one of Maine's highest summits. Little Bigelow Mountain is approximately 3,000 feet in height. Southwest of the Project site is the Carrabassett Valley, which includes Poplar Mountain,



Source/Revision/Issue	Date
PAL modified: Indicate cultural resources	02-13-07
Map source: Maptech Terrain Navigator 1998	2-23-09

PAL makes no warranties, either expressed or implied, regarding the fitness or suitability of this map for any other purpose than to depict the location and/or results of cultural resource investigations conducted by PAL.

Project Highland Wind	
Date December 10, 2009	
Figure 1	

Figure 1. Location of the proposed Highland Wind Project, Highland Plantation, Maine. NOTE: The layout of the turbines depicted is not what is currently planned but was used during the field survey. The current layout is smaller in footprint and therefore does not alter the results of the survey.

Little Poplar Mountain, and an unnamed mountain. Poplar Mountain is approximately 2,600 feet high, while the other two mountains are approximately 1,800 feet in height. The Carrabassett River runs between these mountains.

Major roads in the Project area include Route 201 and Route 16. Route 201, also known as the Old Canada Road, has been designated a Scenic Byway by the Maine Department of Transportation. It runs north-south through the eastern section of the Project area, on the east side of Wyman Lake. Route 16, also known as Mayfield Road, runs north-south along the west side of the Kennebec River, south of Wyman Lake and north of Bingham. Long Falls Dam Road is a secondary road in the Project area. It runs north-south from Flagstaff Lake, along the western side of the Project site south to New Portland. There are no major east-west corridors in the Project area. There are few paved roads north of the Project site; however, there are numerous all-terrain-vehicle (ATV) and snowmobile trails. A section of the Appalachian Trail runs through the northern section of the study area.

Development in the area is sparse and is closely tied to the natural landscape. Clusters of seasonal cottages line the edges of the lakes, and several recreational camp buildings are located near the Kennebec River or along narrow dirt roads and trails. Residential and agricultural development is primarily located along the two state routes. Pockets of denser residential development are located in the small village centers of Moscow and Carrabassett. There are few buildings within the area that serve social or government functions and there are almost no commercial establishments. The nearest commercial area is in Bingham, outside of the study area.

## METHODOLOGY

The methodology for the architectural reconnaissance survey was designed to identify all aboveground historic properties, including districts, buildings, structures, objects, and sites within the APE for the Project that are listed, eligible, or potentially eligible for listing in the National Register of Historic Places (National Register). The survey was conducted in accordance with the standards and guidelines established in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*, as amended (48 FR 44716), the MHPC's *Above Ground Cultural Resources Survey Manual, Guidelines for Identification: Architecture and Cultural Landscapes, Section 106 Specific* (MHPC 2006), the National Park Service's (NPS) *National Register Bulletin No. 24, Guidelines for Local Survey: A Basis for Preservation Planning* (NPS 1985), and the NPS's *National Register Bulletin No. 15, How to Apply the National Register Criteria for Evaluation* (NPS 1997).

Prior to beginning survey fieldwork, PAL conducted research to identify all previously surveyed properties within or adjacent to the Project area that are listed or eligible for listing in the National Register or have been recorded as part of the MHPC's Maine State Survey Program. PAL initiated this search by using the National Register Information System (NRIS), an on-line database maintained by the NPS. Following the NRIS search, PAL conducted a visit to the MHPC to review and obtain copies of all National Register forms, relevant town files, and inventory forms for all properties within a 10-mile radius of the Project location. The National Register eligibility status of each surveyed property was noted if the property had been previously evaluated for listing in the National Register.

Fieldwork for the reconnaissance survey was conducted by two PAL architectural historians from May 18, 2009 to May 22, 2009. The fieldwork involved the identification of all properties within the APE that were at least 50 years old or included in previous inventories. Information regarding the view sheds from recorded properties toward the Project area was noted during the fieldwork. Each identified property was photographed with black-and-white film using a 35mm SLR camera for documentation purposes and with a high-resolution digital camera, which provided additional visual information referenced during the creation of the survey report. Data regarding the current condition and significant characteristics of each resource was recorded, and the information on the inventory forms for previously surveyed properties was verified. In compliance with the MHPC's survey methodology, unique sets of information were collected for individual buildings, barns, and farmsteads. All identified properties were mapped in the field on USGS base maps or detailed aerial images. Site plans depicting farmsteads or other complexes with multiple resources were hand drawn on survey forms.

PAL drove all accessible public roads within the study area, including unmarked, navigable gravel/dirt trails. All properties that met the criteria for inclusion in the survey and were visible from public rights-of-way were recorded. To ensure that no properties were overlooked, PAL made notes on the base maps during the survey, indicating which roads had been covered and which buildings were less than 50 years old. For roads that were gated or otherwise clearly marked as private, topographic maps and aerial images were used to verify the presence or absence of existing structures. Historical topographic maps and atlases were then used to determine whether any of these inaccessible properties contained resources at least 50 years old.

PAL entered the survey data into a database following the completion of the fieldwork. The database was then used to generate MHPC reconnaissance-level survey inventory forms for each of the surveyed properties. Based on the condition, integrity, materials, approximate age, design,

and setting of the identified resources observed in the field, PAL made a preliminary assessment regarding the potential National Register eligibility of each property. The preliminary eligibility evaluation of each property and an assessment of potential effects of the Project on properties evaluated as potentially eligible are included in the Recommendations section of this report.

## **SURVEY BOUNDARIES**

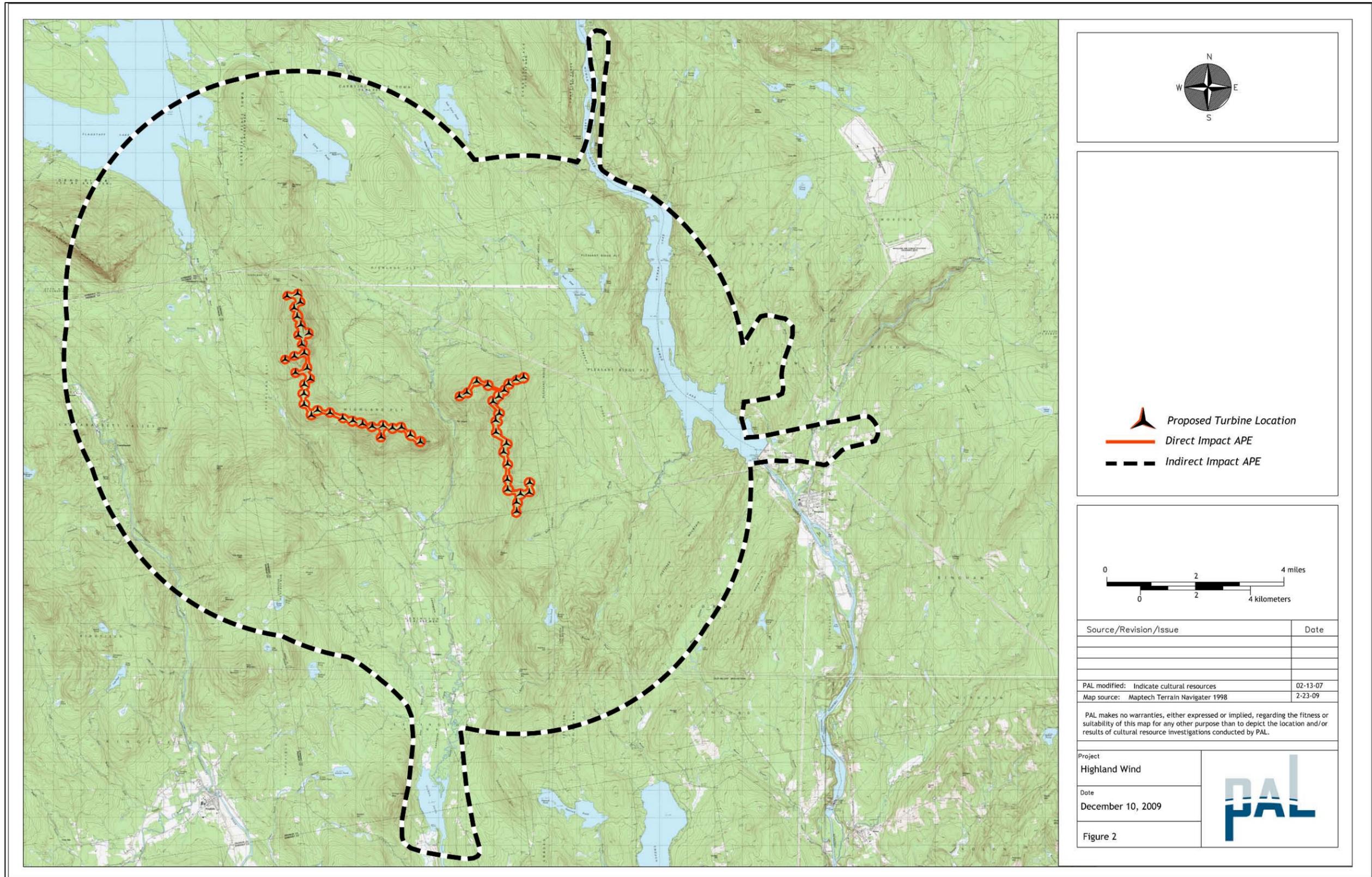
The initial Highland Wind Architectural Reconnaissance survey area included all the land and features within an 8-mile radius of the proposed turbines. This 8-mile area was based on a preliminary view shed analysis map prepared by TJD&A, who is responsible for assessing the visual impact of the Project on scenic resources. The preliminary view shed analysis map indicates the locations of anticipated views to the Project from the surrounding area. During the fieldwork for the architectural reconnaissance survey, PAL drove the entire 8-mile survey area and based on the view shed analysis map and observations in the field, determined that many locations within the 8-mile area would be blocked by existing topography. The field observations, the view shed analysis map, and current USGS maps were used to determine the indirect APE (described below).

### **Area of Potential Effect**

The APE is defined in regulations governing Section 106 of the National Historic Preservation Act as the “geographic area or areas within which an undertaking may directly or indirectly cause changes in the character of or use of historic properties, if any such properties exist” (36 CFR 800.1(d)). Typically there are multiple APEs since effects to historic properties can be caused by either a physical taking (direct impacts) or by the introduction of environmental impacts (indirect impacts). The direct impact APE is the geographic area in which properties would be affected by construction activities, including a property taking or physical modification of a historic property. The indirect impact APE consists of a larger area where visual, auditory, pollution, vibration, and/or other types of environmental impacts, might affect the qualities for which a historic property is eligible for or listed in the National Register.

The direct impact APE for the Highland Wind Project is an 1,223-acre area that includes the proposed wind turbine complex along Stewart, Witham, and Bald Mountain ridgelines, and the Burnt Hill, Briggs, and Peaked Hill ridgelines, construction laydown areas, access roads, and the power collection system including a substation and maintenance building (Figure 2).

For the Highland Wind Architectural Reconnaissance survey, potential indirect effects on historic properties were determined to be visual or auditory in nature. As such, the indirect effects APE includes all locations where impacts might be caused by noise resulting from the turbines and locations within 8 miles of the Project where the turbines might be visible. Potential noise impacts will occur in a far smaller area than potential visual impacts, so the extent of the indirect effects APE was determined by potential visual effects. In order to determine the locations where the constructed project might be visible, PAL drove all accessible roads within an 8-mile radius of the turbine locations. PAL indicated on the survey base map which roads did and did not have views of the Project site. Many roads north of the Project site were not publically accessible, this was also marked on the survey base map. Based on field observations and a comparison with the view shed analysis map, the indirect effects APE was determined to be an irregularly shaped area, 116,309 acres in size, extending at least 5 miles and up to 8 miles from the turbine locations (see Figure 2).



**Figure 2. Highland Wind Project Areas of Potential Effect.**

Excluded areas between 5 and 8 miles are those that have no potential view of the Project due to visual obstructions caused by intervening topography or vegetation were excluded from the APE. Intervening mountains that buffer properties from the Project site include Fletcher Mountain, the Pleasant Ridge mountains, Old Bluff Mountain, and the Carrabassett Valley mountains. The indirect impact APE encompasses all or parts of the towns of Lexington, Moscow, New Portland as well as Highland Plantation and Pleasant Ridge Plantation.

## **SURVEY RESULTS**

### **Properties Listed in or Determined Eligible for Listing in the National Register**

The preliminary research identified two properties in the indirect APE that are either listed in the National Register or determined eligible for such listing: the Arnold Trail to Quebec (Arnold Trail) and the Appalachian National Scenic Trail (Appalachian Trail) (Figure 3). A copy of the National Register nomination form for the Arnold Trail is included in Appendix A.

#### **Arnold Trail**

The Arnold Trail was listed in the National Register in 1969 under Criterion A in the area of Military history and Criterion B for its association with Benedict Arnold. The entire Arnold Trail is 194 miles long, starting at Fort Popham at the mouth of the Kennebec River in Phippsburg to the Canadian border in Gore, Maine. It follows the route Colonel Benedict Arnold and his forces took on their expedition to Quebec. In September 1775, under the orders of General George Washington, Arnold and his army of 1,100 men traveled across waterways, including the Kennebec River, along the Dead River to the Chain of Ponds and then to Quebec. The journey lasted 45 days, and though he failed to seize Quebec, the expedition was important in that it divided the British Army and weakened their defensive position in later battles.

Within the boundaries of the APE the Arnold Trail is generally a heavily forested hiking trail. Along the trail there are signs, erected by the Arnold Expedition Historical Society, indicating the location of the trail (Photograph 1). On Route 201 in Moscow there is a tablet affixed to a stone indicating the location of where Arnold left the Kennebec River (Photograph 2). The tablet reads: "THIS TABLET MARKS THE PLACE\ WHERE COLONEL BENEDICT ARNOLD\ WITH HIS SOLDIERS LEFT THE KENNEBEC\ RIVER OCTOBER 1775 AND MARCHED FROM THE WEST SHORE IN A NORTH\ -WESTERLY DIRECTION TO DEAD RIVER\ ON THEIR WAY TO QUEBEC." A symbol with 13 stars is located below along with the following text: "PLACED BY THE KENNEBEC CHAPTER\ OF THE DAUGHTERS OF THE AMERICAN REVOLUTION\ 1916."

Within the boundaries of the APE the Arnold Trail includes the route up the Kennebec River, across the Carrying ponds (East Carry Pond, Middle Carry Pond, and West Carry Pond) and over Flagstaff Lake. A small peninsula, named Arnold's Point, juts out into West Carry Pond. For the most part the trail is narrow and runs through a heavily forested area. It does not appear to be well traveled because of its marshy character. According to the National Register nomination form there is no virgin timber in the area of the Arnold Trail located within the boundaries of the APE, though it maintains its appearance as a vast wilderness. Flagstaff Lake was significantly expanded in the 1950s, which resulted in altering the general setting of this area.

#### **Appalachian Trail**

The Appalachian Trail has been determined eligible for listing in the National Register by the MHPC. The Appalachian Trail is a 2,178-mile foot trail from Amicalola Falls State Park in Georgia to Mount Katahdin in Maine. Within the state of Maine, the trail is 281 miles long. The idea for the trail was first developed in 1921 by Benton MacKaye who envisioned the trail as a means of linking work camps and communities in the mountains. Work building the footpath

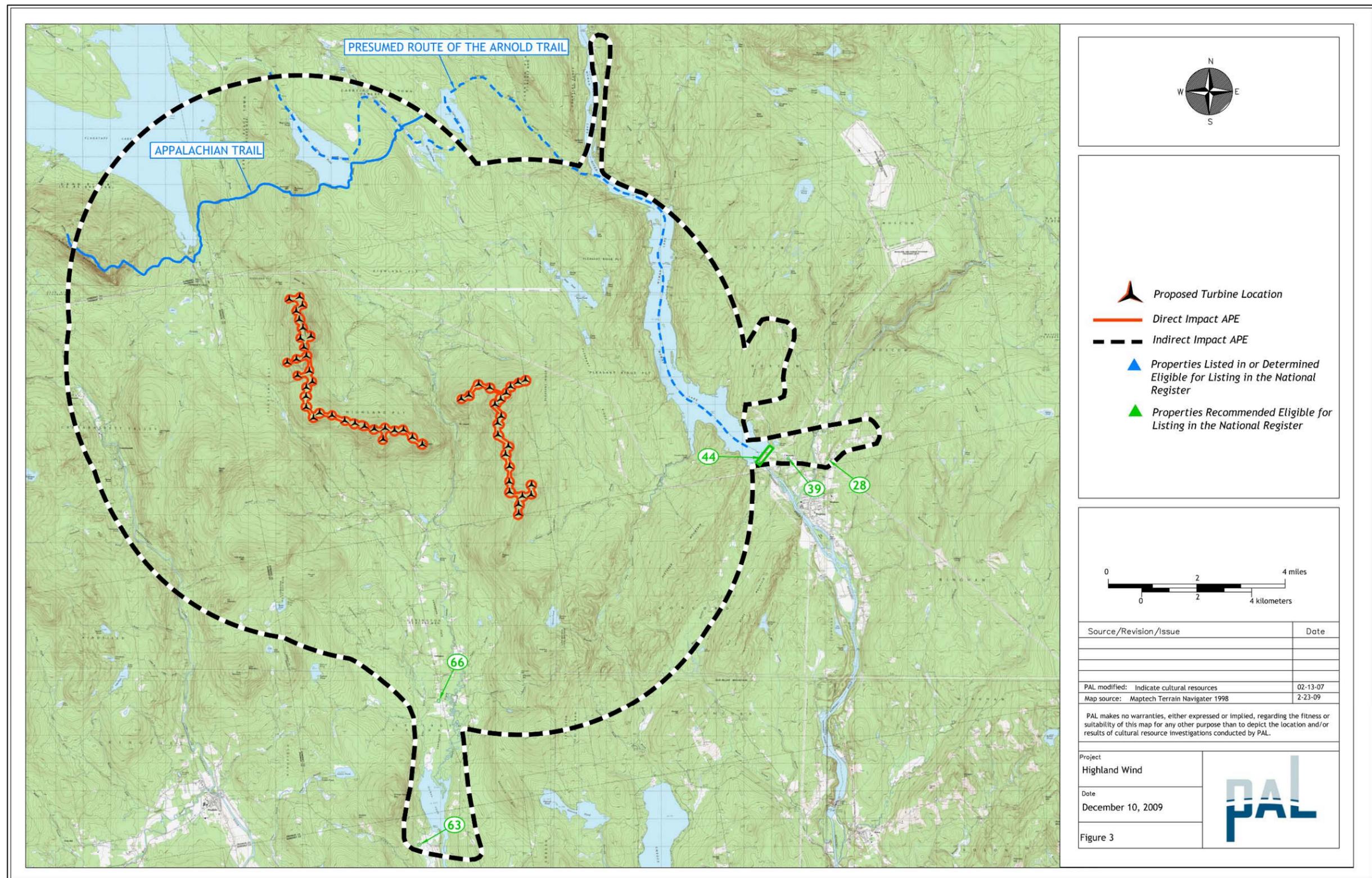


Figure 3. Properties within the Highland Wind APE which are Listed in, Determined or Evaluated Eligible for Listing in the National Register.



**Photograph 1. Arnold Trail.**



**Photograph 2. Arnold Trail Tablet, Old Canada Road/Route 201, Moscow.**

began in 1928 and was in completed in 1937. It fell into disrepair after World War II and parts of the route were lost. By 1951 the trail was restored. In 1968 it was declared the first national scenic trail in the United States.

The Appalachian Trail runs through the northwest corner of the APE along the northern base of Little Bigelow Mountain, around the bottom Flagstaff Lake, over Roundtop Mountain, and then north to Bates Ridge. The shortest distance between the trail and the Project site is approximately 1.6 miles where the northernmost turbine is located south of where the trail crosses over an unnamed mountain between the southern end of Flagstaff Lake and Roundtop Mountain. The section of the Appalachian Trail within the boundaries of the APE is generally densely forested (Photograph 3). The few intrusions into the Appalachian Trail are small lean-tos for use by hikers and locations where it crosses a public road. The Appalachian Trail continues to exist in a densely forest area and retains its integrity of location, design, setting, feeling and association. The setting is compromised at clearing on points of high elevation since greater panoramic views are possible from these locations. From the Bigelow Mountain range a number of buildings and structures are visible including the Sugarloaf USA ski resort in Carrabassett Valley located approximately 8 miles from Avery Peak. The view of Sugarloaf USA includes ski trails, access roads, parking lots, and the base lodge, hotel, resort home, and condominium development at the base of the mountain, approximately 6.5 miles distant. The 18-hole Sugarloaf golf course is also visible at a distance of 5.3 miles. In addition, views of the runway of the Sugarloaf Regional Airport, located 4.7 miles to the southeast, portions of Route 27, and several other structures in Carrabassett Valley are visible.



**Photograph 3. Appalachian Trail.**

## **Previously Inventoried Properties**

There is only one previously inventoried property in the APE, the Dug Sluice (MHPC# 912-0001). The Dug Sluice is located off the east side of the Carrabassett River, south of Carrabassett (Figure 4, Back Pocket). The Dug Sluice was constructed in 1896–1898 by the Carrabassett Land & Lumber Company to move white birch logs from the Poplar Mountain to the former Kingfield and Dear River Railroad, which transported the logs to nearby paper mills. The sluice is dug into the crest of an esker that runs down the side of Poplar Mountain. It is one-quarter to one-half mile long, 6 to 8 feet wide, and 4 to 6 feet deep. The dug sluice is currently overgrown and not accessible by public roads. A copy of the survey form for this property is included in Appendix B.

## **Properties Identified During the Historic Architectural Reconnaissance Survey**

### **Number of Buildings/Structures Recorded and Property Types**

The reconnaissance survey of the indirect impact APE identified 86 properties containing 150 individual resources that were at least 50 years old and retained a portion of their original physical appearance (see Figure 4). These resources include 62 residences, 65 barns/outbuildings, 9 cottages/summer camps, 6 cemeteries, 3 civic/social/religious buildings, 2 commercial buildings, 2 transportation-related structures and one dam. Table 1, which summarizes the properties surveyed by PAL, is located in Appendix C. Copies of the reconnaissance level MHPC inventory forms are attached to this report.

The surveyed buildings range in date from approximately the mid-nineteenth century through the mid-twentieth century. Most of the residences identified as meeting the survey criteria are mid-nineteenth- to early-twentieth-century vernacular farmhouses and single-family detached residences of one-and-one-half to two stories in height and with a variety of historic and modern alterations. Typical alterations include window and door replacement, vinyl siding, the addition of rear or side ells, and enclosure or reorientation of original porches. While mostly vernacular in style, there are a number of residences designed in the Greek Revival, Italianate and Colonial Revival styles. Civic and institutional structures surveyed include a town hall and a fire station. Commercial buildings include a small store and campgrounds. The APE also includes several small, informal, nineteenth-century cemeteries.

## RECOMMENDATIONS

### National Register Evaluation

All properties identified during the survey were evaluated in accordance with the National Register Criteria for Evaluation. The criteria are defined by the NPS as follows:

Properties eligible for inclusion in the National Register are those whose qualities of significance in American history, architecture, archaeology, engineering, and culture are present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield information important in prehistory or history.

The majority of the properties identified during the survey were evaluated as ineligible for listing in the National Register either individually or as contributing resources within a historic district. In general, the individual properties evaluated as ineligible for the National Register are common, vernacular structures that lack architectural significance or apparent significant historical associations. A large number of the properties have lost architectural integrity due to alterations and/or additions, removal of original architectural ornament, replacement of original materials, and replacement of original windows and doors.

### Properties Recommended as Potentially Eligible for Listing in the National Register

PAL recommends five properties as potentially eligible for listing in the National Register. The properties are described below, summarized in Table 2 and mapped on Figure 3.

#### **Farmstead, 62 Mayfield Road/Route 16, Moscow (Survey Map No. 28)**

The Farmstead at 62 Mayfield Road/Route 16, Moscow is recommended as individually eligible for listing in the National Register under Criterion C at the local level as an example of an early-nineteenth-century farmstead (Photograph 4). The farmstead property is located approximately 7.1 miles from the closest turbine location. Buildings on the property include a one-and-one-half story, six-bay wide, side gable Greek Revival Cape Cod Cottage-style residence with a modern metal roof and concrete block chimneys; a connected one-and-one-half story, five-bay wide English barn with a modern metal roof and later rear ell; and a detached one-and-one-half story, three-bay wide, New England barn with a central transom-capped entry, modern metal roof, and a possible rear addition.

**Table 2. Properties within the Highland Wind APE Evaluated as Potentially Eligible for Listing in the National Register.**

Survey Map No	Resource Name/Address	Potential National Register Eligibility	Criteria of Eligibility	Level of Eligibility	Aspects of Integrity
28	Farmstead, 62 Mayfield Road, Route 16, Moscow	Individual	C: Architecture	Local	This farmstead property includes one Cape Cod Cottage residence, one connected barn and one detached barn. It retains integrity of location, setting, design, workmanship, association and feeling as an early-19th-century farmstead in Somerset County. Overall integrity of the residence is undermined by a replacement windows and roof materials.
39	Residence, 105 Canada Road, Route 201, Moscow	Individual	C: Architecture	Local	The property includes one modest, Greek Revival residence and one connected barn. It retains integrity of location, setting, design, workmanship, association and feeling as an early-19th-century residence with associated outbuildings in Somerset County. Overall integrity is undermined by the insertion of replacement windows, and the possible addition onto the front of the connector.
44	Wyman Dam, Wyman Lake, Moscow	Individual	A: Community Development C: Engineering, Architecture	Local	The property is a large, and elaborate, hydroelectric dam built in 1932 to provide power to the surrounding area. It was designed by the firm of architect John Calvin Stevens, a noted residential architect. It retains a high level of integrity of location, setting, design, workmanship, association and feeling of a large, energy-producing facility.
63	Cold Spring Ranch Farmstead, Reed Road, New Portland	Individual	C: Architecture	Local	This farmstead includes one large residence, a large detached barn, and three attached barns. The property is surrounded by large open fields and retains integrity of location, workmanship, design, setting, association and feeling of an late-nineteenth century farmstead in Somerset County.
66	Farmstead, 1142 Long Falls Dam Road, Lexington	Individual	C: Architecture	Local	This farmstead includes a large, two-story residence, and three connected barns. The property retains integrity of location, workmanship, design, setting, association and feeling of an early-nineteenth century farmstead in Somerset County. Overall integrity is undermined by the insertion of replacement windows, a front door hood, and replacement roofing materials.



**Photograph 4. Farmstead, 62 Mayfield Road/Route 16, Moscow (Survey Map No. 28)**

The property retains its integrity of location, design, and workmanship. Material integrity is somewhat undermined by the insertion of replacement windows and the use of modern roof materials. The farmstead at 62 Mayfield Road/Route 16 (Survey Map No. 28) exists in a fairly developed area, though the property retains integrity of setting, feeling and association.

**Residence and Barn, 105 Canada Road, Route 201, Moscow (Survey Map No. 39)**

The residence and barn at 105 Canada Road, Route 201 in Moscow is recommended as individually eligible for listing in the National Register under Criterion C at the local level as an example of an early-nineteenth-century residence with associated outbuildings (Photographs 5 and 6). The property is located approximately 6.2 miles from the closest turbine location and is composed of three connected buildings including a residence, a side-ell/hyphen, and a barn. The Italianate residence is one-and-one-half stories high, two-bays wide, and topped with a front gable roof with a center brick chimney. It retains its original bay window and deep gable returns. The one-story side ell/connecting hyphen is five bays wide with an enclosed attached porch and a center brick chimney. Attached to the side ell/connecting hyphen is a one-and-one-half story New England barn with original windows. All of the buildings have metal roofs and are clad in clapboard. The residence sits on a brick foundation.

The setting of the property is somewhat compromised by the development of surrounding modern residences and the metal replacement roofs detract from the materials and workmanship of the property. Overall, the property maintains its integrity of location, design, feeling and association.



**Photograph 5. Residence, 105 Canada Road, Route 201, Moscow (Survey Map No. 39)**



**Photograph 6. Attached Barn, 105 Canada Road, Route 201, Moscow (Survey Map No. 39.2)**

### **Wyman Dam, Wyman Lake, Moscow (Survey Map No. 44)**

The Wyman Dam is recommended as individually eligible for listing in the National Register under Criteria A and C at the state level for its associations with community development, engineering, and architecture (Photograph 7). The Wyman Dam forms the southern edge of Wyman Lake in Moscow and is approximately 5.7 miles from the closest turbine site. The large and elaborate hydroelectric dam building was built in 1932 by The Central Maine Power Company to provide power to the area. The structure was designed by the firm of John Calvin Stevens, a prominent Maine architectural firm. The dam is 100 feet tall and approximately one-half mile in length.

The Wyman Dam retains its integrity of location, setting, materials, workmanship, feeling and association. Design integrity is undermined by the insertion of a large fish ladder. The Wyman Dam is a large, industrial power-generating structure. An existing overhead transmission line runs from the dam over part of Fletcher Mountain and Pleasant Ridge. The combination of these two elements creates an industrial setting in a fairly rural area.



**Photograph 7. Wyman Dam, Wyman Lake, Moscow (Survey Map No. 44)**

### **Cold Spring Ranch Farmstead, Reed Road, New Portland (Survey Map No. 63)**

The Cold Spring Ranch farmstead on Reed Road in New Portland is recommended as individually eligible for listing in the National Register under Criterion C at the local level as an example of a large, farmstead property (Photograph 8). The large property includes one large residence, a large detached barn, and three attached barns. Originally known as Gilman Farm, the

property was established as a dairy farm in the 1880s and has continually operated as a dairy and cattle farm (<http://www.coldspringranch.com/story.htm>).

The farmstead is located at the terminus of Reed Road, approximately 7.8 miles from the closest turbine location and is set back approximately 750 feet from Gilman Pond Road. It is surrounded by large open fields and Gilman Pond Mountain, located northwest of the property. The Cold Spring Ranch farmstead retains integrity of location, workmanship, design, setting, association and feeling of a late-nineteenth century farmstead in Somerset County.



**Photograph 8. Cold Spring Ridge Farmstead, Reed Road, New Portland (Survey Map No. 63)**

**Farmstead, 1142 Long Falls Dam Road, Lexington (Survey Map No. 66)**

The Farmstead at 1142 Long Falls Dam Road, Lexington is recommended as individually eligible for listing in the National Register under Criterion C at the local level as an example of an early-nineteenth-century farmstead (Photograph 9). The farmstead property is located approximately 4.8 miles from the closest turbine site. The property includes a large, two-and-one-half story, five-bay wide Federal-style residence with symmetrical interior end brick chimneys; a one-story, connected English barn; and a one-and-one-half story, connected English Barn set perpendicular.

The farmstead property retains integrity of location and design. Workmanship and material integrity is undermined by the insertion of replacement windows, a front door hood, and replacement roofing materials. The property is surrounded by dense forest. During the fieldwork and a subsequent review of aerial maps, any large fields or farm roads in close proximity to the property were not identified, however, the property remains in a relatively undeveloped area. As such, the property retains some integrity of setting, feeling and association as a farmstead.



**Photograph 9. Farmstead, 1142 Long Falls Dam Road, Lexington (Survey Map No. 66)**

## ASSESSMENT OF PROJECT EFFECTS

The Highland Wind Project is located in an area recently designated by the state for expedited permitting and is therefore subject to review under the Maine Legislature's recently enacted standards specific to wind power projects located within the expedited permitting area. The law provides that determinations of effect on scenic resources, including historic properties, of national or state significance, shall consider whether the wind project will cause unreasonable adverse effects (35-A MRSA §3452). In assessing whether an unreasonable adverse effect on scenic values may be caused by a project, the law requires that the siting authority consider:

- A. The significance of the potentially affected scenic resource of state or national significance;
- B. The existing character of the surrounding area;
- C. The expectations of the typical viewer;
- D. The project purpose and the context of the proposed activity;
- E. The extent, nature and duration of potentially affected public uses of the scenic resource of state or national significance and the potential effect of the generating facilities' presence on the public's continued use and enjoyment of the scenic resource of state or national significance; and
- F. The scope and scale of the potential effect of views of the generating facilities on the scenic resource of state or national significance, including but not limited to issues related to the number and extent of turbines visible from the scenic resource of state or national significance, the distance from the scenic resource of state or national significance and the effect of prominent features of the development on the landscape.

The framework used for assessing the effects of the Highland Wind Project on historic properties was that established by the regulations governing Section 106 of the National Historic Preservation Act. In conducting the assessment, the criteria of adverse effect was applied to each of the properties identified in the survey as listed or eligible for listing in the National Register. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR 800.5(a)(1)).

### **Direct Effects**

The direct impact APE was established to encompass all Project-related construction activities, including land acquisition, and the area where the turbines and collector lines will be located. There are no historic properties within the direct impact APE. Therefore, the Project will have no direct effects on historic properties.

## Indirect Effects

As described in the methodology, the indirect impact APE was established to include the area where the Highland Wind Project has the potential to cause visual or auditory impacts on properties that are listed or evaluated as potentially eligible for listing in the National Register. The following is a discussion of the potential effects and an assessment of the Project's potential to cause adverse effects on those properties. Table 3 provides a summary of the findings for each property.

### Visual Effects

In order to assess whether the views to or from the constructed Project would have an unreasonable adverse effect, the magnitude, distance, and duration of the potential view, along with the qualities of significance that make the properties eligible for listing in the National Register was taken into account.

For assessing potential visual effects from the proposed Highland Wind Project, the concept of distance zones formed the basis of the analysis. This concept is based upon the USDA Forest Service visual analysis criteria for forested landscapes, and on the amount of detail that an observer can differentiate at varying distances.<sup>1</sup> The distance zones used for the Highland Wind Project are defined as the following:

- *Foreground: 0 to 1/2 mile in distance.* Within the foreground, the observer would be able to detect surface textures, details, and a full spectrum of color. For example, the details of the turbines (blades, nacelles, support towers) would be readily apparent.
- *Midground: 1/2 mile to 4 miles in distance.* The midground is a critical part of the natural landscape. Within this zone the details found in the landscape become subordinate to the whole: individual trees lose their identities and become forests; buildings are seen as simple geometric forms; roads and rivers become lines. Edges define patterns on the ground and hillsides. Development patterns are readily apparent, especially where there is noticeable contrast in scale, form, texture, or line. Colors of structures become somewhat muted and the details become subordinate to the whole. This effect is intensified in hazy weather conditions, which tend to mute colors and de-sharpen outlines even further. In panoramic views, the midground landscape is the most important element in determining visual impact.
- *Background: greater than 4 miles.* Background distances provide the setting for panoramic views that give the observer the greatest sense of the larger landscape. However, the effects of distance and haze will obliterate the surface textures, detailing, and form of project components. Objects seen at this distance will be highly visible if they present a noticeable contrast in form or line and weather conditions are favorable. Due to the thinness of the design, the ends of the turbine blades will be minimally visible at distances greater than 8 miles.

In assessing the potential effects of the Project on historic properties, PAL utilized the view shed map (Figure 5), observations made during the reconnaissance survey, and the draft Visual Impact Assessment.

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<sup>1</sup> Information provided by TJD&A 2009.

**Table 3. Assessment of Potential Indirect Effects from the Highland Wind Project.**

<b>Survey Map No.</b>	<b>Resource</b>	<b>Address</b>	<b>Determination</b>	<b>Preliminary Assessment</b>	<b>Potential Adverse Effect</b>
N/A	Arnold Trail	N/A	National Register Listed	The Project would be visible from some sections of the trail, though potential views of the Project would be screened by the dense vegetation on either side of it. The Project would not greatly alter the setting or context of the resource or its historical relationship with Benedict Arnold.	No
N/A	Appalachian Trail	N/A	Determined Eligible for Listing in the National Register	The Project would be visible from certain locations along the trails. However views of the project would be relatively short in duration and confirmed to small sections of the overall panoramic views. The enjoyment and recreational nature of the trail would not be affected by the Project.	No
28	Farmstead	62 Mayfield Road, Route 16, Moscow	Potentially Eligible for Listing in the National Register	The property would have no views of the Project. Filtered views of approximately eight turbines could be possible from the road in front of the property, though these views would be at a distance of approximately 7.0 to 7.6 miles and would be screened by existing vegetation.	No
39	Residence	105 Canada Road, Route 201, Moscow	Potentially Eligible for Listing in the National Register	There would be no views of the constructed Project from this property.	No
44	Wyman Dam	Station Road, Moscow	Potentially Eligible for Listing in the National Register	The constructed Project would not be visible from below the dam, from the western end of the dam, and from the powerhouse. There is no public access to the dam; the constructed Project would not be visible from the public streets surrounding the dam.	No

63	Cold Spring Ridge Farm	Reed Road, New Portland	Potentially Eligible for Listing in the National Register	There would not be any views of the Project from the property; the blades of two or three turbines could be visible from Gilman Pond Road. However, the views would be minimal and at a distance of more than 7 miles, therefore the Project would not visually overwhelm the property or the surrounding area.	No
66	Farmstead	1142 Long Falls Dam Road, Lexington	Potentially Eligible for Listing in the National Register	There would not be any views of the constructed Project from the property. One or two of the turbines may be visible from Long Falls Dam Road. These views would be at a distance of 6 miles and would not visually overwhelm the setting or the context of the area.	No

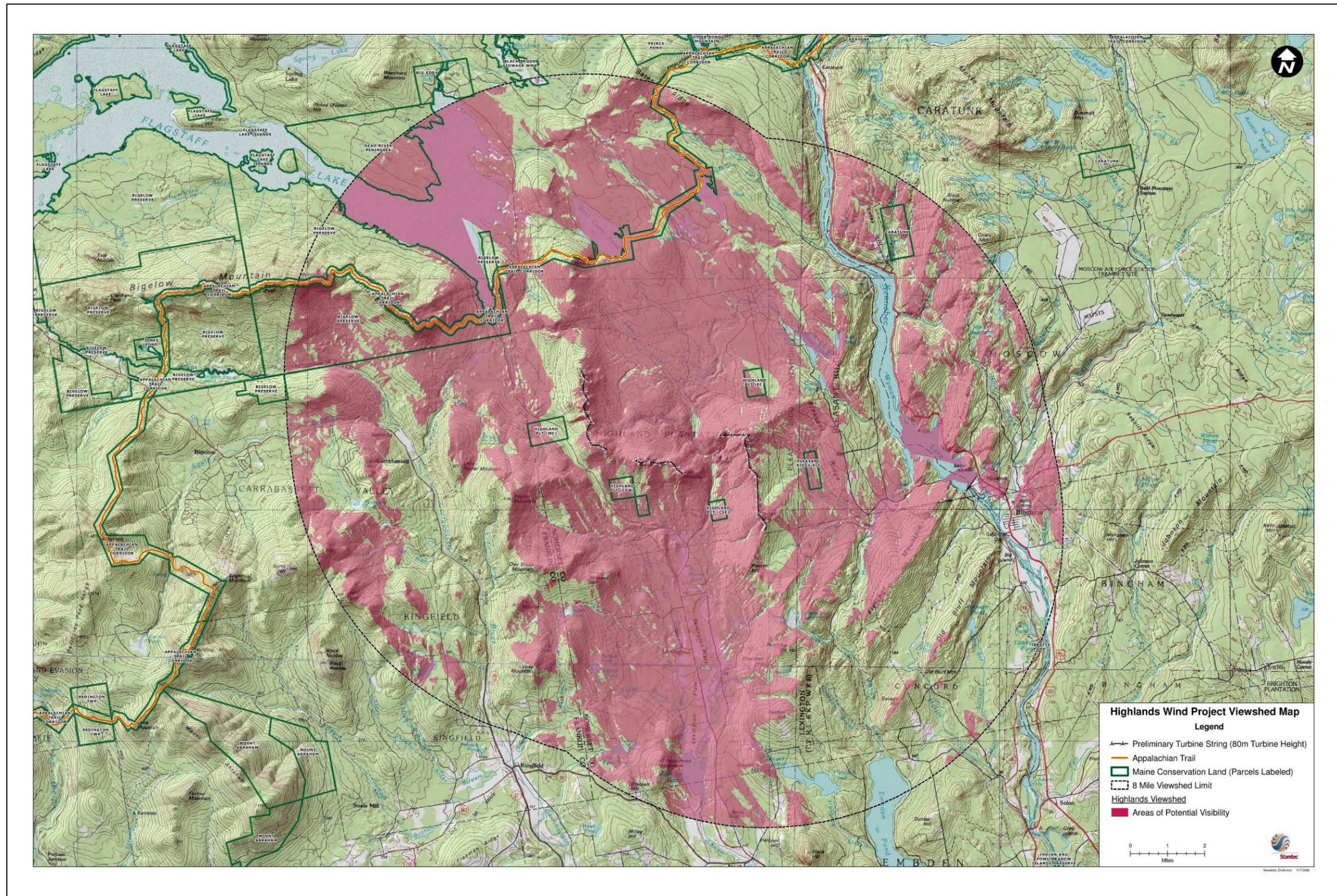


Figure 5. Highland Wind Potential View Shed Map.

### *Arnold Trail*

The Arnold Trail is a long hiking trail that crosses over lakes and through heavily wooded areas. Within the boundaries of the APE, the Arnold Trail passes over the Kennebec River in the eastern section of the APE and over the mountains in the northern section of the APE to Flagstaff Lake. According to the view shed analysis map, the constructed Project would not be visible along the Kennebec River, along the land section of the trail and Flagstaff Lake views would be intermittent. The narrow width of the trail and the dense vegetation that surrounds either side of it greatly limits views to include only the immediately surrounding area and would likely screen views of the constructed Project. As such, travelers on the trail would likely experience limited, if any, views of the constructed Project. The Arnold Trail is significant under Criterion A in the area of Military history and Criterion B for its association with Benedict Arnold. These qualities of significance would not be affected by the constructed Project. The Arnold Trail only crosses one public road in the APE, Long Falls Dam Road. From this location the Project site is blocked by an unnamed mountain and Roundtop Mountain (Photograph 10). Overall, the constructed Project would not have an adverse effect on the Arnold Trail.

### *Appalachian Trail*

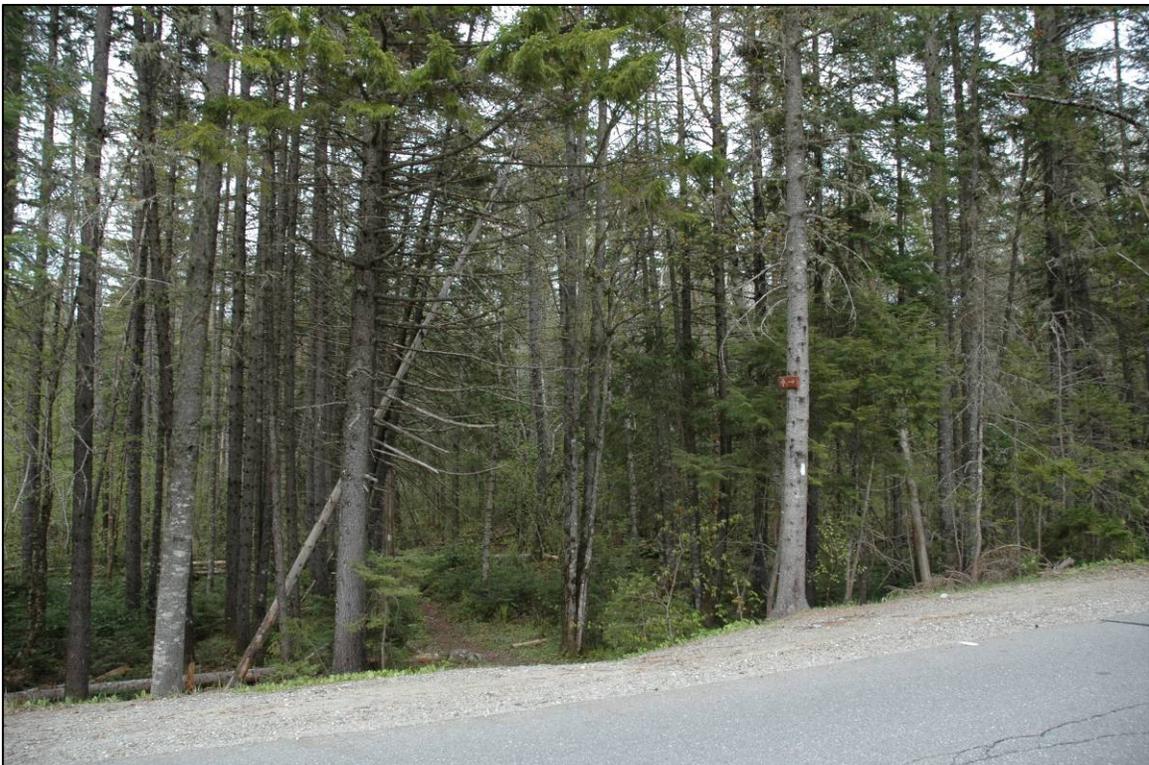
The Appalachian Trail runs through the northwestern section of the APE over the Little Bigelow Mountain range, Roundtop Mountain, and the Bates Ridge. The sections of the trail identified within the APE are, for the most part, heavily wooded hiking paths (Photograph 11). Approximately 18.9 miles of the Appalachian Trail are located within 8 miles of the Project area. Of these 18.9 miles, 7.9 are within the Bigelow Range; the remaining 11 miles are in the wooded lowlands around the Carry Ponds (West, Middle, and East).

Avery Peak, located 7.7 miles to the closet turbine, is the highest mountain in the Bigelow Mountain Range. The view from Avery Peak is an approximately 330° panorama of the surrounding landscape and includes the Bigelow Range, the Boundary Mountains, Crocker Mountain, Sugarloaf Mountain, Little Poplar Mountain, and Stewart Mountain.

The Appalachian Trail over Little Bigelow Mountain, located approximately 3.5 to 5.1 miles from the Project Site, is wooded, with only occasional views beyond the trail. There is not a cleared summit on the Little Bigelow Mountain ridge. The majority of the views from the Little Bigelow Mountain range are screened by the existing fir-birch vegetation. Intermittent views of the turbines would be possible along the ridge at a distance of 5.2 to 7 miles. At the western end of the ridge there are a few relatively short (75 to 100 feet long) rock outcrops where there would be views of the Project at a distance of approximately 7 miles. Near the middle of the mountain there are another two locations (each 75 to 100 feet long) where there would be Project views at a distance of 5.2 miles. Views from the western portion of trail in the direction of the Project are partially blocked by the eastern end of Little Bigelow Mountain. The eastern end of the range has a small opening from which the Sugarloaf Mountain recreational development, the Sugarloaf Regional Airport, and an existing transmission line are all visible.



**Photograph 10. Arnold Trail, view southwest toward the Project site. Project site is blocked by existing mountains.**



**Photograph 11. Appalachian Trail, view from along Long Falls Dam Road south of Flagstaff Lake.**

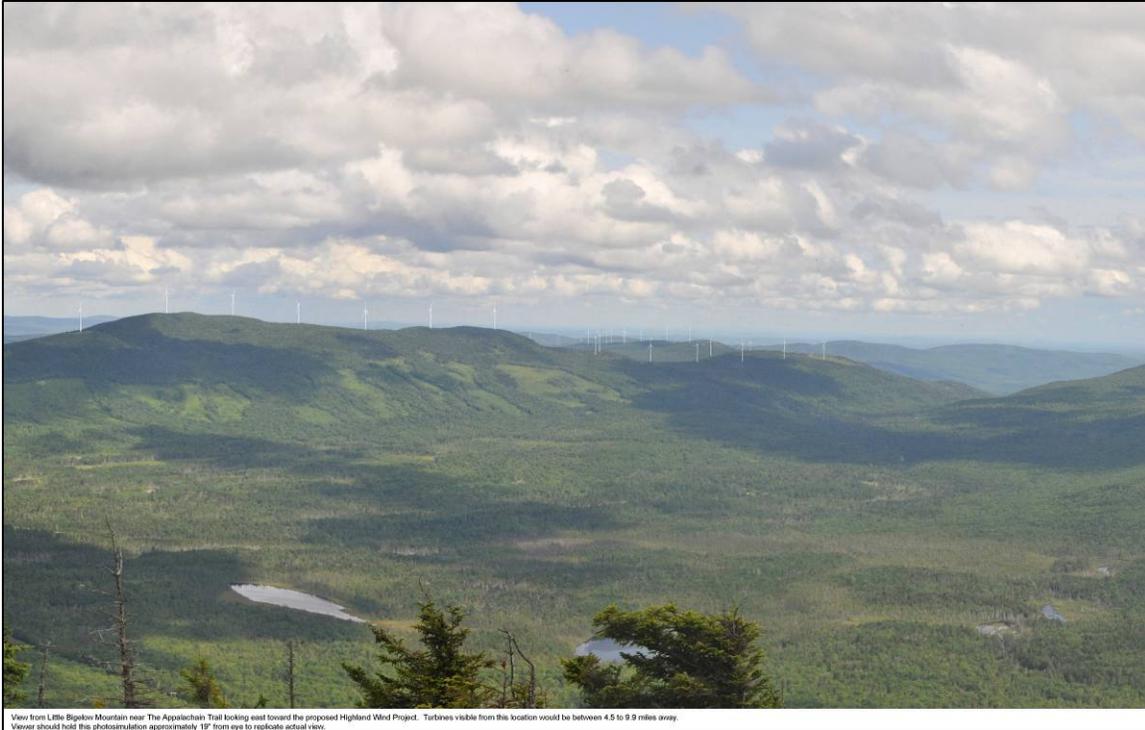
The Project would be visible from approximately 1,800 linear feet (0.34 miles) of the Appalachian Trail within the 8-mile Project radius. Most of the visibility would be from Bigelow Mountain (approximately 1,500 feet) on the open summit of Avery Peak, where six turbines would be visible at distances of 7.8 to 8.0 miles (Photograph 12).<sup>2</sup> Views of the Project within 8 miles of Avery Peak would be seen over an arc of less than 5° in a 330° view. By comparison, the development at Sugarloaf Mountain is seen over an arc of 20°.

The closest views of the Project on the Appalachian Trail would be from an opening in the woods on the eastern ridge of Little Bigelow Mountain, where the nearest turbines would be 4.3 miles to the southeast, and from smaller openings just below the eastern ridge located approximately 3.9 miles away. The view from the eastern end of Little Bigelow Mountain would include up to 25 turbines on Stewart Mountain and Witham Mountain, seen at distances of 4.3 to 8 miles. The turbines on Bald Mountain, Burnt Mountain, and Briggs Hill would all be more than 8 miles distant. Views of the Project within 8 miles of Little Bigelow Mountain would be visible over an arc of approximately 24° in a 200° view (Photograph 13).



**Photograph 12. Viewshed from Avery Peak, Bigelow Mountain (source: TJD&A 2009).**

<sup>2</sup> A total of 44 turbines would be within the view shed of Avery Peak. However, the Maine Wind Power Law has determined that generating facilities greater than eight miles from a scenic resource of state or national significance are considered ‘insignificant.’ (§ 3452.3.)



View from Little Bigelow Mountain near The Appalachian Trail looking east toward the proposed Highland Wind Project. Turbines visible from this location would be between 4.5 to 9.9 miles away. Viewer should hold this photograph at approximately 18" from eye to replicate actual view.

**Photograph 13. Viewshed from Little Bigelow Mountain (source: TJD&A 2009).**

The only view of the Project east of Long Falls Dam Road is in the vicinity of Arnolds Point on West Carry Pond, where there are filtered views of up to 10 turbines at a distance of 2.8 miles.

Overall, the Highland Wind Project would introduce large-scale structures into an expansive landscape that is characterized by dramatic landforms, wide valleys, and significant recreational development. However, the Project would occupy a relatively minor section of the panoramic views from the various mountain peaks. While the Highland Wind Project will be visible from several locations along the Appalachian Trail, the presence of the turbines, largely seen in the background, would not significantly affect the overall views from the trail. The Project would not dominate views from this small section of the 281 mile long trail, nor would it detract from the overall use and enjoyment of the trail. The Project would also not have an adverse effect on the scenic character or the uses related to the scenic character of the Appalachian Trail. Therefore, the Highland Wind Project would not have an adverse effect on the Appalachian Trail (see Photographs 12 and 13).

#### ***Properties Evaluated as Potentially Eligible for Listing in the National Register***

The five properties evaluated as potentially eligible for the listing in the National Register were determined, based on field observations and information provided by the visual consultants, to have either no view of or limited views of the Project. For the most part, views of the Project would be screened by dense vegetation that lines a number of the roads in the surrounding area, by the existing topography, or by the distance between the Project site and the property. A brief description of the view to the Project area from these properties is provided below and summarized in Table 3. Photographs from a number of these resources are provided below to illustrate the screening effect of the dense vegetation and distance.

Four properties would have no views of the constructed Project due to either the distance between the property and the Project and/or the presence of dense vegetation surrounding the property. For one property, the residence at 105 Canada Road/Route 201 (Survey Map No. 39) there would be no views of the Project from the property or the immediately surrounding area. For the remaining three properties, the Cold Spring Ridge Farm (Survey Map No. 63) on Reed Road, the farmstead at 1142 Long Falls Dam Road (Survey Map No. 66), and the farmstead at 62 Mayfield Road/Route 16 (Survey Map No. 28), the constructed Project could be visible from the roadway in front of these properties, however these views would include a limited amount of turbines at a distance of approximately 6.0 to 7.7 miles, and would be partially screened by existing vegetation and/or topographic features (Photographs 14 and 15). The constructed Project therefore would not visually overwhelm any of these three properties or greatly alter their setting.

There would be no views of the constructed project from below the Wyman Dam (Survey Map No. 44), from the western end of the dam, or from the powerhouse. The eastern edge of the dam would have limited views of the constructed Project. There is no public access to the dam and the constructed project would not be visible from the streets surrounding the dam. Further, the dam is a large, power generating facility and aboveground transmission lines are part of its context (Photograph 16). Any views of the turbines would be part of the industrial, power-generating nature of the area and would be not detract from the setting or context of the dam (see Table 3).



**Photograph 14. View from 1142 Long Falls Dam Road (Survey Map No. 66), Lexington to the Project area.**



**Photograph 15. View from 62 Mayfield Road (Survey Map No. 28), Moscow to the Project area.**



**Photograph 16. View northwest from Station Road of the Wyman Dam (Survey Map No. 44) toward the Project area.**

### Noise Effects <sup>3</sup>

Sound levels produced during construction and operation of a project are regulated by federal, state, and local noise standards. The Maine Department of Environmental Protection (MDEP) regulates noise under the authority of the Site Location of Development Law (38 M.R.S.A 481-490). The current Maine DEP noise regulation, Chapter 375.10, Control of Noise, was enacted in November 1989 to protect certain land uses from excessive sound levels generated by new or expanded developments and facilities.

Sound is measured in decibels, abbreviated as dB. When measuring sounds, A-weighted (dBA) sound levels are used to simulate the hearing response of humans. The hourly equivalent sound level resulting from routine operation of a wind project is limited to 75 dBA at any facility property boundary. Within residentially zoned areas or where the predominant surrounding land use is residential, the hourly sound level limits for routine operation are 60 dBA daytime and 50 dBA nighttime. In protected areas, the hourly sound level limits for routine operation are 55 dBA daytime and 45 dBA nighttime.

The Highland Wind Project's Noise Level Assessment sets forth the predicted "worst case" sounds to be produced by the Project in its final design and configuration. The Assessment relies on a sophisticated model to predict the sound levels from the Project. To generate a "worst-case scenario" a number of conservative assumptions were input in the model. Among these conservative assumptions were the following:

- All turbines are operating at full sound power at all times;
- Downwind conditions in all directions simultaneously;
- No foliage attenuation;
- "Hard ground" conditions throughout the project area; and
- Applicable uncertainty factors were added to the turbine manufacturer's turbine specification guarantee level.

With these conservative steps included, the predicted sound levels at all structures around the Project area are below 45 dBA (Figure 6). To be further conservative in assessing impact from sound generated by the Project, the Assessment employed the MDEP's most stringent noise standards of 45 dBA nighttime and 55 dBA daytime at protected locations. The Project is well below the strict 45 dBA nighttime limit at every protected location.

All of the listed and potentially eligible properties identified during the historic architectural reconnaissance survey are located 45 dBA nighttime and 55 dBA daytime limits established during the noise assessment. Therefore, the Project will cause no indirect effects on historic properties.

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<sup>3</sup> The information presented in this section is from Resource Systems Engineering, April 2009, and Stantec, Inc. November 2009.

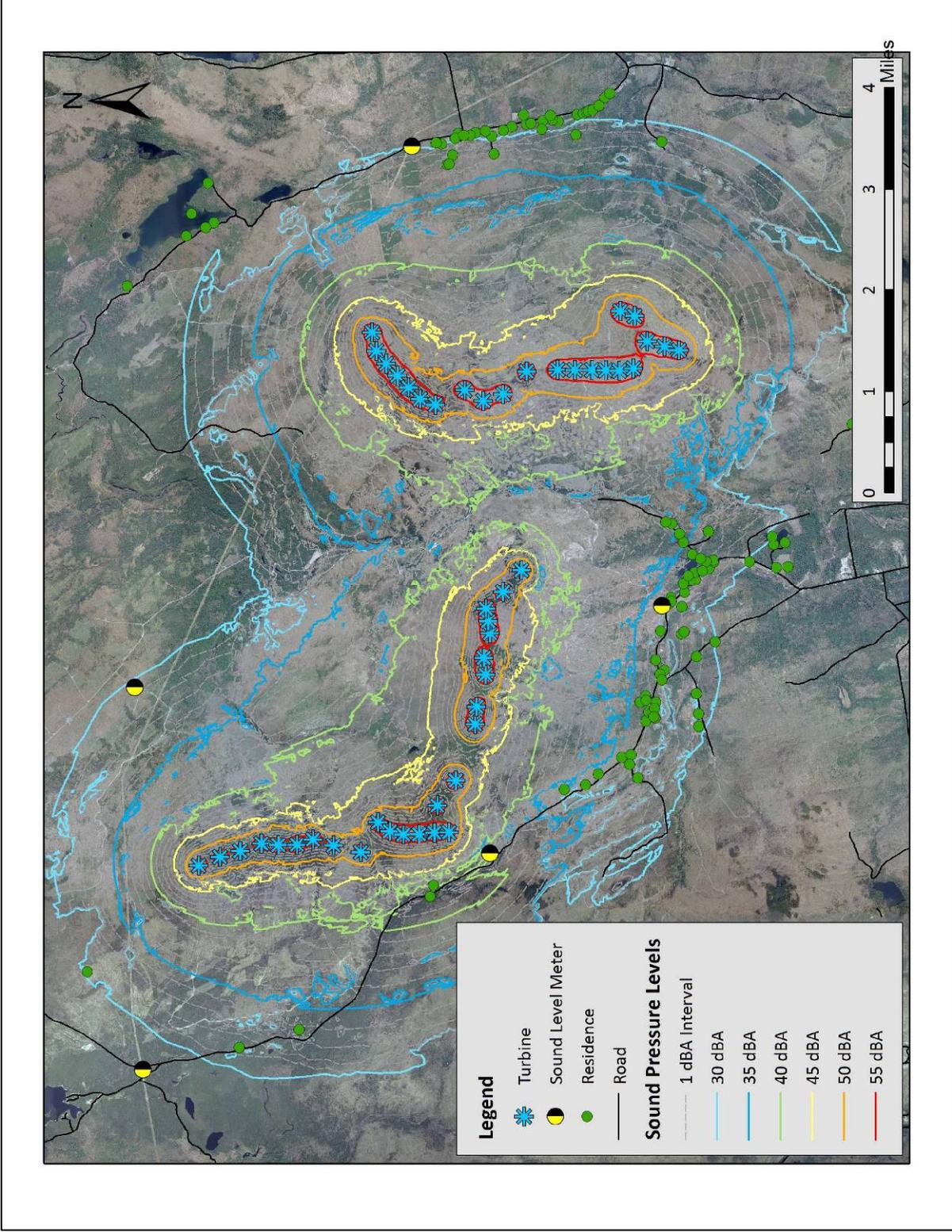


Figure 6. Highland Wind Noise Assessment Map.



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**APPENDIX A**

**NATIONAL REGISTER NOMINATION FORMS FOR PROPERTIES WITHIN THE  
HIGHLAND WIND APE**

NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY - NOMINATION FORM

STATE: Maine	
COUNTY: Kennebec, Somerset & Franklin	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

(Type all entries - complete applicable sections)

1. NAME			
COMMON: Arnold Trail to Quebec			
AND/OR HISTORIC:			
2. LOCATION			
STREET AND NUMBER:			
CITY OR TOWN:			
STATE Maine		CODE 10	COUNTY: Sagadahoc, Kennebec, Somerset & Franklin
3. CLASSIFICATION			
CATEGORY (Check One)		OWNERSHIP	
District <input checked="" type="checkbox"/>	Building <input type="checkbox"/>	Public <input type="checkbox"/>	Public Acquisition:
Site <input type="checkbox"/>	Structure <input type="checkbox"/>	Private <input type="checkbox"/>	In Process <input type="checkbox"/>
Object <input type="checkbox"/>		Both <input checked="" type="checkbox"/>	Being Considered <input type="checkbox"/>
		STATUS	
		Occupied <input type="checkbox"/>	Accessible to the Public:
		Unoccupied <input checked="" type="checkbox"/>	Yes: <input type="checkbox"/>
		Preservation work in progress <input type="checkbox"/>	Restricted <input type="checkbox"/>
			Unrestricted <input checked="" type="checkbox"/>
			No: <input type="checkbox"/>
PRESENT USE (Check One or More as Appropriate)			
Agricultural <input type="checkbox"/>	Government <input type="checkbox"/>	Park <input type="checkbox"/>	Transportation <input checked="" type="checkbox"/>
Commercial <input type="checkbox"/>	Industrial <input type="checkbox"/>	Private Residence <input type="checkbox"/>	Other (Specify) <input checked="" type="checkbox"/>
Educational <input checked="" type="checkbox"/>	Military <input type="checkbox"/>	Religious <input type="checkbox"/>	Combined historic trail and public park
Entertainment <input type="checkbox"/>	Museum <input type="checkbox"/>	Scientific <input type="checkbox"/>	
4. OWNER OF PROPERTY			
OWNER'S NAME: State of Maine			
STREET AND NUMBER: State House			
CITY OR TOWN: Augusta		STATE: Maine	CODE 18-0130
5. LOCATION OF LEGAL DESCRIPTION			
COURTHOUSE, REGISTRY OF DEEDS, ETC: Sagadahoc, Kennebec, Somerset & Franklin County Courthouses			
STREET AND NUMBER:			
CITY OR TOWN: Bath, Augusta, Stonington & Farmington		STATE: Maine	CODE 18
APPROXIMATE ACREAGE OF NOMINATED PROPERTY:			
6. REPRESENTATION IN EXISTING SURVEYS			
TITLE OF SURVEY:			
DATE OF SURVEY:			
DEPOSITORY FOR SURVEY RECORDS: Federal <input type="checkbox"/> State <input type="checkbox"/> County <input type="checkbox"/> Local <input type="checkbox"/>			
STREET AND NUMBER:			
CITY OR TOWN:		STATE:	CODE:

SEE INSTRUCTIONS

STATE:  
COUNTY:  
FOR NPS USE ONLY  
ENTRY NUMBER DATE

## 7. DESCRIPTION

CONDITION	(Check One)					
	Excellent <input type="checkbox"/>	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Deteriorated <input type="checkbox"/>	Ruins <input type="checkbox"/>	Unexposed <input type="checkbox"/>
INTEGRITY	(Check One)			(Check One)		
	Altered <input type="checkbox"/>	Unaltered <input type="checkbox"/>	Moved <input type="checkbox"/>	Original Site <input checked="" type="checkbox"/>		

DESCRIBE THE PRESENT AND ORIGINAL (If known) PHYSICAL APPEARANCE

The actual Arnold Trail in Maine is 16-19 miles long and stretches from Fort Popham at the mouth of the Kennebec River to the Canadian border at Colburn Gore, Maine. The Arnold Trail we are concerned with here is the actual route of Benedict Arnold and his men. This trail starts at Popham Beach and runs north and northwest up the Kennebec River, past Bath, Gardiner, Hallowell, Augusta, Winslow, Waterville, Stockholm, Solon, Norridgewock, Bingham, through Wyman Lake along the path of the "Great Carrying Place" through Flagstaff Lake, along the Dead River, through Eustis, along the Chain of Ponds and into Quebec Province.

Because Arnold's army followed a water route through Maine, it is possible to trace its steps today. The Kennebec is still there. So are portions of the Dead River. The three ponds on the link between the Kennebec and Dead River still exist. So do the Chain of Ponds extending from the upper end of the Dead River to the present Maine - Quebec border.

Much of the countryside through which the army passed looks much as it looked in the fall of 1775. Except for areas around Augusta, Winslow, Waterville, Stockholm, and Madison there has been moderate urbanization or commercialization. The banks of the Kennebec from its mouth to Bingham are a patchwork of farms and woodlands. Above Bingham the agricultural section ends, the land gets more hilly and rocky, and the forest closes in. Virtually no virgin timber remains along the trail from Bingham to the Canadian border, but the entire region does give the appearance of a vast, hostile wilderness, as it did in 1775.

A few of the buildings that the army passed are still standing. At Court House Point in Dresden stands the old Fernalborough Court House, a large, square, three story frame structure, it was built in 1760.

Further westward, near Pittston, stands the site of Major Pitkin, the man who constructed the batteries and gathered supplies for the army.

At Augusta is Fort Mifflin. It is historically important, for it was the real starting point of the expedition. Arnold made it his headquarters from September 23 - 29, 1775. Eighteen miles above Augusta, in Winslow, one blockhouse of old Fort Halifax still stands. A number of Arnold's troops spent at least one night there.

The rivers have been altered more than anything since 1775. The tidal sections of the Kennebec below Augusta are probably little different than when the Army coasted up them to Colburns.

The long reaches of salt marsh and tidal estuaries are unspoiled. But, above Augusta, the Kennebec has an entirely different aspect than it did in 1775. Dams have been constructed at 10-15 mile intervals up the river, giving the stream a rather placid appearance, far different from the quick flowing, shallow and treacherous Kennebec that the battosau men knew.

Above the great carrying place the creation of Flagstaff Lake has covered many historic spots such as the point where Arnold's Army first struck the Dead River. The Maine State Park and Recreation Commission has set up 33 interpretive panels at 9 different sites along the trail which have been very well received. These panels are located at Fort Popham, Hallowell, Stockholm, Solon, Moscow, Stratton, Ferrisburg, Chain of Ponds and Colburn Gore.

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B. SIGNIFICANCE

PERIOD (Check One or More as Appropriate)

Pre-Columbian  16th Century  18th Century  20th Century   
 15th Century  17th Century  19th Century

SPECIFIC DATE(S) (If Applicable and Known) 1775 September 22 - October

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

Aboriginal	Education <input type="checkbox"/>	Political <input type="checkbox"/>	Urban Planning <input type="checkbox"/>
Prehistoric <input type="checkbox"/>	Engineering <input type="checkbox"/>	Religion/Philosophy <input type="checkbox"/>	Other (Specify) <input type="checkbox"/>
Historic <input checked="" type="checkbox"/>	Industry <input type="checkbox"/>	Science <input type="checkbox"/>	_____
Agriculture <input type="checkbox"/>	Invention <input type="checkbox"/>	Sculpture <input type="checkbox"/>	_____
Art <input type="checkbox"/>	Landscape <input type="checkbox"/>	Social/Humanitarian <input type="checkbox"/>	_____
Commerce <input type="checkbox"/>	Architecture <input type="checkbox"/>	Theater <input type="checkbox"/>	_____
Communications <input type="checkbox"/>	Literature <input type="checkbox"/>	Transportation <input type="checkbox"/>	_____
Conservation <input type="checkbox"/>	Military <input checked="" type="checkbox"/>		_____
	Music <input type="checkbox"/>		_____

STATEMENT OF SIGNIFICANCE (Include Personages, Dates, Events, Etc.)

In the late summer of 1775 General George Washington ordered Colonel Benedict Arnold to lead an expedition of 1,050 men to attack Quebec City.

General Richard Montgomery was to lead another expedition at the same time against Montreal. The strategy was to either contain or split Sir Guy Carleton's forces.

It was generally believed that Carleton had fewer than 800 regulars under his command and with the British bottled up in Boston he could not hope to receive reinforcements until spring. By that time Washington hoped that Montreal and Quebec would have risen against the English and that a British southern invasion would be forestalled.

Washington selected some troops who were not needed at Boston for the mission and selected the 34 year old Arnold to lead them. The route up the Kennebec along the Dead River to Lac Megantic and down the Chaudiere was considered to be the best and shortest way to attack Quebec at that time. A map was available but its limitations proved to be a hardship to Arnold.

Arnold had to be aided by 50 light battalions to be built by Nathan Coffin and of Pittston, Maine.

On September 25, 1775, Arnold's group set out from Fort Mifflin in Augusta for the journey that was expected to take 20 days and cover 130 miles. From that time until Arnold reached Quebec 45 days later Arnold and his men endured many hardships including portages of the 400 pound batteaux, floods, snows, cold weather, lack of food, sickness, etc.

In the end Arnold's march was a failure in that he failed to capture Quebec but it did serve to delay for over a year a British buildup for a southern invasion.

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Crist, Robert and Cullen, Joseph, Arnold's March to Quebec, American History Illustrated, November 1963, p. 4  
 Garney, Hugh, Johnson, Wallace and Wittpen, Richard, Area Investigation Report on Benedict Arnold Scenic Road Maine. National Park Service - Northeast Region, U. S. Department of The Interior, March 1, 1965.

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN ONE ACRE		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds	
NW	45 ° 23 ' 05"	70 ° 43 ' 12"				
NE	45 ° 49 ' 25"	70 ° 22 ' 47"				
SE	43 ° 45 ' 0"	69 ° 4 ' 43"				
SW	43 ° 45 ' 20"	69 ° 47 ' 4"				

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
Maine		Sagadahoc	
Maine		Kennebec	
Maine		Somerset	
Maine		Franklin	

11. FORM PREPARED BY

NAME AND TITLE:  
 Lowell Holmstrom, Historian

ORGANIZATION:  
 State Park & Recreation Commission

DATE:  
 July 14, 1967

STREET AND NUMBER:  
 State House

CITY OR TOWN:  
 Augusta

STATE:  
 Maine

CODE:

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National  State  Local

Name: Laurence Stuart

Title: Director

Date: \_\_\_\_\_

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

\_\_\_\_\_  
 Chief, Office of Archeology and Historic Preservation

Date: \_\_\_\_\_

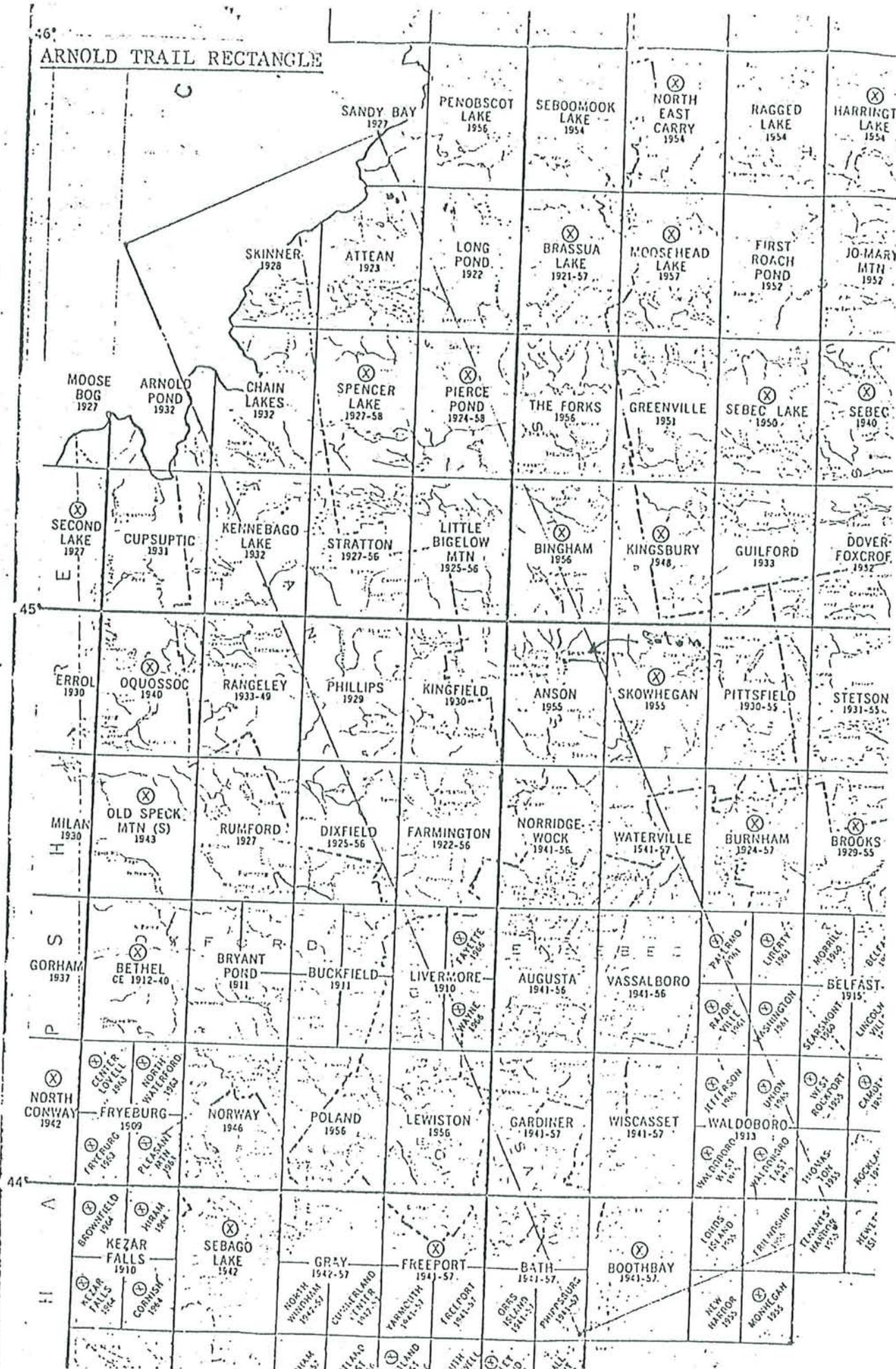
ATTEST:

\_\_\_\_\_  
 Keeper of The National Register

Date: \_\_\_\_\_

S E R I A L I N S T R U C T I O N S

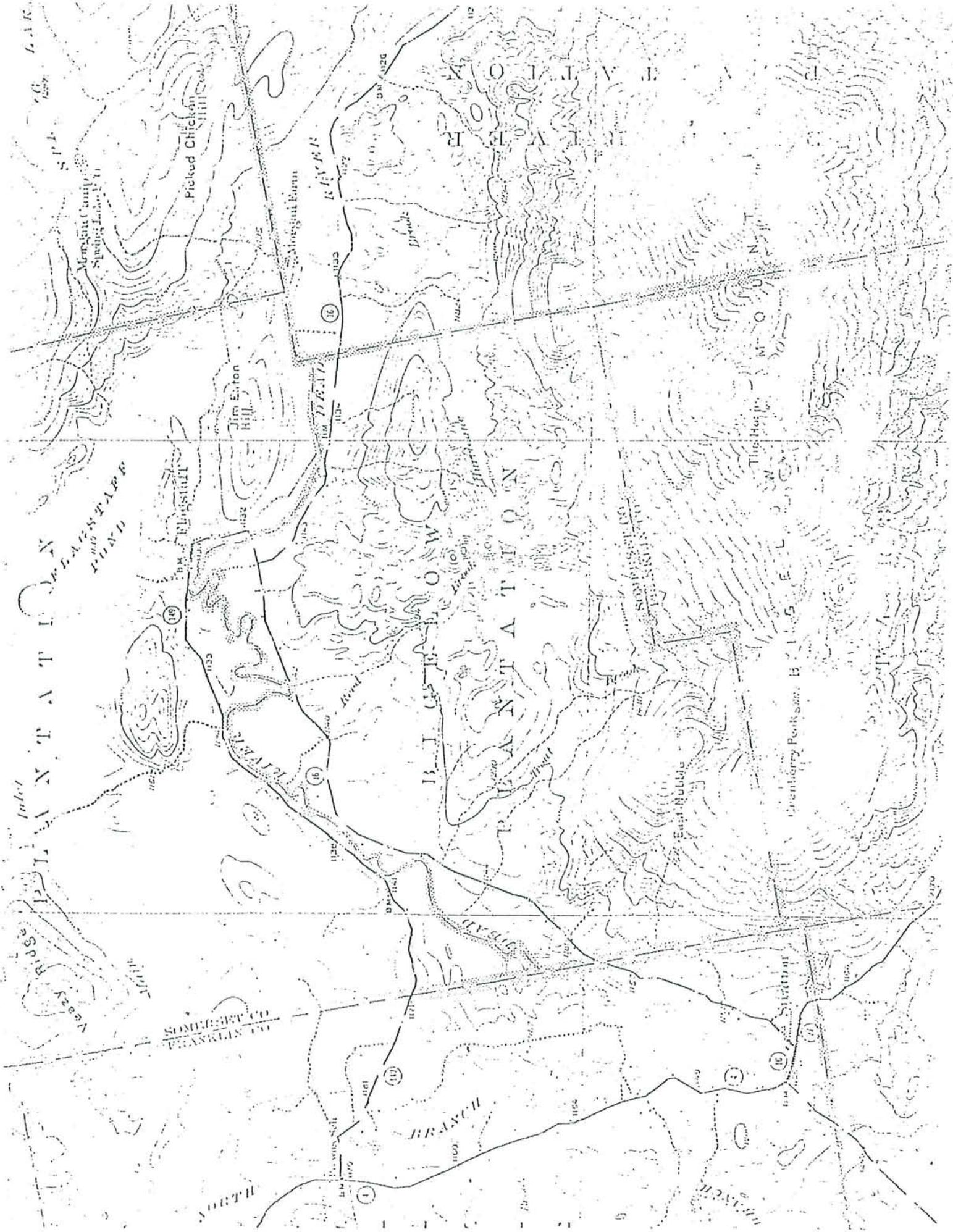
# ARNOLD TRAIL RECTANGLE



**LATITUDE**  
 NW 70° 59' 51"  
 NE 70° 22' 15"  
 SE 69° 02' 30"  
 SW 69° 47' 4"

**LONGITUDE**  
 NW 45° 38' 14"  
 NE 45° 50' 00"  
 SE 43° 54' 28"  
 SW 43° 45' 20"

**COORDINATES - ARNC TRAIL**



BLOUNT COUNTY ALABAMA

Mountain View  
Blount  
The Hot Springs

North Branch  
Little River

Strawberry Peak  
East Nubble

U.S. Highway 153  
U.S. Highway 208

Alabama State Route 10

Blount County

Mountain View  
Blount  
The Hot Springs

North Branch  
Little River

Strawberry Peak  
East Nubble

U.S. Highway 153  
U.S. Highway 208

Alabama State Route 10

Blount County

Mountain View  
Blount  
The Hot Springs

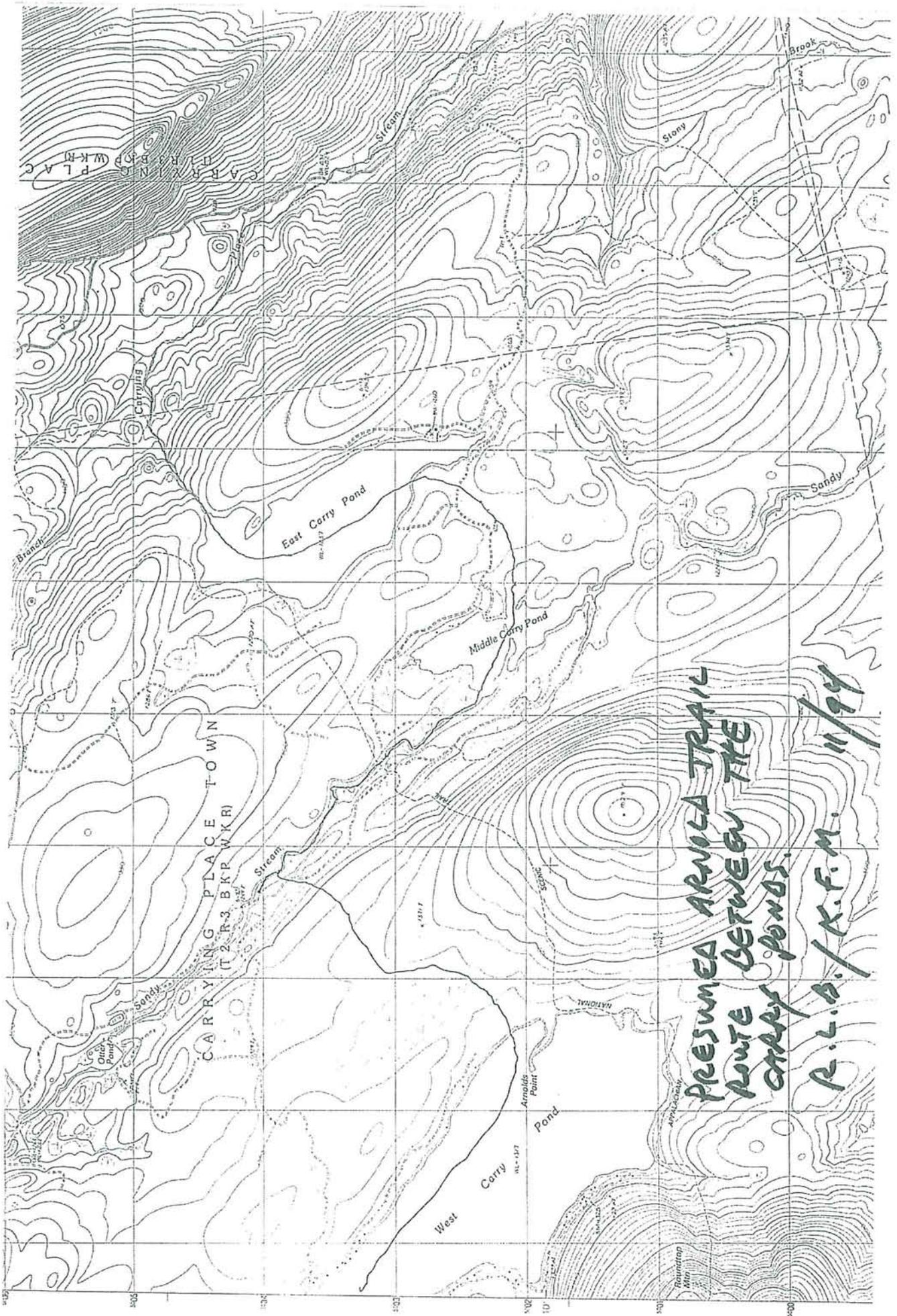
North Branch  
Little River

Strawberry Peak  
East Nubble

U.S. Highway 153  
U.S. Highway 208

Alabama State Route 10

Blount County



**APPENDIX B**

**SURVEY FORMS FOR PREVIOUSLY IDENTIFIED PROPERTIES WITHIN THE  
HIGHLAND WIND APE**

180  
VAM

HHPC USE ONLY

912-0001  
INVENTORY NO.

Survey Map No. \_\_\_\_\_  
Survey Map Name \_\_\_\_\_

MAINE HISTORIC PRESERVATION COMMISSION  
Historic Building/Structure Survey Form

1. PROPERTY NAME (HISTORIC): THE AUG SLUICE
2. PROPERTY NAME (OTHER): \_\_\_\_\_
3. STREET ADDRESS: <sup>off</sup> E SIDE OF CARRABASSETT RIVER, S OF CARRABASSETT
4. TOWN: T3 R. 2. V.C. (JERUSALEM) 5. COUNTY: FRANKLIN
6. DATE RECORDED: 12/6/91 7. SURVEYOR: K.F. MOTHLEY
8. OWNER NAME: PENOBSCOT TRIBE ADDRESS: OLD TOWN

9. PRIMARY USE (PRESENT):
- |                          |                    |                           |                   |
|--------------------------|--------------------|---------------------------|-------------------|
| SINGLE FAMILY _____      | AGRICULTURE _____  | COMMERCIAL/TRADE _____    | FUNERARY _____    |
| MULTI-FAMILY _____       | GOVERNMENTAL _____ | EDUCATION _____           | HEALTH CARE _____ |
| INDUSTRY _____           | RELIGIOUS _____    | HOTEL _____               | LANDSCAPE _____   |
| TRANSPORTATION _____     | DEFENSE _____      | SUMMER COTTAGE/CAMP _____ | SOCIAL _____      |
| RECREATION/CULTURE _____ | UNKNOWN _____      |                           |                   |
- OTHER: ABANDONED

10. CONDITION: GOOD \_\_\_\_\_ FAIR \_\_\_\_\_ POOR  DESTROYED \_\_\_\_\_, DATE \_\_\_\_\_

**ARCHITECTURAL DATA**

11. PRIMARY STYLISTIC CATEGORY:
- |                         |                         |                     |                  |
|-------------------------|-------------------------|---------------------|------------------|
| COLONIAL _____          | STICK STYLE _____       | COLONIAL REV. _____ | FEDERAL _____    |
| RENAISSANCE REV. _____  | GREEK REVIVAL _____     | SHINGLE STYLE _____ | BUNGALOW _____   |
| ROMANESQUE _____        | 19TH/20TH C. REV. _____ | R. ROMANESQUE _____ | ITALIANATE _____ |
| NEO-CLASSIC. REV. _____ | SECOND EMPIRE _____     | QUEEN ANNE _____    | GOthic _____     |
| HIGH VIC. GOTHIC _____  | ARTS & CRAFTS _____     | OTHER _____         |                  |

12. OTHER STYLISTIC CATEGORY:
- |                         |                         |                     |                  |
|-------------------------|-------------------------|---------------------|------------------|
| COLONIAL _____          | STICK STYLE _____       | COLONIAL REV. _____ | FEDERAL _____    |
| RENAISSANCE REV. _____  | GREEK REVIVAL _____     | SHINGLE STYLE _____ | BUNGALOW _____   |
| ROMANESQUE _____        | 19TH/20TH C. REV. _____ | R. ROMANESQUE _____ | ITALIANATE _____ |
| NEO-CLASSIC. REV. _____ | SECOND EMPIRE _____     | QUEEN ANNE _____    | GOthic _____     |
| HIGH VIC. GOTHIC _____  | ARTS & CRAFTS _____     | OTHER _____         |                  |

13. HEIGHT: 1 STORY \_\_\_\_\_ 1 1/2 STORY \_\_\_\_\_ 2 STORY \_\_\_\_\_ 2 1/2 STORY \_\_\_\_\_  
3 STORY \_\_\_\_\_ 4 STORY \_\_\_\_\_ 5 STORY \_\_\_\_\_ OVER 5 ( ) \_\_\_\_\_

14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR):  
1 BAY \_\_\_\_\_ 2 BAY \_\_\_\_\_ 3 BAY \_\_\_\_\_ 4 BAY \_\_\_\_\_ 5 BAY \_\_\_\_\_ MORE THAN 5 ( ) \_\_\_\_\_

15. APPENDAGES: SIDE ELL. \_\_\_\_\_ REAR ELL. \_\_\_\_\_ FRONT \_\_\_\_\_ ADDED STORIES \_\_\_\_\_ SHED \_\_\_\_\_ DORMERS \_\_\_\_\_ PORCH \_\_\_\_\_ TOWER \_\_\_\_\_  
CUPOLA \_\_\_\_\_ BAY WINDOW \_\_\_\_\_

PHOTOGRAPH:

16. PORCH: ATTACHED  ENGAGED  ONE STORY  MORE THAN ONE STORY   
 FULL WIDTH  WRAPAROUND  SLEEPING PORCH  SECONDARY PORCH
17. PLAN: HALL AND PARLOR  1/2 CAPE  CENTRAL HALL  SIDE HALL  BACK HALL  IRREGULAR   
 OTHER \_\_\_\_\_
18. PRIMARY STRUCTURAL SYSTEM: TIMBER FRAME  BRACED FRAME  BRICK  STONE   
 BALLOON FRAME  CONCRETE  STEEL  LOG   
 PLANK WALL  PLATFORM FRAME   
 FRAME CONSTRUCTION - TYPE UNKNOWN  OTHER \_\_\_\_\_
19. CHIMNEY PLACEMENT: INTERIOR  INTERIOR FRONT/REAR  CENTER  INTERIOR END   
 EXTERIOR  OTHER \_\_\_\_\_
20. ROOF CONFIGURATION: GABLE SIDE  GABLE FRONT  HIP  MANSARD   
 FLAT  GAMBREL  PARAPET GABLE  SHED   
 CROSS GABLE  COMPOUND  OTHER \_\_\_\_\_
21. ROOF MATERIAL: WOOD  METAL  TILE  SLATE  ASPHALT  ASBESTOS
22. EXTERIOR WALL MATERIALS: CLAPBOARD  BRICK  FLUSH SHEATHING  WOOD SHINGLE   
 STONE  LOG  BOARD AND BATTEN  CONCRETE   
 PRESSED METAL  STUCCO  ASPHALT  ALUMINUM/VINYL   
 GRANITE  ASBESTOS  TERRA COTTA  OTHER \_\_\_\_\_
23. FOUNDATION MATERIAL: FIELDSTONE  BRICK  WOOD  CONCRETE  GRANITE   
 ORNAMENTAL CONC. BLOCK  OTHER \_\_\_\_\_
24. OUTBUILDINGS/FEATURES: CARRIAGE HOUSE  FENCE OR WALL  CEMETERY   
 BARN (CONNECTED)  BARN (DETACHED)  FORMAL GARDEN   
 LANDSCAPE/PLANT MAT.  ARCHAEOLOGICAL SITE  GARAGE   
 OTHER \_\_\_\_\_

**HISTORICAL DATA**

25. DOCUMENTED DATE OF CONSTRUCTION: 1896-98 26. ESTIMATED DATE OF CONSTRUCTION: \_\_\_\_\_
27. DATE MAJOR ADDITIONS/ALTERATIONS: \_\_\_\_\_
28. ARCHITECT: \_\_\_\_\_ 29. CONTRACTOR (NOTE IF SAME AS 28): \_\_\_\_\_
30. ORIGINAL OWNER: CARRABASSETT LANA + LUMBER CO.
31. SUBSEQUENT SIGNIFICANT OWNER: \_\_\_\_\_ DATES: \_\_\_\_\_
32. CULTURAL/ETHNIC AFFILIATION: ENGLISH  FRENCH ACADIAN  NATIVE AMERICAN  SCOTTISH   
 FRENCH CANADIAN  EAST EUROPEAN  IRISH   
 OTHER \_\_\_\_\_
33. HISTORIC CONTEXT(S): COMMERCE  INDUSTRY  TRANSPORTATION  AGRICULTURE   
 MILITARY  RELIGION  CIVIC AFFAIRS  RECREATION   
 HABITATION  EDUCATION  ART, LIT, SCIENCE  SOCIAL
34. COMMENTS/SOURCES: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
35. HISTORICAL DRAWINGS EXIST: YES  NO  LOCATION: \_\_\_\_\_

**ENVIRONMENTAL DATA**

36. SITE INTEGRITY: ORIGINAL  MOVED  DATE MOVED \_\_\_\_\_
37. SETTING: RURAL/UNDISTURBED  RURAL/BUILT UP  SMALL TOWN  URBAN  SUBURBAN
38. QUADRANGLE MAP USED: \_\_\_\_\_ QUADRANGLE #: \_\_\_\_\_
39. UTM NORTHING: \_\_\_\_\_ 40. UTM EASTING: \_\_\_\_\_
41. FACADE DIRECTION (CIRCLE ONE): N  S  E  W  NE  NW  SE  SW

=====

MHPC USE ONLY

DATE ENTERED IN INVENTORY: 12/6/91 PHOTO FILE #: \_\_\_\_\_

NR STATUS: L  HD  E  NE  ND  REVIEWER KFM

DATA SOURCE: HPF  CLG  R&C  STAFF  STATE SURVEY  OTHER  LEVEL OF SURVEY: R  I

# National Register Information Request

MAINE HISTORIC PRESERVATION COMMISSION  
242 State Street  
Augusta, Maine 04333

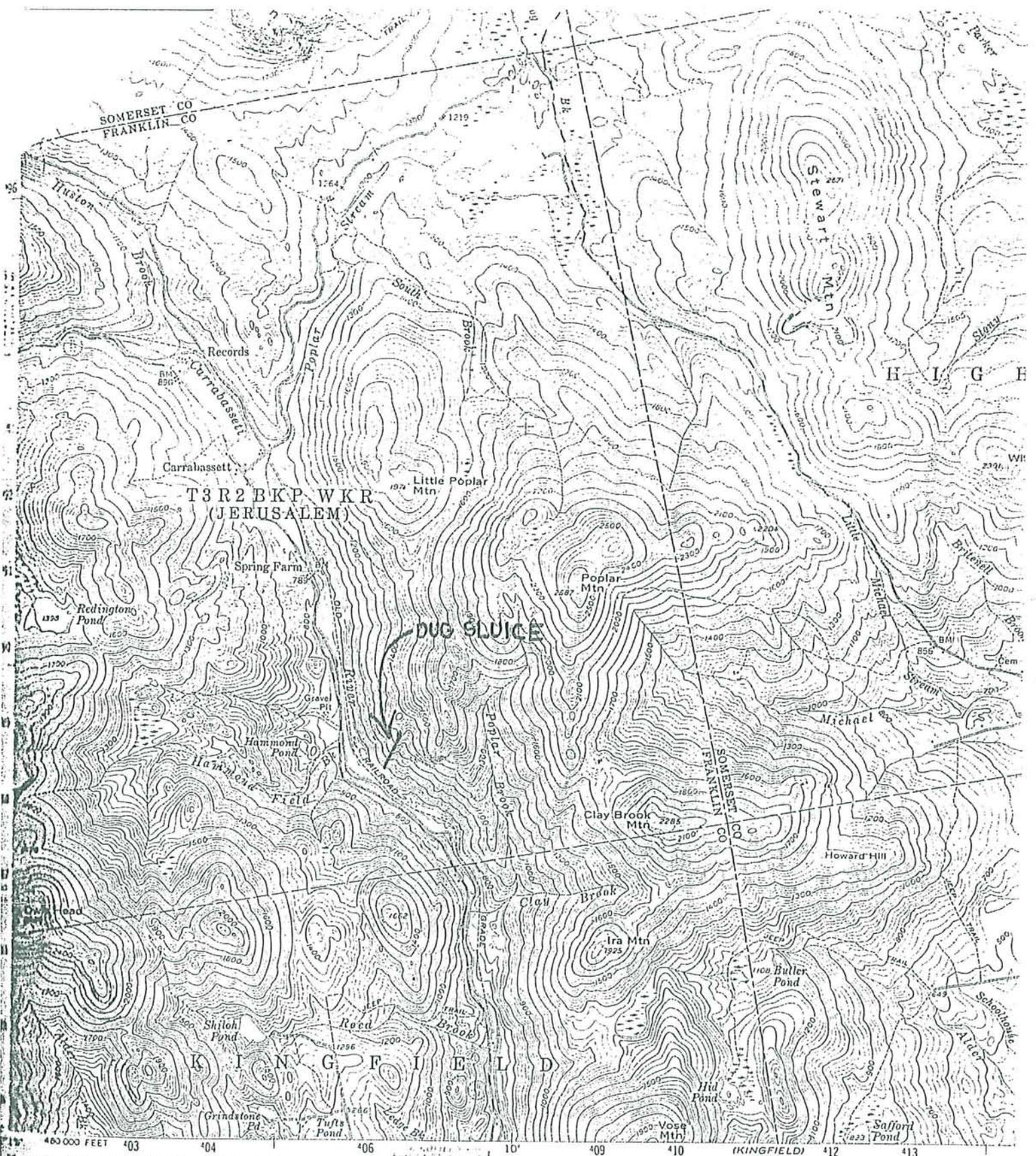
Want to see

In order to review the structure or site in question for potential nomination to the National Register of Historic Places the following data is requested. This form is for staff review purposes only and does not imply the initiation of the nomination process.

1. Name of property: *The Dug Sluice*
2. Historic or other names if different from above: --
3. Property location (address): *Carrabassett Valley, Maine*
4. Name and Address of owner: *Penobscot Tribe; Old Town, Maine*
5. Is structure occupied? *No*
6. Is structure on original site? *Yes.*
7. Has this structure or site been altered or added to? *overgrown by trees*
8. Exact or approximate date of construction: *1896-1898*
9. Architect or builder if known: *Logging Contractor (unknown)*
10. Name of original owner if known:  
*Carrabassett Land + Lumber Co.*
11. Enclose 2 3/4 front pictures of structure (snapshots are acceptable)  
*Because the dug sluice is presently overgrown and not very photogenic.*
12. In the space below please provide us with significant, historical and/or architectural information that you may have. If you have any records, newspaper clippings, pictures or other material in your possession which might be of help in our research please list them as well as any other books or papers that you may know about concerning the history of the property or area. (use additional sheets if necessary).

The Dug Sluice was constructed to move White Birch Logs from atop a shoulder of ~~Poplar~~ Poplar Mtn. to raiiside. There the logs were loaded onto cars of the (two foot gauge) Kingfield and Dead River Railroad and transported to mills. The sluice is dug into the crest of an esker which runs down the mountain side. It is 1/4 - 1/2 mile long, 6-8 feet wide and 4-6 feet deep. If the sluice were cleared of woody plant growth and a 100 foot scenic corridor established (to shade the sluice and prevent it becoming quickly overgrown), it would have considerable scenic and recreational value. It would certainly be an incredible toboggan run. The person who showed me the sluice was Kenneth Packard of Carrabassett Valley.

Terry McGovern  
Box 2276, Bigelow Station  
Kingfield, Maine 04947

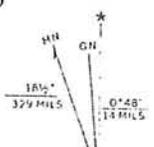


T3R2 BKP WKR  
(JERUSALEM)

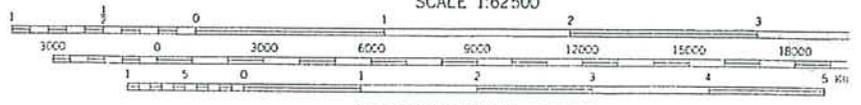
DUG SLUICE

K I N G F I E L D

Maped, edited, and published by the Geological Survey  
 Control by USGS and USC&GS  
 Photography by planetable surveys 1924-1925  
 Revised 1956  
 Photonic projection, 1927 North American datum  
 12,500 foot grid based on Maine coordinate system,  
 east zone  
 1,000 meter Universal Transverse Mercator grid ticks,  
 zone 19 shown in blue  
 Water level in Flagstaff Lake varies  
 between 1120 and 1145 feet



UTM GRID AND 1966 MAGNETIC NORTH  
 DECLINATION AT CENTER OF SHEET



SCALE 1:62500  
 (KINGFIELD) 6973 I  
 CONTOUR INTERVAL 20 FEET  
 DATUM IS MEAN SEA LEVEL

**APPENDIX C**

**TABLE 1. SUMMARY TABLE FOR PROPERTIES IDENTIFIED DURING THE  
HIGHLAND WIND RECONNAISSANCE SURVEY**

**Table 1. Properties Identified During the Historic Reconnaissance Survey.**

Survey Map No	Address	Property Type/Use	MHPC Form Type
1	Canada Road/Route 201, east side, approx. 1.28 miles south of the intersection with Main Street, Caratunk	Funerary	Historic Building/Structure Survey Form
2	1430 Canada Road/Route 201, Moscow	Residence	Historic Building/Structure Survey Form
3	Carrying Pond Road, west side, approximately 2.97 miles north of the intersection with Cross Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
4	Carrying Pond Road, west side, approximately 2.90 miles north of the intersection with Cross Road, Pleasant Ridge Plantation	Summer Camp/Cottage	Historic Building/Structure Survey Form
5	865 Carrying Pond Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
6	Route 201, west side, approximately 4.26 miles northwest of the intersection with Pierce Hill Road, Moscow	Summer Camp/Cottage	Historic Building/Structure Survey Form
7	Pierce Hill Road, west side, approx. 0.53 miles north of the intersection with Burns Road, Moscow	Funerary	Historic Building/Structure Survey Form
8	Pierce Hill Road, west side, approx. 0.40 miles north of the intersection with Burns Road, Moscow	Summer Camp/Cottage	Historic Building/Structure Survey Form
9	Route 201, north side, approximately 1.75 miles northwest of the intersection with Pierce Hill Road, Moscow	Residence	Historic Building/Structure Survey Form
10	655 Canada Road/Route 201, Moscow	Commerce/Trade	Historic Building/Structure Survey Form
11	655 Canada Road/Route 201, Moscow	Summer Camp/Cottage	Historic Building/Structure Survey Form
12	655 Canada Road/Route 201, Moscow	Summer Camp/Cottage	Historic Building/Structure Survey Form
13	170 Pierce Hill Road, Moscow	Summer Camp/Cottage	Historic Building/Structure Survey Form
14	101 Messer Road, Moscow	Residence	Historic Building/Structure Survey Form
14.1	101 Messer Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
15	36 Messer Road, Moscow	Farmstead	Historic Farmstead Survey Cover Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
15.1	36 Messer Road, Moscow	Residence	Historic Building/Structure Survey Form
15.2	36 Messer Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
15.3	36 Messer Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
15.4	36 Messer Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
16	Messer Road, west side, approx. 1.67 miles north of the intersection with Mayfield Road, Moscow	Funerary	Historic Building/Structure Survey Form
17	139 Cassidy Road, Moscow	Residence	Historic Building/Structure Survey Form
17.1	139 Cassidy Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
17.2	139 Cassidy Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
18	321 Mayfield Road/Route 16, Moscow	Farmstead	Historic Farmstead Survey Cover Form
18.1	321 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
18.2	321 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
19	229 Mayfield Road/Route 16, Moscow	Farmstead	Historic Farmstead Survey Cover Form
19.1	229 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
19.2	229 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
19.3	229 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
19.4	229 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
20	203 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
21	202 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
22	195 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
23	157 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
24	143 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form

<b>Survey Map No</b>	<b>Address</b>	<b>Property Type/Use</b>	<b>MHPC Form Type</b>
25	138 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
25.1	138 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
25.2	138 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
26	87 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
27	83 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
28	62 Mayfield Road/Route 16, Moscow	Farmstead	Historic Farmstead Survey Cover Form
28.1	62 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
28.2	62 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
28.3	62 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
29	42 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
29.1	42 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
30	35 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
31	30 Mayfield Road/Route 16, Moscow	Residence	Historic Building/Structure Survey Form
31.1	30 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
31.2	30 Mayfield Road/Route 16, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
32	34 Stream Road, Moscow	Residence	Historic Building/Structure Survey Form
33	32 Stream Road, Moscow	Summer Camp/Cottage	Historic Building/Structure Survey Form
34	85 Stream Road, Moscow	Residence	Historic Building/Structure Survey Form
34.1	85 Stream Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
34.2	85 Stream Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
35	99 Stream Road, Moscow	Residence	Historic Building/Structure Survey Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
36	74 Howard Road, Moscow	Residence	Historic Building/Structure Survey Form
36.1	74 Howard Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
37	87 Canada Road/Route 201, Moscow	Residence	Historic Building/Structure Survey Form
38	90 Canada Road/Route 201, Moscow	Residence	Historic Building/Structure Survey Form
39	105 Canada Road/Route 201, Moscow	Residence	Historic Building/Structure Survey Form
39.1	105 Canada Road/Route 201, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
40	110 Canada Road/Route 201, Moscow	Governmental	Historic Building/Structure Survey Form
41	135 Canada Road/Route 201, Moscow	Residence	Historic Building/Structure Survey Form
42	Canada Road/Route 201, west side, approx. 0.35 miles north of the intersection with Station Road, Moscow	Residence	Historic Building/Structure Survey Form
43	Canada Road/Route 201, west side, approx. 0.38 miles north of the intersection with Station Road, Moscow	Residence	Historic Building/Structure Survey Form
43.1	Canada Road/Route 201, west side, approx. 0.38 miles north of the intersection with Station Road, Moscow	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
44	Terminus of Station Road, at the base of Wyman Lake, Moscow	Dam	Historic Building/Structure Survey Form
45	1 Moore Drive, Concord	Farmstead	Historic Farmstead Survey Cover Form
45.1	1 Moore Drive, Concord	Residence	Historic Building/Structure Survey Form
45.2	1 Moore Drive, Concord	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
46	779 Pleasant Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
47	783 Pleasant Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
47.1	783 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
48	795 Pleasant Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
48.1	795 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
48.2	795 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
49	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Farmstead	Historic Farmstead Survey Cover Form
49.1	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
49.2	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
49.3	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
49.4	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
49.5	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
49.6	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
49.7	823 Pleasant Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
50	Barron Road, east side, approx. 0.35 miles south of Ridge Road, Pleasant Ridge Plantation	Farmstead	Historic Farmstead Survey Cover Form
50.1	Barron Road, east side, approx. 0.35 miles south of Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
50.2	Barron Road, east side, approx. 0.35 miles south of Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
50.3	Barron Road, east side, approx. 0.35 miles south of Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
50.4	Barron Road, east side, approx. 0.35 miles south of Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
50.5	Barron Road, east side, approx. 0.35 miles south of Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
51	572 Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
52	877 Ridge Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
52.1	877 Ridge Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
53	286 Rowe Pond Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
53.1	286 Rowe Pond Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
54	330 Rowe Pond Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
54.1	330 Rowe Pond Road, Pleasant Ridge Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
55	343 Rowe Pond Road, Pleasant Ridge Plantation	Governmental	Historic Building/Structure Survey Form
56	360 Rowe Pond Road, Pleasant Ridge Plantation	Residence	Historic Building/Structure Survey Form
57	Ridge Road, west side, at the intersection with Cross Road, Pleasant Ridge Plantation	Funerary	Historic Building/Structure Survey Form
58	1 Cross Road, Pleasant Ridge Plantation	Summer Camp/Cottage	Historic Building/Structure Survey Form
59	351 Spruce Pond Road, Lexington	Residence	Historic Building/Structure Survey Form
60	268 Spruce Pond Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
60.1	268 Spruce Pond Road, Lexington	Residence	Historic Building/Structure Survey Form
60.2	268 Spruce Pond Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
60.3	268 Spruce Pond Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
61	236 Ray Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
61.1	236 Ray Road, Lexington	Residence	Historic Building/Structure Survey Form
61.2	236 Ray Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
62	Gilman Pond Road, east side, approx. 0.04 miles south of Shore Road, New Portland	Farmstead	Historic Farmstead Survey Cover Form
62.1	Gilman Pond Road, east side, approx. 0.04 miles south of Shore Road, New Portland	Residence	Historic Building/Structure Survey Form
62.2	Gilman Pond Road, east side, approx. 0.04 miles south of Shore Road, New Portland	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
63	Terminus of Reed Road, approx. 0.18 miles east of Gilman Pond Road, New Portland	Farmstead	Historic Farmstead Survey Cover Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
63.1	Terminus of Reed Road, approx. 0.18 miles east of Gilman Pond Road, New Portland	Residence	Historic Building/Structure Survey Form
63.2	Terminus of Reed Road, approx. 0.18 miles east of Gilman Pond Road, New Portland	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
63.3	Terminus of Reed Road, approx. 0.18 miles east of Gilman Pond Road, New Portland	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
63.4	Terminus of Reed Road, approx. 0.18 miles east of Gilman Pond Road, New Portland	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
63.5	Terminus of Reed Road, approx. 0.18 miles east of Gilman Pond Road, New Portland	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
64	Long Falls Dam Road, 0.46 north of the intersection with Swamp Road, Lexington	Transportation	Historic Building/Structure Survey Form
65	1047 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
66	1142 Long Falls Dam Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
66.1	1142 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
66.2	1142 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
66.3	1142 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
67	1239 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
68	1276 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
68.1	Back Road, east side, approx.0.77 miles south of Swamp Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
68.2	Back Road, east side, approx.0.77 miles south of Swamp Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
69	1387 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
69.1	1387 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
70	Back Road, west side, approx.0.77 miles south of Swamp Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
70.1	Back Road, west side, approx.0.77 miles south of Swamp Road, Lexington	Residence	Historic Building/Structure Survey Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
72	Long Falls Dam Road, east side, approx. 0.75 miles south of Swamp Road, Lexington	Funerary	Historic Building/Structure Survey Form
73	380 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
73.1	380 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
74	1653 Long Falls Dam Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
74.1	1653 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
74.2	1653 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
74.3	1653 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
75	334 Long Falls Dam Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
75.1	334 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
75.2	334 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
75.3	334 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
76	400 Long Falls Dam Road, Lexington	Farmstead	Historic Farmstead Survey Cover Form
76.1	400 Long Falls Dam Road, Lexington	Residence	Historic Building/Structure Survey Form
76.2	400 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
76.3	400 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
76.4	400 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
76.5	400 Long Falls Dam Road, Lexington	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
77	1937 Long Falls Dam Road, Highland Plantation	Commerce/Trade	Historic Building/Structure Survey Form
78	1956 Long Falls Dam Road, Lexington	Governmental	Historic Building/Structure Survey Form
79	Sandy Stream Road, east side at the intersection with Long Falls Dam Road, Highland Plantation	Farmstead	Historic Farmstead Survey Cover Form

Survey Map No	Address	Property Type/Use	MHPC Form Type
79.1	Sandy Stream Road, east side at the intersection with Long Falls Dam Road, Highland Plantation	Residence	Historic Building/Structure Survey Form
79.2	Sandy Stream Road, east side at the intersection with Long Falls Dam Road, Highland Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
79.3	Sandy Stream Road, east side at the intersection with Long Falls Dam Road, Highland Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
80	Sandy Stream Road, south side, approx. 0.46 miles east of Long Falls Dam Road, Highland Plantation	Residence	Historic Building/Structure Survey Form
80.1	Sandy Stream Road, south side, approx. 0.46 miles east of Long Falls Dam Road, Highland Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
81	2185 Long Falls Dam Road, Highland Plantation	Residence	Historic Building/Structure Survey Form
82	Long Falls Dam Road, north side, approx. 0.20 miles west of the intersection with Dumphy Road, Highland Plantation	Funerary	Historic Building/Structure Survey Form
83	2392 Long Falls Dam Road, Highland Plantation	Residence	Historic Building/Structure Survey Form
83.1	2392 Long Falls Dam Road, Highland Plantation	Agricultural/Outbuilding	Historic Barn/Agricultural Structure Survey Form
84	2411 Long Falls Dam Road, Highland Plantation	Residence	Historic Building/Structure Survey Form
85	Claybrook Road, intersection with Main Street, Kingfield	Transportation	Historic Building/Structure Survey Form
86	Long Falls Dam Road, west side, approx. 3.122 miles northwest of the intersection with Dumphy Road, Highland Plantation	Summer Camp/Cottage	Historic Building/Structure Survey Form

**PHASE 0 Archaeological Reconnaissance Survey  
Highland Plantation Wind Project  
Highland Plantation, Somerset County, Maine**

Kathleen Wheeler, Ph. D., Principal Investigator

Prepared by  
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**This Report Contains Confidential Information**

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## INTRODUCTION

Independent Archaeological Consulting, LLC (IAC) of Portsmouth, New Hampshire has completed a sensitivity assessment for the proposed Highland Plantation Wind Project located in Highland Plantation, Somerset County, Maine (Figure 1). The assessment was completed for Stantec (formerly Woodlot Alternatives, Inc.) of Topsham, Maine. The Project includes planned construction of approximately 21 turbines (east cluster) along a north-south trending ridge and an additional 25 turbines (west cluster) along a north-south and east-west set of ridges. The project also proposes the 9- to 9.6-km (5- to 6-mile) extension of an existing transmission line corridor which originates at Wyman Station in Pleasant Ridge Plantation. A substation is planned for the approximate center of the project area. An Operations and Maintenance (O & M) building is planned for the southwestern edge of the project area (see Figure 2).

The objective of the assessment was to assess the sensitivity of the Project area for the presence of Euroamerican (i. e., “historic”) archaeological resources. IAC archaeologists Maya Carter and Jonathan Douse conducted the survey, under the supervisor of Principal Investigator, Kathleen Wheeler. Archaeological work is authorized under Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR Part 800). Dr. Wheeler exceeds the qualifications set forth by the Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716, September 29, 1993) and 36 CFR Part 61, and are certified Level-2 Historical Archaeologists in Maine.

The assessment consists of background research (a site file review of the known inventory of sites in the project area, cartographic analysis, and review of primary and secondary sources); the development of a sensitivity model pertinent to the project environment; and a site inspection to confirm the presence or absence of potential archaeological resources. The assessment was completed in late September 2009, through map research and a visual inspection of portions of the project area. IAC found no indication of Euroamerican archaeological resources in the area of potential effect (APE). We recommend no further archaeological survey for the 46 turbines of the wind farm, associated access roads leading to the mountain ridge, or the transmission corridor.

## PROJECT LOCATION AND ENVIRONMENTAL SETTING

The project area is approximately 7.0 km (4.35 miles) long and 9.0 km (5.6 miles) wide, and runs along the tops of five mountains in Highland Plantation – Stewart Mountain, Witham Mountain, Ball Mountain, Bunt Hill and Briggs Hill (Figure 2). These mountain tops range in elevation from 604 m to 696 m (1979 ft to 2299 ft) AMSL, while the bases of the mountains are at elevations around 245 m (800 ft) by Stone Brook Stream. The connecting transmission line covers an area that is approximately 17 to 18 km (11 to 12 miles). About 9.6 km (6 miles) of this follows the path of an existing transmission corridor through Pleasant Ridge Plantation and connecting with Wyman Station on the Kennebec River. The remaining proposed corridor passes through the mountainous terrain within Highland Plantation. The only vehicular access to the APE is by logging roads and ATV trails.

The surficial geology in the project area consists of extensive bedrock outcrops with occasional eskers in till (Thompson 1985). Vegetation in the project area is mixed hardwoods and softwoods and successional growth, as the mountains have been cut over several times.

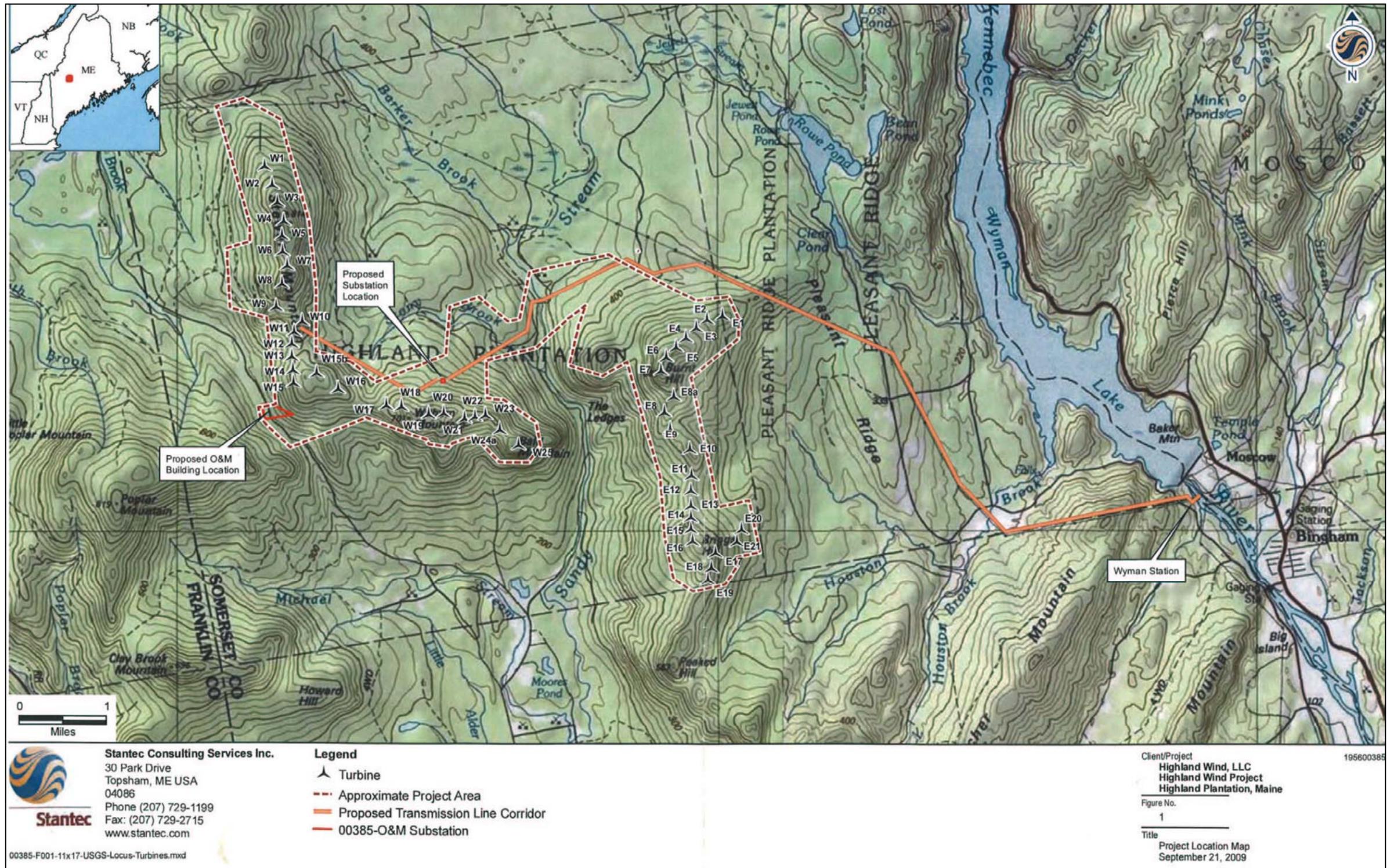


Figure 1. Proposed Highland Wind Project (Stantec 2009).

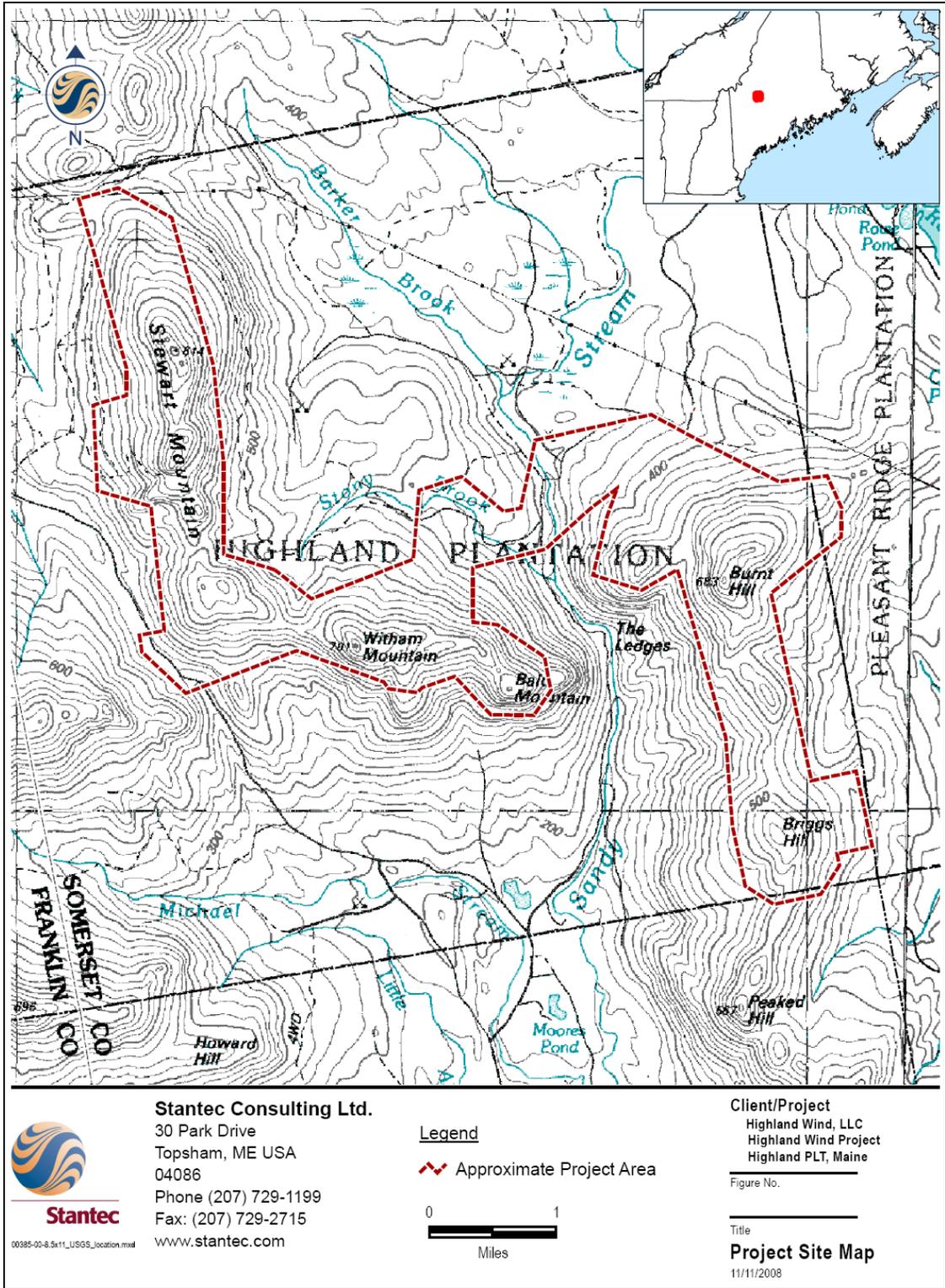


Figure 2. Mountains and ridges within the approximate wind farm project area (Stantec 2008).

## EUROAMERICAN CULTURAL CONTEXT

The town of Highland Plantation is located on the western border of Somerset County. This small town is bounded by Carrying Place Plantation to the north, Pleasant Ridge to the east, and Lexington to the south. Jerusalem Plantation, in Franklin County, defines the western border. Highland Plantation has two primary watercourses: Sandy Stream, which flows from the north, converges with the westerly flowing Michael Stream in the southern part of town (Varney 1881:279).

Highland Plantation was formally organized February 10, 1886. Originally known as Plantation Number 2, the township was organized for election purposes as early as 1840. The name change was made on February 18, 1871 (State of Maine 2004). Primarily an agricultural town, Highland Plantation produced high yielding crops including hay, oats, potatoes, wheat, corn, and beans. Residents also utilized local spruce, maple and birch resources to manufacture refined spruce gum and snow shoes (Varney 1881:279).

The population of Highland Plantation witnessed its peak at 128 in the year 1870 (Table 1). A general trend of decline, culminating in 1970 when the town had only 23 residents, may be related to a decrease in small scale farming. As of 2000, the population had more than doubled to 52.

Table 1. Population of Highland Plantation from census data.

Year	Population	Change	%Change
1870	128		
1880	121	-7	-5%
1890	76	-45	-37%
1900	67	-9	-12%
1910	68	1	1%
1920	55	-13	-19%
1930	61	6	11%
1940	53	-8	-13%
1950	56	3	6%
1960	46	-10	-18%
1970	23	-23	-50%
1980	60	37	161%
1990	38	-22	-37%
2000	52	14	37%

The Colby (1881) map of Highland Plantation AND Pleasant Ridge Plantation shows little development in the north part of the township (Figures 3 and 4). Roads follow a system of streams spreading into the town's southern half. Houses cluster along these roads but within a system of regularly spaced surveyed lots. The project area, however, is well north of this lightly settled area. USGS maps (1928, 1944, 1956) show a road passing between Bald Mountain and Burnt Hill, along Sandy Stream (Figures 5, 6, and 7). No structures or other development is represented in the maps, however. These may represent logging roads extended up the slopes, but only one (Howes-Gilford Road, now a jeep trail) penetrates the APE between the two mountains, and is the same shown on the earlier USGS maps.

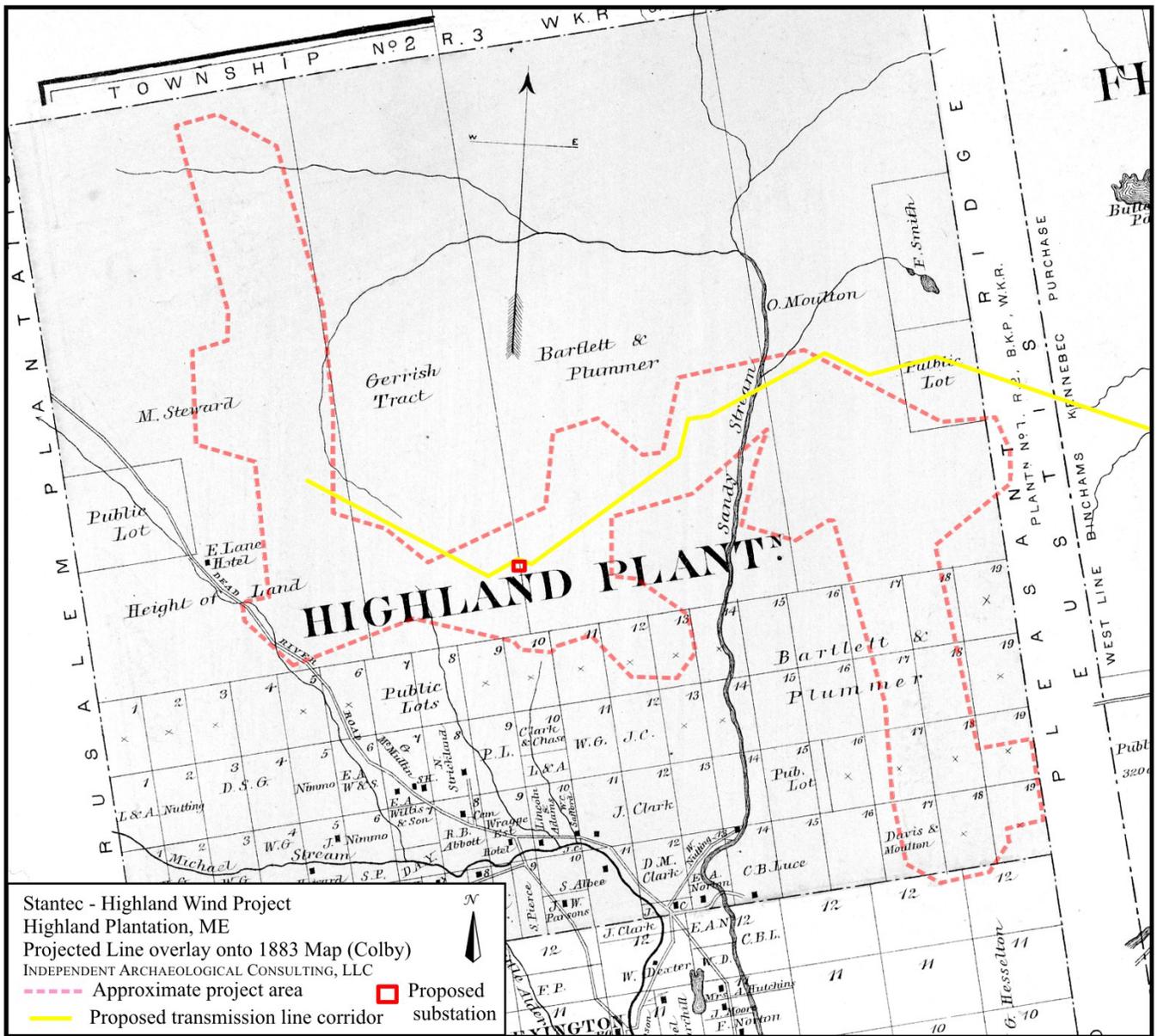


Figure 3. Colby (1883) map of Highland Plantation showing project area and areas of population density.

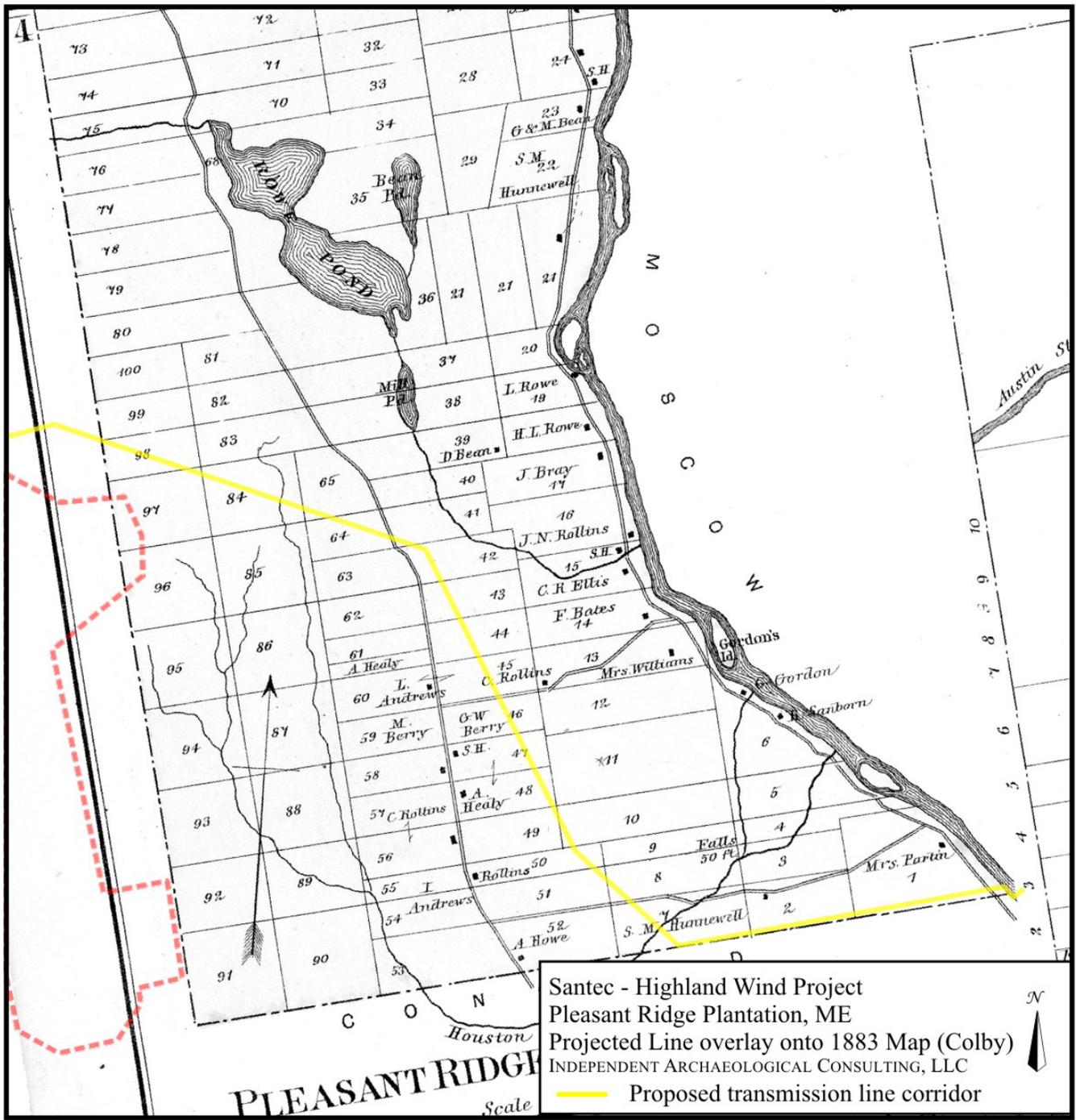


Figure 4. Colby (1883) map of Pleasant Ridge Plantation showing transmission corridor.

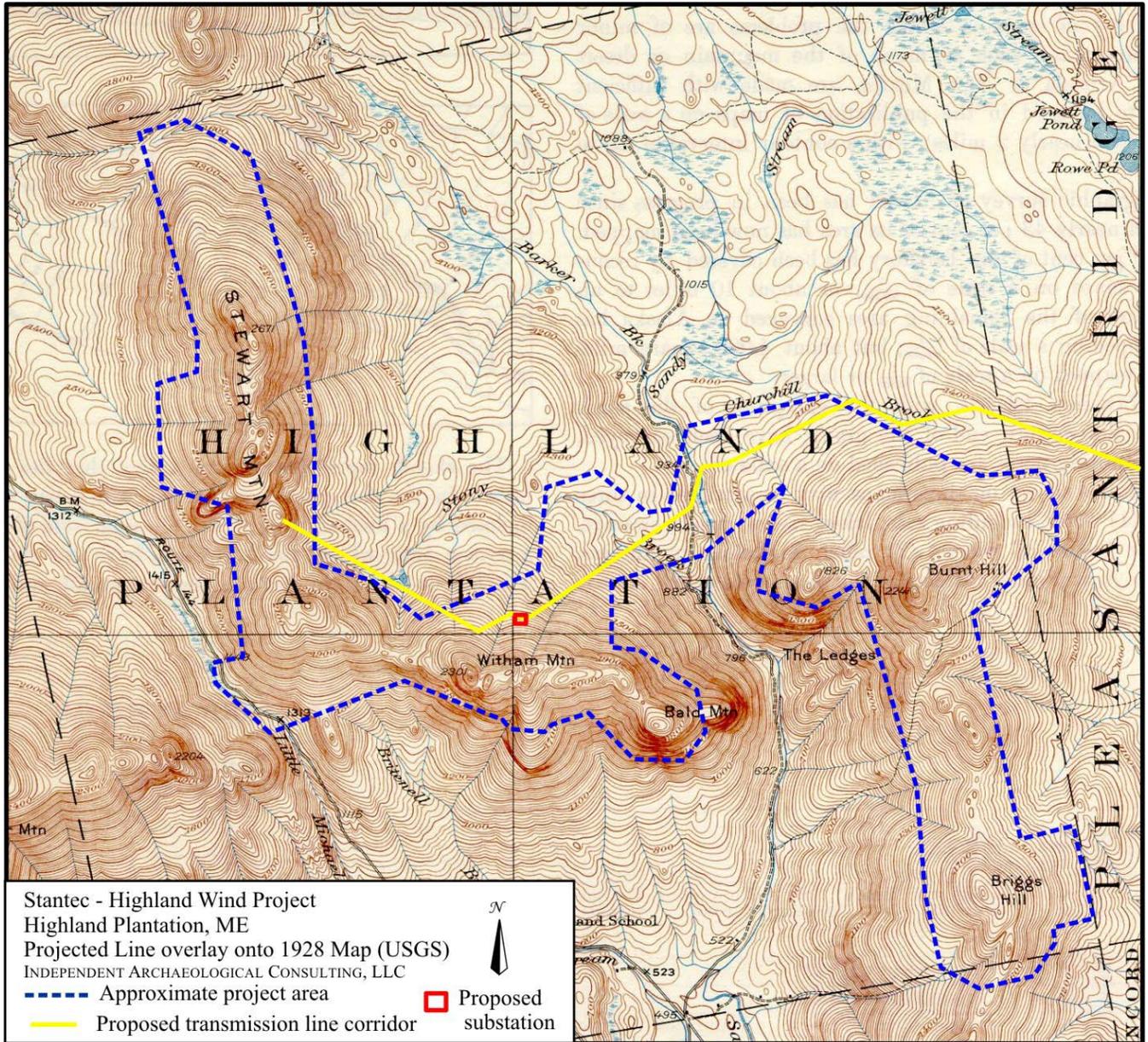


Figure 5. USGS (1928) map of Highland Plantation showing project area and roadways.

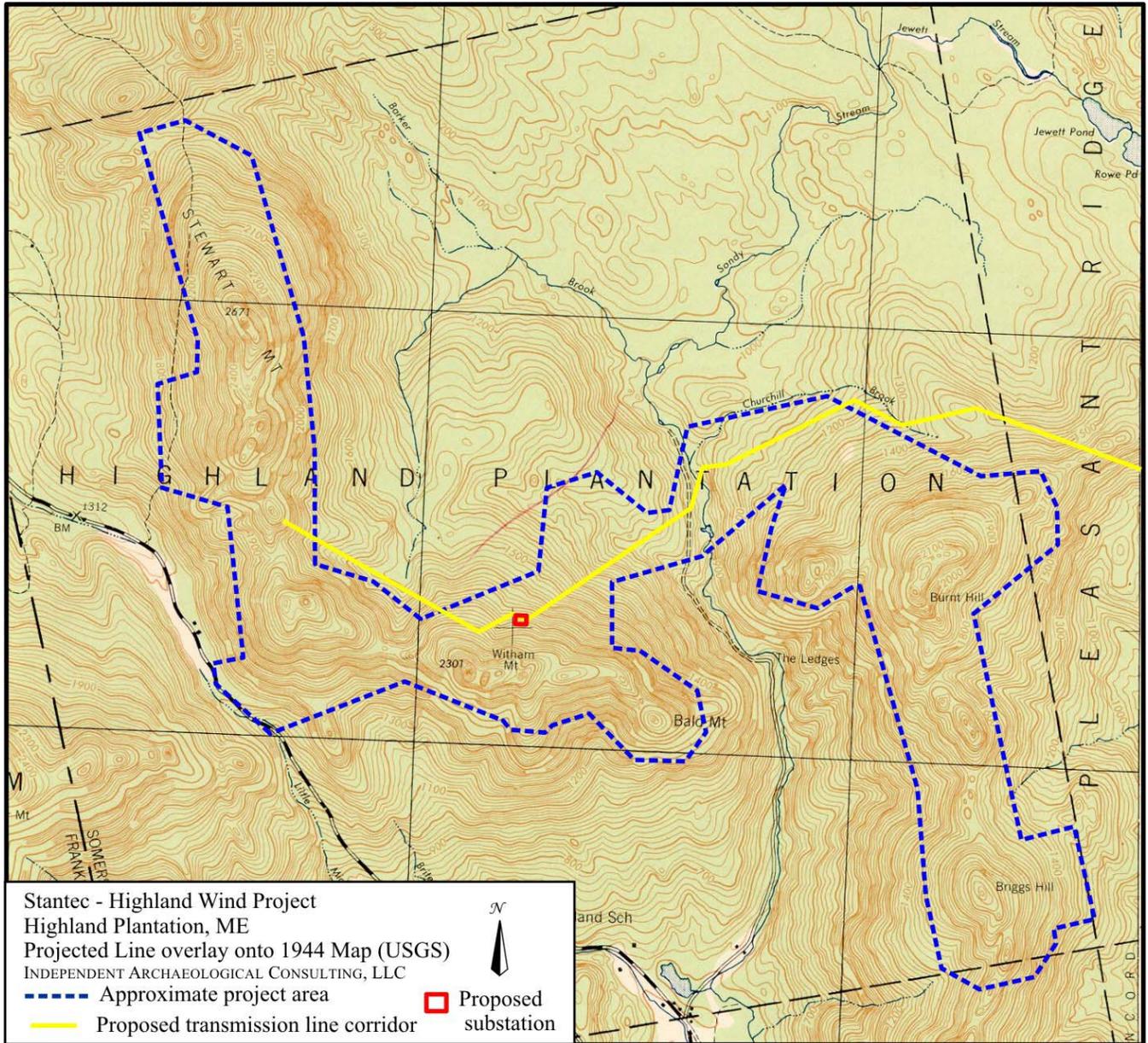


Figure 6. USGS (1944) map of Highland Plantation showing project area and roadways.

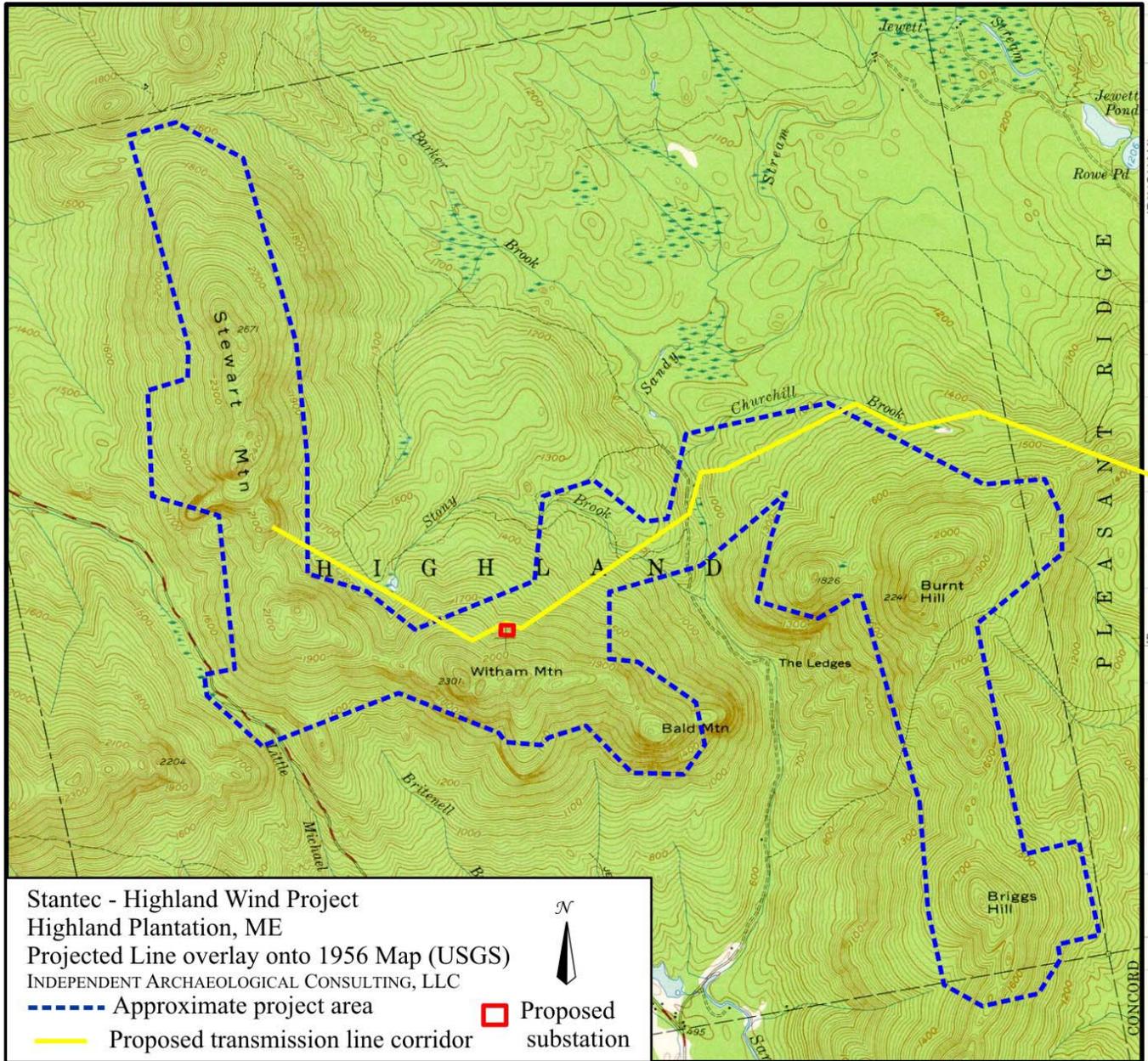


Figure 7. USGS (1956) map of Highland Plantation showing project area and roadways.

## EUROAMERICAN ARCHAEOLOGICAL SENSITIVITY

The sensitivity assessment for Euroamerican archaeological resources is based mainly on cartographic evidence gathered from nineteenth- and twentieth-century maps (e. g., Colby 1883; and United States Geological Survey topographical maps). These cartographic resources pinpoint the location of dwellings, schools, mills, churches, and cemeteries, providing the archaeologist with a ready point of comparison between past and present landscapes. In this, the sensitivity assessment differs greatly from those conducted for pre-Contact-period archaeological resources. Historical archaeologists can also review secondary sources such as town histories, genealogies, photographs, and newspapers to provide a larger historical context for a project area. The sensitivity assessment also includes a site file search for known archaeological sites within the project area, or sites that might serve as analogs for the project area. Using known site types and distributions, historical archaeologists develop settlement models to make predictive statements about where to anticipate finding sites.

High archaeological sensitivity for Euroamerican resources is associated with the following variables:

- documented existence of sites (e. g., homesteads, farmsteads, schools, churches, town halls, cemeteries) through primary, secondary, or cartographic resources
- presence of known sites (whether extant, aboveground representations of early architecture, or documented archaeological site)
- proximity to transportation systems (roads, railroads, major rivers and streams) and potable water sources
- linkage to other resources (such as stone for quarrying, clay sources for brick or ceramics, or metal ores)
- High sensitivity is defined as lying *within 100 m (328 ft)* of documented or known sites, transportation systems, or sources of potential hydropower

Moderate sensitivity was assigned to areas between 100 m to 200 m (328 ft to 656 ft) of an historic road, standing architectural feature, or potable water source, in areas with minimal to moderate disturbance. Low sensitivity areas are those more than 200 m (656 ft) from documented sites, roadways, natural resources, or water sources. Low sensitivity is also assigned to areas with excessive ground disturbance, such as along railroad grades, where extensive cutting and filling are typically involved in the creation of the railroad bed. Table 2 summarizes the fundamental criteria for ranking sensitivity for Euroamerican archaeological resources.

Table 2. Summary of criteria for evaluating Euroamerican archaeological sensitivity.

Sensitivity	Criteria
High	within 100 m of transportation systems and/or sites known from maps
Moderate	within 100-200 m (328-656 ft) of roads or known sites
Low	more than 200 m from roads or known sites; or excessive disturbance

Euroamerican archaeological resources typically exist along transportation corridors, specifically roads and rivers. Environmental conditions, such as water power and land suitable for agriculture, also affect site location. Nineteenth- and twentieth-century maps of the project area confirm that most buildings and structures were located along roads, which followed streams, rivers, or ponds, because these areas were the most level and easiest to access. Euroamerican archaeological resources are commonly found where former buildings or structures stood, where people lived and have left a trace of their lives in the form of artifacts and features. As noted above, our site prediction model anticipates that most resources will be found within 100 m (330 ft) of transportation corridors.

In applying this model to the Highland Plantation project area, we note there are *no* historic roads in the APE. Population density was distinctly located well south of the project area. The only roads along the mountainsides and along the mountain ridge are logging roads and/or ATV trails made in the twentieth century. The absence of roads in the APE is a strong indication that the area was largely inhospitable for Euroamerican settlement. Instead, logging is likely to have been the only major human activity during the post-Contact period of Euroamerican settlement within these mountain ridges. The steepness of slope and underlying glacial till of the mountainside rendered the project area unsuitable to farming.

### **The Logging Industry in Maine Mountains**

Logging was a dominant industry in Maine in the nineteenth and early twentieth centuries, and it continues as such today. Beginning in the early 1800s, settlers began cutting trees around the project area for lumber, shingles, clapboards, and to heat their homes and cook food. Lumber found a ready market for carpenters and shipbuilders for the continued maritime emphasis in Maine, New England, and abroad. Most logging in the early years of the nineteenth century was completed by small groups of men, most of whom were farmers who turned slower winter seasons into a chance to reap additional income (Wood 1971:27). In later years, logging companies became a full-time industry, usurping the seasonal loggers who were primarily farmers.

Lumber companies typically began with a land survey to determine if properties contained good timber and streams capable of driving logs. Prior to clear-cutting, work gangs would construct transportation corridors (logging roads) to bring men, equipment, and supplies into the work area, and then from the cutting site to the streams and rivers for transporting timber. A central depot, or main camp, would be built along a main road, where offices and supplies were located. From this hub, supplies would be distributed to the smaller camps where the workers lived.

Physical traces of localized and even wide-scale lumbering are often ephemeral. Worker's logging camps were less permanent than the depot and were typically located along one of the tote roads or near the river. Camps consisted of at least one bunkhouse, a hovel or shed for the animals, a place to store hay, a blacksmith shop, latrine, sometimes a kitchen, and perhaps a storage shed. Over time, the size of camps increased, especially with the advent of tractors and automobiles in the twentieth century (Wood 1971; Hilton 2004). Structures were of rough hewn logs (from readily-available materials), and roofs were either covered with splints or tar paper. Locally-available materials were used as much as possible because of the difficulties in transporting materials to camps, but manufactured materials such as stove parts, ceramic and glass cookwares and tablewares were all brought into camp. For the archaeologist seeking these camps, materials such as nails, discarded axe heads, chain links, stove parts (especially handles or stove lids), and broken crockery or glass could be an indication that logging took place in the vicinity.

The model for siting logging camps places them nearer to the base of slope, rather than at the top of a mountain. Costs would be prohibitive for transport of teams and supplies to the mountain ridge, and energy exertion for humans and animals would be excessive. Rather, camps will be set near main roads and tote roads, which were located in the brook valley for downhill hauling towards landings.

Road systems also required much thought and consideration of multiple variables, such as steepness (“especially in the direction adverse to heavy loads [Hilton 2004:8]), straightness (roads could not be excessively curving), and length (shorter was better than longer). In the Highland Plantation project area, logging roads extend along Sandy Brook at the base of the mountains, passing between Burnt Hill and Witham Mountain. The series of USGS maps (1928; 1944, 1956; see Figures 5, 6, and 7) indicates that this roadway ceased to be maintained as the twentieth century wore on, and it remains as only a jeep path today.

## **METHODS AND RESULTS OF SITE VISIT**

Following the map review and a consideration of the physical traces of human behaviors in the project area, IAC archaeologists Maya Carter and Jonathan Douse conducted an inspection of the project area on September 30 and October 5, 2009. Overall, the mountaintop APE was assessed with low sensitivity because maps (Colby 1883; USGS 1928, 1944, and 1956) did not show historic roads or buildings along the ridgeline. They did not inspect the entire APE but instead focused on areas within the APE that were likely to contain evidence of logging activities.

Generally, previous and ongoing logging operations give the soil and landforms in the area the appearance of being heavily disturbed (Plates 1 and 2). In addition to the apparent disturbance, the landform also appear very inhospitable to building due to its steep slope (Plate 3). Archaeologists concluded that no further survey was necessary along the ridge.

Shortly after arriving on-site in Highland Plantation, the archaeologists discovered that many of the “existing” and projected trails and roads are very much in the planning phase, and are either non-existent or impassable by passenger cars. After reaching various dead-ends the archaeologists succeeded in approaching the area projected for turbine locations. The crew hiked to the approximate positions of the northwestern most turbines and confirmed (as were visible on maps supplied by Jonathan Ryan of Stantec) that the proposed turbine locations were along the top of Stewart Mountain. The archaeologists discovered pink flagging tape in multiple locations, one of which had “TP 44” written on it.

After several dead ends on trails north of the mountains, the team found Howes-Gifford Road, which runs parallel to Sandy Stream and intersects the project area between Burnt Hill and Bald Mountain. Howes-Gifford Road is fairly well maintained, and currently used as a logging road. Driving South along this road yielded similar results to the earlier survey, revealing both disturbed and rough and inhospitable terrain at the east end of Bald Mountain. The crew then attempted to reach the eastern side of Burnt Hill to survey the final line of turbine locations, and after a few unsuccessful attempts, ran out of daylight. At approximately 6:00 PM the crew left Highland Plantation. The terrain combined with the lack of historic access roads strongly indicates a complete absence of Euroamerican cultural resources. Archaeologists can date the construction of this road to the second half of the twentieth century, based on the amount of earth displacement (cutting and filling) to create a roadbed sufficient to support large lumber trucks.



Plate 1. Example of logging roads and ongoing logging operations on the west side of Stewart Mountain, looking west.



Plate 2. Disturbance and wet conditions from logging.



Plate 3. View atop Stewart Mountain from Trail B, looking west.

On Monday, October 5<sup>th</sup>, 2009 Archaeologists returned to Highland Plantation to complete the survey of the proposed transmission line associated with the proposed wind turbines. The proposed line runs parallel to an existing line in an existing corridor for about 9.6 km (6 miles) before turning west-southwest into the wind farm. At 12:30pm Ms. Carter and Mr. Douse arrived on-site at the southeastern end of the line, where it intersects Ridge Road in Pleasant Ridge Plantation. Current conditions of the area showed little chance of supporting historic structures, with a slope of approximately 45 degrees. Historic maps (Colby 1883; USGS 1928, 1944, 1956) showed no sign of resources, and the archaeologists found none.

The next road crossing encountered was Rowe Pond Road. A mobile home sits on the southern side of the road and eastern side of the corridor. The area to either side of the road is a wetland with standing water, and as such Ms. Carter decided extensive walkover would be unnecessary, and Mr. Douse took photographs of the area. The intersection of Cross Road and the power corridor also yielded somewhat wet conditions, and consistent with historic maps, showed no sign of historic occupation. The crew encountered hunters at this location. The transmission line then intersected Ridge Road a second time, again yielding no results. The final three remaining road crossings are Jeep or ATV trails, and only the second trail is passable. Archaeologists found no resources at the second trail, and due to the inhospitable terrain and lack of historic roads or projected resources, determined that no further survey is necessary on the remaining two.

## SUMMARY AND RECOMMENDATIONS

Archaeologists evaluated the project area with low sensitivity for Euroamerican archaeological resources; i. e., the likelihood of finding a historical archaeological site in the Highland Plantation APE for the wind farm is low. The Euroamerican land-use of the area has been limited to logging. Logging camp sites that have been found in Maine are most often identified by a surface collection of tin cans, a cast iron cook pot, or other metal artifacts found alongside old logging roads. While logging activities could leave archaeological traces in the form of logging camp debris and structures, the likelihood of a camp being located on the ridge top is low. Such camps tended to be located in areas adjacent to logging or tote roads, alongside brooks, on level, dry ground (Hilton 2004:4). In addition, our inspection confirmed that roads leading up the mountain are relatively modern, and the height and steepness of terrain make for unsuitable camp sites.

We feel that the inspection of a portion of the APE and a survey of the surrounding landscape is sufficient to confirm that the project area conforms to our predictive model and that it has little sensitivity for Euroamerican archaeological resources. The terrain is unsuitable for historic-period settlement (i. e., farms or houses, or mills and factories tied to hydropower). Historical research and a review of maps revealed that the only likely Euroamerican within the project area was by loggers. While there is ample evidence of modern logging – in the form of skidder trails, machine-built logging roads, and stumps of trees recently felled – these features do not meet the criteria for National Register of Historic Places eligibility because of their late date and redundancy over much of modern Maine. We recommend no further archaeological investigation within the APE on the mountain tops, and no testing for the transmission line proposed to meet the needs of the wind farm.

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## **Phase IA Precontact Archaeological Review and Assessment of the Proposed Highland Wind Project by Richard Will**

This Phase IA report reviews and summarizes findings of the Precontact period archaeological sensitivity of the Highland Wind project. Recommendations are made to test several stream locations that are crossed by the proposed transmission line, which connects the wind project to the Wyman station in Moscow, Maine.

### **Project Description**

The proposed Highland Wind Project is located in Highland Plantation and Pleasant Ridge Plantation, Somerset County Maine (see Figure 1). In particular, it lies to the west of the town of Bingham and Wyman Lake, which is a dammed portion of the Kennebec River.

Like other wind projects that the author has investigated, the Highland Wind project has several components. The first component consists of the turbine locations. There are two clusters of 48 turbines. The first cluster is located on Stewart and Witham and Bald Mountains. Seventeen turbines will be located on Stewart Mountain that are generally oriented north to south (turbines W1-W17) (Figure 1). The Witham and Bald Mountain group of nine turbines is oriented west to east (turbines W18-W26).

The second collection of towers is located to the east of the first along the ridgelines of Burnt Hill and Briggs Mountain. They consist of an almost continuous string of turbines that are oriented north to south. Turbines E27-E40 will be located on Burnt Hill; turbines E41-48 will be placed on Briggs Mountain (Figure 1).

In addition to the turbines, there is a proposed operations and maintenance building. Its location is on an existing logging road at the base of the south end of Stewart Mountain immediately south of turbine location W15 (Figure 1). A proposed collector substation is planned at the base of Witham Mountain to the north of turbine location W21 (Figure 1).

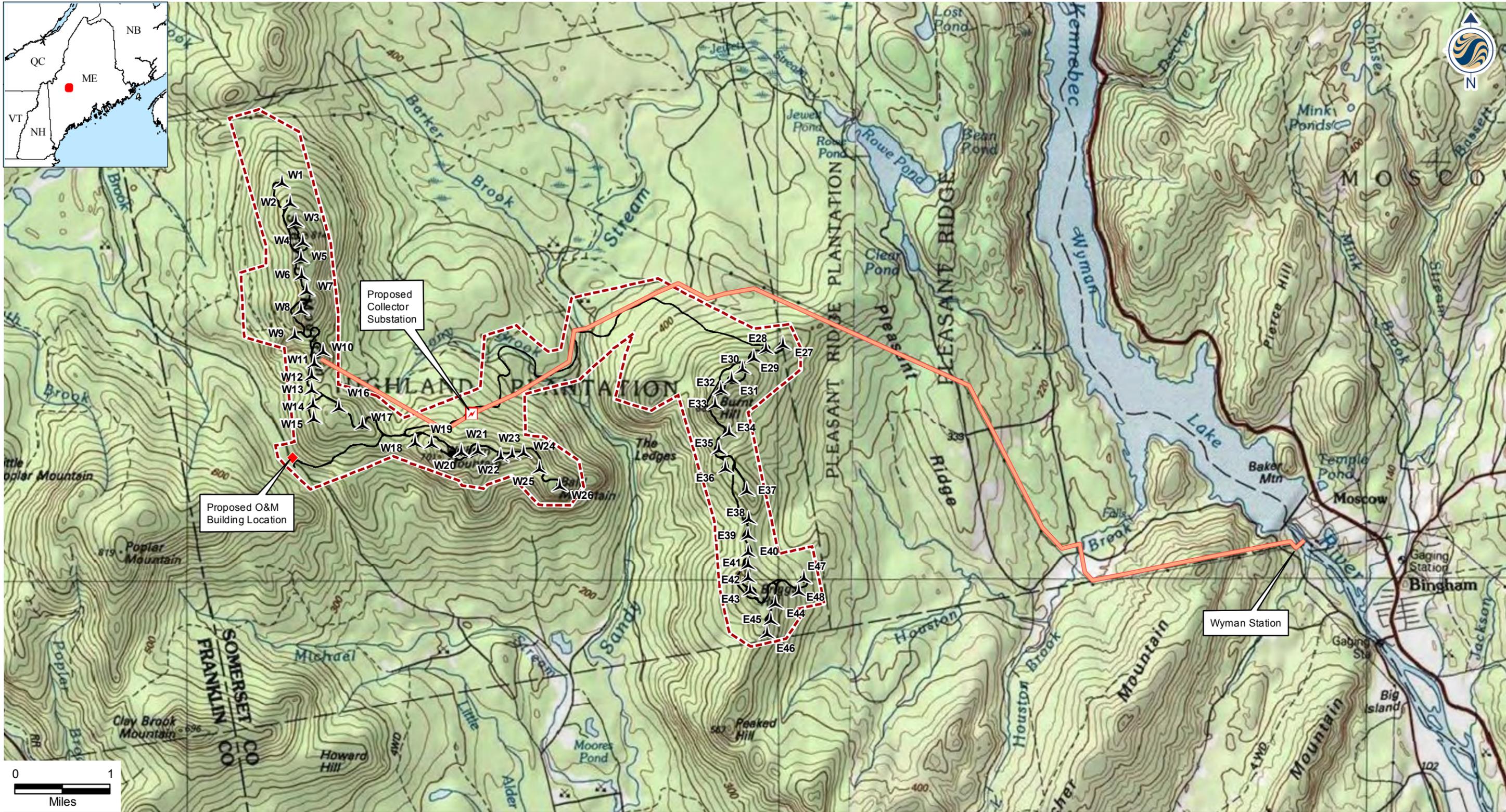
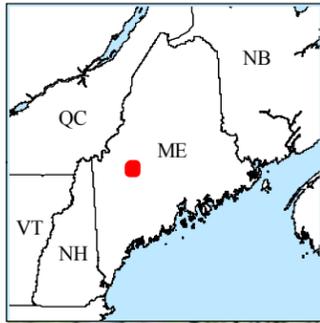
Last, a proposed collector line and generator lead will connect the project to the Wyman substation in Moscow, Maine, which is located approximately 13 miles (approximately 20.8 km) to the east of the mountain top turbine complex on Stewart Mountain. The proposed line is not straight, but has angles to it before reaching the Wyman Station.

Many of the roads to access the project area consist of improved and unimproved logging roads.

### **Environmental and Cultural Contexts**

The environmental and cultural contexts of the project area provide pertinent information related to landscape formation and the record of human occupation in the region. These contexts are intended as background for understanding the rationale behind identification of the proposed Phase IB testing areas as well as a framework for analyzing the results of the survey.

The Project area is located in the hilly terrain of the New England Uplands. Within the project area, topography is characterized predominately by sloping terrain that ascends to the tops of Stewart and Burnt Mountains. These mountain tops range in elevation from 2,671 feet above mean sea level (amsl) to 2,241




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**Legend**  
 Turbine  
 Approximate Project Area  
 Proposed Access Road and Turbine Pads  
 Proposed Collector Line and Generator Lead

Client/Project 195600385  
**Highland Wind, LLC**  
**Highland Wind Project**  
**Highland Plantation, Maine**  
 Figure No.  
 1  
 Title  
 Project Location Map  
 November 12, 2009

feet amsl, respectively. The project area traverses the eastern faces of the above mountains along terrain typically elevated 500-900 feet amsl. The project area crosses several brooks (Stony, Barker, and Houston) and a tributary of Sandy Stream.

The Project is primarily vegetated in mixed deciduous and conifer growth that is typically less than 30 cm in diameter. Unimproved roadways are vegetated with mixed shrubs, ferns, grass, and weeds. Surface topography is largely characterized by undulating to uneven surfaces with numerous scattered boulders. Disturbances in the region are largely related to logging activities. Past logging activity is indicated by cut stumps; no residential development is apparent. Disturbance from logging roads and all-terrain vehicle access roads is common throughout the Project area.

### **Early Landscape Formation**

Geologic forces, associated with the advance and retreat of the Laurentide Ice Sheet (LIS) during the Pleistocene epoch, have shaped most of the landscape within the Project area. The LIS advanced across Maine in a southeasterly direction, scouring the landscape as it moved, before attaining a maximum position at Georges Bank in the Gulf of Maine around 22,000-20,000 years ago (Hughes et al. 1985). By 18,000 years ago, it began to retreat across the Gulf of Maine due to incursion of warm, marine waters underneath the ice. The LIS is believed to have reached the present Maine coastline around 14,000 years ago (Schnitker et al. 2001), and interior portions of Maine by 12,800 years ago (Smith and Hunter 1989). By 11,000 years ago, it had retreated across the St. Lawrence and Maine was essentially free of ice except perhaps for isolated remnants in some valleys and mountain peaks. As the ice retreated, it left behind unsorted silt, sand, and rock fragments (till) across much of the landscape. These till deposits conform to the local bedrock topography and form the surficial deposits in the Highland Wind Project area.

Colonization of the region by flora during and following deglaciation is characterized by continuous changes, particularly between 14,000 to 9,000 years ago. This time frame marks the transition from an open, tundra-like environment to woodlands, and eventually a closed forest across much of the New England region (Davis and Jacobson 1985). Pollen and macrofossil studies from lake cores suggest species responded individually to climatic changes in a time-transgressive manner, following the ice front northward. Woodland vegetation, dominated by poplar and spruce, is believed to have spread along the coastal lowlands to New Brunswick by 12,000 years ago, and pushed into interior portions by 11,000 years ago. The transition from woodlands to closed forests initially began in southern Maine around 12,000 years ago and developed rapidly over the region between 11,000 to 10,000 years ago. The closed forests were initially dominated by spruce, balsam fir, birch, and poplar, but pine emerged as the dominant species approximately 1,000 years after closure of the forests. The emergence of pine, and concomitantly the demise of spruce, signaled a warming trend that reached its peak sometime around 5,000 years ago. Studies from lake cores suggest this warming trend was characterized by a drier climate and lower water levels, particularly between 8,000-6,000 years ago (Almquist et al. 2001). Cooler, wetter conditions prevailed after about 4,500 years ago, resulting in an increase in birch, followed by a return of spruce after around 2,000 years ago (Almquist-Jacobson and Sanger 1995). During this time, water levels rose, particularly between 3,000-2,500 years ago (Almquist et al. 2001:196).

### **Prehistoric Cultural Context**

The prehistoric archaeological record of Maine is long and complex dating back more than 10,000 years. Archaeologists have divided this record into three major periods known as Paleoindian, Archaic, and Ceramic cultural periods. Further subdivisions within these periods are based on similarities in artifact forms and cultural adaptations over broad regions. Table 1 depicts the major and minor divisions as defined by Spiess (1990) in the State Plan for Prehistoric Archaeology. It is important to note that these divisions are archaeological constructs, and that their boundaries represent changes perceived as

culturally significant by archaeologists in the region. Future research may further refine some of these divisions, or find they are not as significant as originally suspected.

**Paleoindian Period.** The earliest recognized prehistoric inhabitants in the Maine region, and throughout North America, are referred to as Paleoindians. Paleoindians are believed to be the first people to migrate into North America and, in their pursuit of large game, rapidly colonized the continent (Martin 1973). Throughout North America, the hallmark of Paleoindian peoples is the fluted spear point, which presumably was used to hunt down large game species, some of which are now extinct. These spear points are characterized by a lanceolate form and exhibit a long, groove-like flake struck from their base on both faces.

In Maine, the Paleoindian period is believed to date from approximately 11,500 to 9,500 years ago. This time frame roughly coincides with the rapid development of closed forests in the region, although most archaeologists assume these people inhabited an open tundra and/or woodland environment. Paleoindian peoples living in the region are characterized as highly mobile hunter and gatherers reliant mainly on caribou that presumably were favorable in the environment of that time. They crafted their tool kits out of very fine-grained, colorful rocks obtained from a limited number of sources in the region, and they camped in locations typically removed from present day water bodies (Spiess et al. 1998). These locations were rarely occupied during later cultural periods and are often strategically located above some form of low-lying terrain that may have been suitable habitat for caribou. Their campsites are typically indicative of short-term habitations by small groups, perhaps even by a single, extended family.

**Table 1. Comprehensive Planning Archaeological Study Units.**

<b>Time Period (RCYBP)</b>	<b>Study Unit</b>
11,500 - 10,200	Fluted Point Paleoindian Tradition
10,200 - 9,500	Late Paleoindian Tradition
10,000 - 6,000	Early and Middle Archaic Traditions
6,000 - 4,200	Late Archaic: Laurentian Tradition
6,000 - 2,000	Late Archaic: Small-stemmed Point Tradition
4,500 - 3,700	Late Archaic: Moorehead Phase
3,900 – 3,000	Late Archaic: Susquehanna Tradition
3,000 - 450	Ceramic Period
1500 - 1675 AD	Early Contact
1675 - 1760 AD	Late Contact
1760 - 1940 AD	Integration with Euro-American Life

*Note: RCYBP equals radiocarbon years before present; AD equals calendar years. All dates are estimates. Source: Spiess (1990 and pers. comm. 1999).*

One of the best radiocarbon dated Paleoindian period sites, the Esker Site (84.12) is located on the east shore of the Wyman impoundment approximately 10 miles (16.0 km) northeast of Stewart Mountain. Scientifically excavated in 2000, it yielded a Late Paleoindian tradition fluted point with an age of 10,090 +/- 70 radiocarbon years before present (RCYBP) (Will et al. 2001)

The end of the Paleoindian period and subsequent transition into the Early Archaic period is poorly understood. Some evidence indicates that during the later Paleoindian period, fluted spear points become less desirable and were replaced by smaller, unfluted points. Other point styles also emerge in the region, most notable of which are long, slender, lanceolate points with a distinctive parallel flaking technology. These cultural changes are believed to correspond with significant environmental changes that likely included the final transition from an open woodland environment to a closed forest, as well as the emergence of a pine-dominated forest that marks the beginnings of a warm, dry climate in the region. By the Early Archaic period, the archaeological record indicates a dramatically different material culture than the preceding Paleoindian period. No archaeological sites of this time period have been discovered in the project region.

**Archaic Period.** The Archaic period represents the longest cultural period in the region, spanning around 7,000 years. This time frame is indicative of persistent cultural adaptations, as inferred from artifact assemblages, which lasted over several millennia. Although Early and Middle Archaic populations probably continued a nomadic hunter and gatherer lifestyle, their subsistence and settlement patterns were most likely different from that of Paleoindians. This is suggested by the location of most Early and Middle Archaic sites along present day water bodies, and the presence of faunal remains indicative of more aquatic resources, particularly beaver, muskrat, and fish, among Early and Middle Archaic assemblages.

Similarly, archaeological assemblages dating to the Early and Middle Archaic periods in Maine are different from their Paleoindian predecessors, and somewhat unique to the Maine region, particularly with respect to the Early Archaic. Artifacts are typically produced on local stone, often collected in cobble form, and lack the finely crafted, chipped stone spear points that characterized the Paleoindian period. Rather, flakes and crudely fashioned unifacial tools dominate the assemblages. In addition, a new technology using pecking and grinding techniques appears for the first time in the archaeological record (Robinson 1992). This new technology produced a suite of groundstone tools that became more elaborate through time. By the Middle Archaic, chipped stone spear points become increasingly more abundant and the first cemetery sites are recorded. These cemetery sites reveal mortuary practices that included the sprinkling of graves with red ochre, and the offering of grave goods, such as wood working gouges, slate spear points, and stone rods (Robinson 1992). These mortuary practices continued into the Late Archaic period, culminating with the Moorehead Burial Tradition.

The Late Archaic period is divided into several traditions. Of these traditions, the most widely recognized is the Moorehead Burial Tradition, more commonly known as the “Red Paint People.” Warren Moorehead coined this term during his extensive excavations throughout Maine in the early years of the twentieth century (Moorehead 1922). The tradition is best known for its cemetery sites, which are found on the coast as well as in the interior (see Bourque 1995; Sanger 1973; Snow 1969; Willoughby 1898). Cultural affiliation for the cemetery sites, however, varies across the region, and thus the reference to “Red Paint People” is not an accurate representation. Habitation sites associated with sites of this tradition reveal that both marine and terrestrial resources were exploited, including the acquisition of swordfish (Bourque 1995). Other Late Archaic traditions known from the region are the Laurentian and Small-Stemmed Point traditions. The close of the Late Archaic period is characterized by another archaeological tradition (Susquehanna Tradition) that suggests a different lifestyle than that practiced by Moorehead Phase peoples. The Susquehanna Tradition is widespread over the Maine region and, the people associated with this tradition occupied similar environments to Moorehead Phase peoples. However, people of the Susquehanna Tradition appear to have been more focused on a terrestrial economy than a marine economy. They largely abandoned the use of red ochre in their graves, and often cremated their corpses rather than buried them intact. Diagnostic tool forms include large, broad-bladed chipped stone spear points. In addition, Susquehanna assemblages often lack the groundstone tools so prevalent among Moorehead Phase sites.

The relationships between the perceived Late Archaic cultural groups continue to be a source of debate among Maine archaeologists. At the root of the argument is whether the various archaeological assemblages of the Late Archaic reflect local, long-term cultural adaptation or movement of people into the region with a different culture and way of life. Whatever the origins of the cultural changes observed, they again roughly coincide with increasing changes in the environment that provided more favorable habitat for deer populations and possibly other more modern species as well. Several archaeological sites dating to the late Archaic period are known from the region, but they are largely confined to the banks of the Kennebec River.

**Ceramic Period.** The introduction of pottery manufacture in Maine signals the beginning of what archaeologists call the Ceramic period. In other parts of the country and the Northeast, this cultural period is referred to as the Woodland period. The differences between these two references is mainly that hunting and gathering are still the primary means of subsistence throughout much of Maine and the Maritimes, while other areas show more reliance on horticulture and a tendency toward larger, more permanent settlements. Ceramics first appear in the archaeological record of Maine around 2,800 years B.P. and persist up to the time of European contact when they were replaced in favor of iron and copper kettles that were traded for beaver pelts and other animal furs.

Ceramic period sites are abundant in Maine, in both coastal and interior settings. Along the coast, they are most visible in the form of shell middens, which have attracted the attention of professional and amateur archaeologists since the late 19<sup>th</sup> century (e.g., Mercer 1897; Wyman 1868). Shell midden sites are found throughout the Maine coastline and contain discarded shells of clams, oysters, mussels, and quahogs, bones of both terrestrial and marine animals, as well as broken pottery sherds and discarded stone and bone tools. Sites in the interior are most common along waterways, ponds, and lakes. Ceramic period assemblages from the interior differ from coastal sites in that the bone assemblages are poorly represented due to differences in preservation. The picture that emerges from Ceramic period sites is one showing a long-standing cultural adaptation to the diversified use of local resources. In addition, the nature of artifact forms present and certain types of stone recovered from Ceramic period sites indicate trade and communication with peoples to the far north, south, and west. By the end of the period, historical and archaeological evidence suggests horticulture was practiced in southern Maine. The Ceramic period ends with European contact around 450 years ago. At this time, most of the artifacts attributable to prehistoric inhabitants of Maine disappear from the archaeological record so that tracing specific cultural connections between historic Maine Indians and their prehistoric ancestors is not possible.

Archaeological sites dating to the Ceramic period have been found along the shore line of the Wyman impoundment as well on some of the islands in the impoundment. Although uncommon, ceramic sherds recovered from these sites suggest a Middle Ceramic period affiliation

### **Precontact Period Archaeological Sensitivity**

Just as today, people in the Precontact period did not uniformly occupy the landscape; Maine state archaeological survey maps, which show site locations, affirm this conclusion. Some areas were more attractive than others to people deciding where to establish camps and villages. Some locations were used more often than others, because of the availability of unique resources (e.g. plants, animals, and raw materials) or perhaps even through historical accident. And, some areas may simply not have been frequented and used at all. Against this reality is the likelihood that not all human behavior produces archaeologically visible traces. Additional problems affecting understanding of Precontact period land use is the fact that even when an archaeological site is produced, it may not last long due to preservation biases created by local environmental conditions. Interpretation is further confounded, because sharp

differences in how land is used and modified in the present compared with the Precontact past has resulted in the destruction of many archaeological site locations.

Mindful of these concerns, the design of Precontact period archaeological resource surveys to discover site locations in Maine is supported by more than 100 years of archaeological field investigations and several decades of testing predictive models to determine where sites may be expected to occur. All of these efforts demonstrate that proximity to water resources was a dominant variable used by Precontact period hunter/gatherers and agricultural people for selecting site locations (see, for example, Kellogg 1987, 1994; Spiess 1994, 1996; Will et al. 1995; Will et. al. 1997; Will et. al. 1999).

This conclusion is likely not simply a sampling bias. For example, several archaeological cultural resource surveys conducted in eastern Maine (at least in part) during the last 20 years support the conclusion. First, are results obtained from the Phase I survey of the Maritimes and Northeast natural gas pipeline by ARC, Inc. in 1997-1998 (Will et. al. 1997; Will et. al. 1999) and by TRC in 2005. Briefly, the sensitivity design for the survey focused on identifying the potential for areas within that project's area of potential effect (a 200 foot or 62 m wide corridor) to contain Precontact archaeological sites. Predictions of where archaeological resources might be present, and where they were not likely to be present, were made based on a set of key environmental variables for which data could be readily obtained:

High Sensitivity:

- fresh or saltwater resources within 150 meters (m);
- well-drained sandy soils;
- level to moderately level topography (0 to 3 percent slope).

Moderate Sensitivity:

- fresh or saltwater resources within 150 to 500 m;
- well-drained to moderately well-drained, sandy to cobbly soils;
- moderately level topography (3 to 8 percent slope);
- minimal to moderate ground disturbance
- archaeological sites in vicinity of project area.

Low Sensitivity:

- no fresh or salt water for more than 500 m;
- poorly drained or inundated areas;
- steep topography (8 percent slope or greater);
- moderate to extensive ground disturbance;
- no archaeological sites in vicinity of project area.

The model was tested with information collected from more than 300 miles of the Maritime & Northeast pipeline corridor. On that project, more than 2,500 testholes were excavated in almost equal proportions among areas of high, medium, and low sensitivity. An important conclusion of this undertaking was that all Precontact period sites (with the exception of one Paleoindian period artifact) were found adjacent to water.

Second, another large archaeological survey using a similar sensitivity model was conducted in Penobscot and Washington Counties by the Maine State Museum under the direction of Dr. Stephen Cox in 1989 (Cox 1989). He surveyed a proposed Bangor Hydroelectric Company 345 kV transmission line route, and examined 87 sampling areas of varying archaeological sensitivity along the route from Orrington to the St. Croix River in Baileyville. A total of 996 testholes were excavated. Three, small, Precontact period archaeological sites were discovered, and all of them were located along a major river or stream.

Third, a major survey on a revised Bangor Hydroelectric Company 345 kV transmission line route was conducted by TRC in 2004 (Clark and Moore 2004). That survey examined a route parallel to the existing Maritimes and Northeast pipeline from Orrington to the St. Croix River. In all, 18 locations and landforms were tested for the presence of Precontact cultural sites and materials using 317 testholes. No Precontact sites or materials were discovered.

Proximity to water is unquestionably a sensitive variable for predicting the locations of Precontact period hunter/gatherers who inhabited Maine. In fact, approximately 95% of all Precontact period archaeological sites reported in Maine (out of a sample of more than 5,000 sites) have been discovered either along the seacoast or along the margins of interior rivers, streams, lakes, and wetlands (Spiess 1994). Even in New York, archaeologist Robert Funk's research (1993) has similarly shown that Precontact period sites are generally located within 300 feet of water.

Most of the sites discovered near water are campsites or villages. They may also have been food extraction locations: places to fish, hunt waterfowl, or dig clams. However, the locations of ritual sites (e.g., cemeteries) or resource extraction sites (e.g., rock quarrying for tool making) are often not near water and are discovered more often by accident rather than by design. They constitute the 5% of sites in the Precontact period inventory of archaeological sites recorded in Maine. Although they represent only a small portion of known sites, they are as equally important as near-water sites for understanding the lifestyles of Precontact people.

Archaeological sensitivity (or the ability to offer educated judgments about where archaeological resources may have been located) of the Highland Wind Project area is derived from taking into consideration where archaeological sites have already been discovered in Somerset County, where sites have not been discovered. Archaeological sensitivity ultimately, however, has to be considered in the context of the modern landscape.

What is known about the Project area is that soils are till and not always well drained and that topography is varies significantly from highlands to bottom lands (Thompson and Borns 1985).

The only kind of special purpose site that might not be associated with water that was considered was rock quarrying. Certain types of bedrock were particularly well suited for use by Precontact period people for the manufacture of stone implements. These include, fine-grained, aphanitic rocks of meta-sedimentary and volcanic origin—cherts, felsite, and quartz predominantly—because of their flaking qualities, were used to make flaked stone tools such as projectile points and scraping/processing tools. Another class of tools, manufactured through a combination of flaking, pecking, and grinding, were typically manufactured from other rock types, including basalt, slate, and phyllite.

### **Precontact Period Archaeological in the Highland Wind Project Area**

Stewart Mountain, Witham Mountain, Bald Mountain, and Burnt Hill do have exposures of bedrock, but these Devonian age formations have been regionally metamorphosed to lithic materials that would not have been suitable for making chipped stone tools (Osberg et al. 1985). None of the mountain tops are believed to have any archaeological sensitivity and no further evaluation of them is recommended.

In contrast, the presence of several streams and proximity of archaeological sites along the Kennebec River in the Wyman impoundment suggest that locations along the transmission line where it crosses. Stony Brook, Barker brook, Houston brook, and an unnamed tributary of Sandy Stream should receive Phase IB archaeological subsurface testing. The precise location of that testing will depend on defining the exact location of the transmission line.

Last, the proposed operations and maintenance building and collector substation locations are not near water, or are they in locations with other archaeological variables identified above (Figure 1). No further archaeological evaluation of these locations as they are presently planned is recommended.

## Summary

As we have seen with other wind-generating facilities being proposed in Maine, Most of the turbine locations are set along mountain ridges where sensitivity for Precontact period archaeological resources is low. Archaeologically sensitive areas within these projects typically occur in proximity to water where proposed transmission lines or road construction either to access turbine locations or haul equipment are located. The author did visit the Highland Wind project area in July 2009 and although vehicular access was not abundant, the north-south trending Sandy Stream and east-west flowing Houston Brook are both areas of archaeological concern as are the two smaller brooks (Stony and Barker). These waterways should receive archaeological testing in advance of construction of the project.

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