



## **Section 30**

# **Generating Facility-Visual Quality and Scenic Character**

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### **30.0 Generating Facility-Visual Quality and Scenic Character**

An evaluation of the potential visual impacts associated with the proposed Canton Mountain Wind Project and a description of the scenic character in the project area is presented in a report prepared by Terrence J. DeWan and Associates, Inc., landscape architects based in Yarmouth, Maine. The report is included as Attachment 30-1.

**Attachment 30-1**  
**Visual Impact Assessment**

**VISUAL IMPACT ASSESSMENT  
CANTON MOUNTAIN WIND PROJECT**

**December 16, 2011**

*Prepared for*

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Canton Mountain Wind, LLC

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Overview**

Canton Mountain Wind, LLC (CMW) is proposing the Canton Mountain Wind Project (Project), an eight turbine, 22-megawatt (MW) wind project located in Canton, Oxford County, Maine.

The turbine sites are located within property that is currently used for commercial forestry operations. The site contains logging roads that will be upgraded and used, where appropriate, to minimize clearing and wetland impacts. Ridge elevations are between 1,324 and 1,538 feet above sea level.

The turbine portion of the Project consists of eight General Electric (GE) 2.75-MW wind turbines: seven model GE 2.75-103 turbines and one model GE 2.75-100 turbine. Each turbine is 85 meters (approximately 279 feet) to the center of the hub. The seven GE 2.75-103 turbines will have 103-meter-diameter rotors for a total height of 136.5 meters (approximately 448 feet) to the tip of a fully extended blade. The one GE 2.75 -100 will have a 100-meter-diameter rotor for a total height of 135 meters (approximately 443 feet) to the tip of a fully extended blade. The seven GE 2.75-103 turbines run north/south on Canton Mountain, and the one GE 2.75-100 turbine is located on the southwestern end of the string. As an alternate to the GE turbines, Gamesa G90 2.0 MW turbines are also under consideration for this project in the same configuration as the GE turbines. The Gamesa G90 turbine has a 78-meter hub height and a rotor diameter of 90 meters. However, this visual impact assessment is conservatively based on the GE turbine layout since the GE turbines are taller and would potentially result in a greater visual impact.

Synchronous red warning lights will be installed following Federal Aviation Administration (FAA) guidelines. The lights will be mounted on the top of some of the nacelles. The final lighting plan is determined by FAA approval but is expected to consist of lights on the two end turbines and on alternating turbines between them.

Power from the turbines will be transmitted underground from the turbines to the access road where it will continue overhead until it reaches the Ludden Lane Substation, which will have been built for the Saddleback Ridge Wind Project (Maine Department of Environmental Protection [DEP] license L-25137-24-A-N/L-25137-TG-B-N).

### **1.2 Conclusion**

There are eight scenic resources of state or national significance within an eight-mile radius of the Canton Mountain Wind Project. Of these, the only scenic resources that will have a view of the Project are Forest Pond, Jay Niles Memorial Library, and the North Jay Grange Store. The two structures are on the National Register of Historic Places.

The Project will not be visible from the other five scenic resources: Goodspeed Memorial Library and Bass Boarding House in Wilton, the Holmes-Crafts Homestead (Jay Historical Society) in Jay, or the Nelson Family Farmstead in Livermore due to intervening topography, vegetation, and structures. The Project will also not be visible from Nelson Pond because of intervening topography.

The Project will not be visible from any National Natural Landmarks, federally designated wilderness areas, National Parks, State Parks, scenic river segments, scenic viewpoints located on state public reserved land or on a trail used exclusively for pedestrian use, Maine Department of Transportation (MDOT) scenic turnouts, or scenic viewpoints in the coastal area within the 8-mile study area.

The visual impact assessment applied the criteria in the Maine Wind Power Act to examine each of the scenic resources of state or national significance in terms of their context, significance, existing public use, viewer expectations, project impact, and the potential effect on public use. This information was used to determine whether the Project would significantly compromise views from these resources such that it would have an unreasonable adverse effect on their scenic character or the existing uses related to their scenic character. There will be a scenic impact on a portion of Forest Pond and a minor impact on the two Historic Structures on the National Register; however, the Project should not have an unreasonable adverse impact on the scenic values and existing uses of these scenic resources of state or national significance.

## **2.0 INTRODUCTION**

### **2.1 Background**

Terrence J. DeWan and Associates (TJD&A), landscape architects in Yarmouth, Maine, prepared this visual impact assessment (VIA) of the Canton Mountain Wind Project. The methodology for assessing the visual impacts of the wind project is designed to address the specific criteria in the Maine Wind Power Act.

The technical aspects of this report are based upon topographic mapping and design plans provided by Patriot Renewables, LLC (Patriot), the developer of the Project. TJD&A prepared the viewshed analysis maps, based upon WindPRO software, to determine the limits of potential Project visibility and the possible effect on scenic resources of state or national significance. In addition to WindPRO, TJD&A used the three-dimensional resources of Google Earth Pro to look at the study area from the air and on the ground. These digital tools enable the reviewer to experience the overall physical characteristics of the landscape and thereby better understand the setting of the Project relative to the surrounding topographic features and land use patterns.

The study area is centered on the Town of Canton and includes land within eight miles of the Project. The limits of the eight-mile study are based upon the Maine Wind Power Act, which instructs the reviewing agency to ‘*consider insignificant the effects of portions of the development's generating facilities located more than 8 miles, measured horizontally, from a scenic resource of state or national significance.*’ (§ 3452.3.)

### **2.2 Field Investigations**

Field data was collected during site visits on January 26 and 31, and October 7 and 21, 2011. TJD&A fieldwork concentrated on examining and photographing scenic areas of state or national significance within eight miles of the Project and looked specifically at Forest Pond in Canton; Nelson Pond and the Nelson Family Farm in Livermore; Jay Niles Memorial Library, North Jay Grange Store, and Holmes-Crafts Homestead in Jay; and the Bass Boarding House and Goodspeed Memorial Library in Wilton.

Study area photographs were taken with a Nikon D300 digital camera, recording at the highest resolution. The camera was mounted with a 35mm lens, which is equivalent to a 50mm (‘normal’) lens used for a film camera. Global Positioning System (GPS) coordinates were recorded with a JOBO PhotoGPS 4 mounted on the camera’s hot-shoe to capture the location of each photograph (see Figure 2: Study Area Map for the location of each photograph). These images were used in the preparation of the photosimulations included in Appendix B. A selection of annotated representative views within the study area is included in Appendix A: Study Area Photographs.

The work plan for the VIA did not include an intercept survey or other type of recreational user survey for a number of reasons. Forest Pond, the only scenic resource of state or national significance where a survey may have been warranted, has no designated trail access and no public boat launch. In addition, the Town of Canton Comprehensive Plan does not indicate use of Forest Pond as a public recreational resource, and the land surrounding the pond is privately owned. While online research and field investigations documented fishing and camping activity, use levels appeared to be limited. It was determined that the low probability of collecting data would not result in a statistically valid survey.

### 2.3 Photosimulations

A series of photosimulations (photographs with computer-simulated turbines and associated facilities) have been prepared to illustrate the anticipated change to views from scenic resources of state or national significance, resulting from the construction of the Project. The following section describes the methodology used to develop these images:

- TJD&A prepared viewshed maps of the eight-mile study area with WindPRO<sup>1</sup> software to determine where the turbines may be visible. Topographic information was from the National Elevation Dataset (NED) digital elevation model (DEM), obtained from GIS Data Depot. The topography-only viewshed map is very conservative in that it does not account for the screening effects of existing vegetation, buildings, or other structures that will block views of the Project from most roads and population centers. (See Figure 3: Topographic Viewshed Map.)

TJD&A prepared one viewshed map using landcover data supplied by the Maine Office of Geographic Information Systems (see Figure 4: Topographic and Landcover Viewshed Map). The land cover data assumes that the typical tree height is 40'. To be conservative, wetlands, regenerating forests, and harvested areas were assigned a tree height value of 0' (i.e. no vegetation cover).

- Fieldwork by TJD&A verified the relative accuracy of the viewshed maps and determined the location of characteristic viewpoints to use for photosimulations. The locations were selected to illustrate visual impacts to Forest Pond and two historic structures that are scenic resources of state or national significance. Most of the photographs used in Appendix A: Study Area Photographs and Appendix B: Photosimulations were taken from publicly accessible locations to illustrate the variety of landscape types within the study area.
- Photosimulations were prepared by TJD&A using the Visual-Photo Montage WindPRO module. A digital elevation model (DEM) of the Project area was created in WindPRO. The specifications of the wind turbines (location, manufacturer, model number, base height, rotor diameter, and color) were entered into WindPRO, which created three-dimensional images of the turbines and placed them in the proper location on the model. Digital photographs of the selected views, taken by TJD&A, were imported into the computer and merged with the DEM, matching the lens focal length, date and time of photograph, digital resolution, and lighting. The DEM was matched with the photograph using the known elevation and the latitude and longitude data from the JOBO PhotoGPS 4 log.
- Post-production editing involved eliminating context data and other adjustments (e.g., removing parts of towers that are blocked by terrain or trees). Final adjustments were made to

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<sup>1</sup> WindPRO software was developed for the wind energy industry and is used world-wide for planning, design, and visual representation.

account for time of day, weather conditions, haze, and other environmental factors that can change the appearance and visibility of the turbine components.

- The Project model was also inserted into Google Earth to a) check the registration (alignment) of the photographs with the computer model, b) to determine the effectiveness of existing vegetation to block views of the turbines, and c) to verify the accuracy of the viewshed maps and photosimulations.
- Google Earth Pro was used to determine the relative visibility of the associated facilities, i.e., the proposed access roads, crane pads, and transmission lines. Shapefiles for the associated facilities were imported into Google Earth Pro and then surrounded by ‘tree walls’ modeled along the edge of the clearing limits. (The locations of the ‘tree walls’ were taken from the viewshed maps; in most instances they were modeled at a height of 40’.) Photoshop was used to show the potential visibility of the associated facilities on the photosimulations.
- The resultant photosimulations (provided in Appendix B) were merged into a panorama in Photoshop to provide a more contextual view of the landscape. Each panoramic view is also accompanied by a ‘normal’ view to illustrate what the human eye would see.

The legend in the panoramic views provides the following information:

- **Turbines:** the manufacturer and model number. Seven turbines will be General Electric (GE) 2.75-103 wind turbines and one turbine will be a GE 2.75-100 turbine. All turbines will be mounted on 85-meter towers.<sup>2</sup>
- **View Coordinates:** Latitude and longitude of the photograph and computer model.
- **Viewer Elevation:** Approximate distance above mean sea level in feet.
- **Direction of View:** The compass direction of the photosimulation (indicated by a red dot and arrows on the Viewpoint Location Map).
- **Closest/Farthest Visible Turbine:** The horizontal distance in miles between the viewpoint and the closest and farthest turbines that may be visible from that viewing location.
- **Turbines Visible:** The approximate number of turbines that would likely be seen from the specific viewpoint, considering the effects of vegetation and structures.
- **Date/Time:** When the photograph was taken.

The normal view also provides the distance (in inches) that the reviewer should hold the photosimulation from the eye to accurately replicate real-world conditions.

### 3.0 REGULATORY REQUIREMENTS

On April 18, 2008 the Governor signed into law LD 2283 An Act to Implement Recommendations of the Governor’s Task Force on Wind Power Development. As part of this legislation, the Legislature found that certain aspects of the State’s regulatory process for determining the environmental acceptability of wind energy projects should be modified to encourage the siting of projects in Expedited Permitting Areas.

#### 3.1 Modified Visual Impact Standard

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<sup>2</sup> A layout of Gamesa G90 turbines is also under consideration for this project but was not used in this visual impact assessment, as the GE turbines are taller and would have a potentially greater visual impact.

Expedited Permitting Areas include most of the organized areas of the state (DEP jurisdiction) and specific places within LURC's jurisdiction. Canton is designated as an Expedited Windpower Permitting Area (see Figure 1: Expedited Windpower Permitting Areas in Vicinity of Canton).

Modifications to the permitting process in these Expedited Windpower Permitting Areas include, but are not limited to:

- A. Making wind energy development an allowed use within certain parts of the State's unorganized and deorganized areas;
- B. Refining certain permitting procedures of the Department of Environmental Protection and the Maine Land Use Regulation Commission; and
- C. Recognizing that wind turbines are potentially a highly visible feature of the landscape that will have an impact on views, judging the effects of wind energy development on scenic character and existing uses related to scenic character should be based on whether the development will have an unreasonable adverse impact on scenic values and existing uses of scenic resources of state or national significance.

### 3.2 Scenic Resources

"Scenic resources of state or national significance" as defined under State law means:

- A. A national natural landmark, federally designated wilderness area or other comparable outstanding natural and cultural feature, such as the Orono Bog or Meddybemps Heath;
- B. A property listed on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended, including, but not limited to, the Rockland Breakwater Light and Fort Knox;
- C. A national or state park;
- D. A great pond that is:
  - (1) One of the 66 great ponds located in the State's organized area is identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study; or
  - (2) One of the 280 great ponds in the State's unorganized or deorganized areas designated as outstanding or significant from a scenic perspective in the "Maine Wildlands Lakes Assessment";
- E. A segment of a scenic river or stream identified as having unique or outstanding scenic attributes listed in Appendix G of the "Maine Rivers Study";
- F. A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of Conservation designates by rule adopted in accordance with section 3457;
- G. A scenic turnout on a scenic highway constructed by the Department of Transportation; or
- H. Scenic viewpoints located in the coastal area that are ranked as having statewide significance or national importance in terms of scenic quality in:
  - (1) One of the scenic inventories prepared for and published by the Executive Department, State Planning Office: "Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston," Dominie, et al., October 1987; "Scenic Inventory Mainland Sites of Penobscot Bay," DeWan and Associates, et al., August 1990; or "Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands," DeWan and Associates, June 1992; or
  - (2) A scenic inventory developed by or prepared for the Executive Department, State Planning Office.

There are eight scenic resources of state or national significance within eight miles of the generating

facilities:

- Goodspeed Memorial Library in Wilton, on the National Register of Historic Places (see B above)
- Bass Boarding House in Wilton, on the National Register of Historic Places (see B above)
- Jay Niles Memorial Library in Jay, on the National Register of Historic Places (see B above)
- North Jay Grange Store in Jay, on the National Register of Historic Places (see B above)
- Holmes-Crafts Homestead in Jay, on the National Register of Historic Places (see B above)
- Nelson Family Farm in Livermore, on the National Register of Historic Places (see B above)
- Forest Pond in Canton (significant scenic quality; see D.1 above)
- Nelson Pond in Livermore (significant scenic quality; see D.1 above)

Viewshed analysis and field investigation has shown that the Project will not be visible from the Goodspeed Memorial Library and Bass Boarding House in Wilton, the Holmes-Crafts Homestead (Jay Historical Society) in Jay, or the Nelson Family Farmstead in Livermore due to intervening topography, vegetation, and structures. There are also no views of the Project from Nelson Pond. The potential visual impacts to Forest Pond, Jay Niles Memorial Library, and the North Jay Grange Store are discussed in Section 6.0 (below).

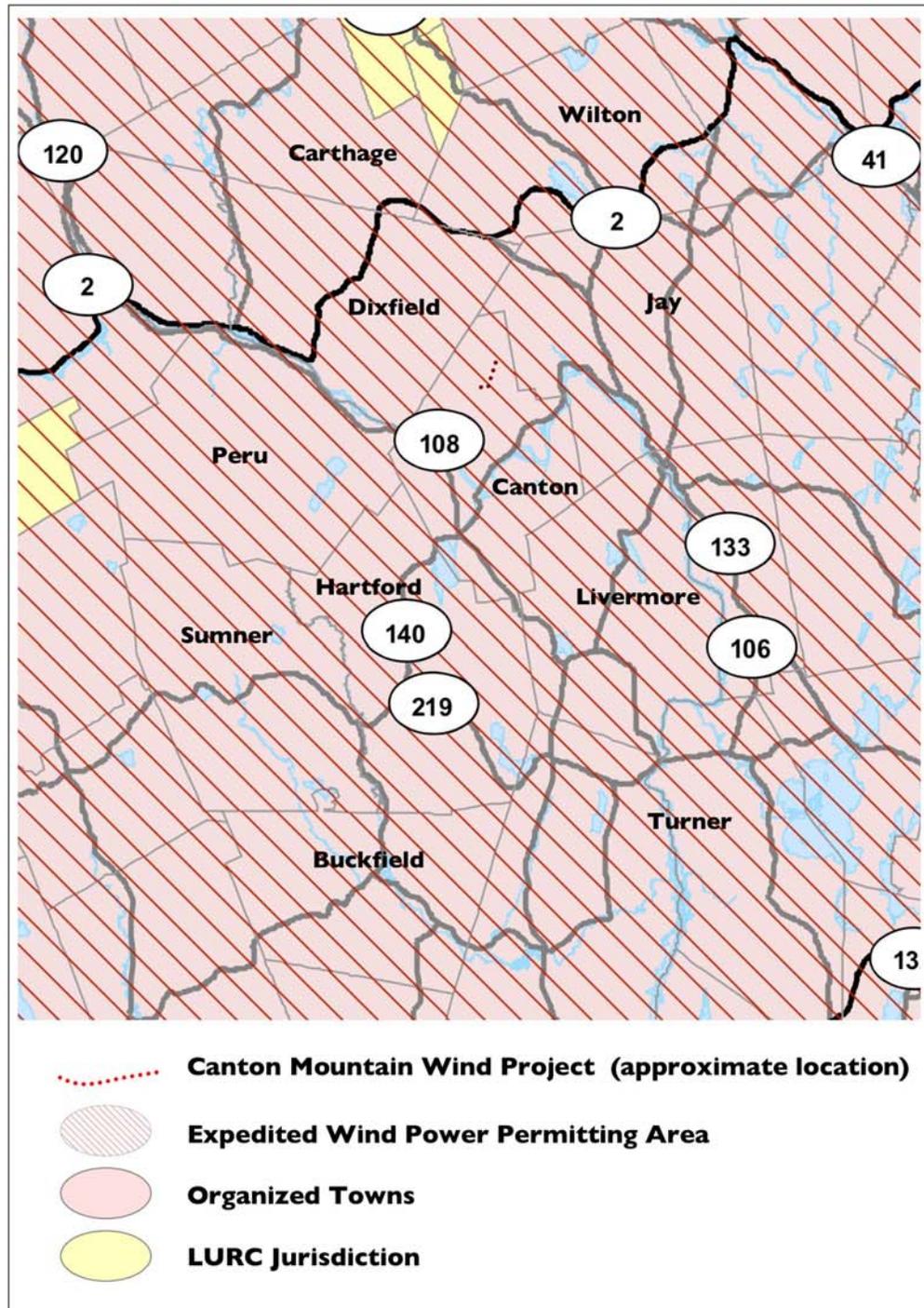
The Project will not be visible from any National Natural Landmarks, federally designated wilderness areas, National Parks, State Parks, scenic river segments, scenic viewpoints located on state public reserved land or on a trail exclusively for pedestrian use, or MDOT scenic turnouts. There is no coastal area within the 8-mile study area, therefore viewpoints within coastal areas were not considered.

### **3.3 Regulatory Standard**

In making findings regarding the effect of an expedited wind energy development on scenic character and existing uses related to scenic character, DEP shall determine whether the development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic values and existing uses related to scenic character of a scenic resource of state or national significance. The Legislature specifically removed the requirement that a wind energy development fit harmoniously into the existing natural environment in terms of potential effects on scenic character and existing uses related to scenic character.

If DEP determines that the associated facilities (i.e., access roads, O&M building, substation, turbine pads, meteorological towers, and generator lead line) may have an unreasonable adverse effect on scenic character and existing uses due to the scope, size, location, or other characteristics of the associated facilities, they are to be evaluated under traditional standards found in 06-096 CMR 375(14) and 06-096 CMR 315. Otherwise, the associated facilities are reviewed under the modified scenic impact standard applicable to the wind generating facilities. As discussed in Section 6.3 below, the associated facilities will not have an unreasonable adverse effect on scenic character and existing uses and therefore are reviewed under the modified scenic impact standard applicable to wind generating facilities.

**Figure 1: Expedited Windpower Permitting Areas in Vicinity of Canton**



## 4.0 PROJECT STUDY AREA

### 4.1 Existing Character of the Surrounding Area

The visual resource study area is defined as the potential viewshed within eight miles of the Canton Mountain Wind Project, which is illustrated on Figure 2. The regional character is described by the existing landforms, water resources, vegetative patterns, and cultural character. The viewers' experience is influenced by both the natural resources and the cultural patterns that utilize those resources.

- **Landform.** The study area is located at the southern end of the Western Maine Foothills biophysical region.<sup>3</sup> This part of the state is characterized by relatively low, rounded mountains that rise 700 to 1,700 feet above the surrounding river valleys and lowlands. Rocky outcrops and bold escarpments are found on several of the mountains, especially on south-facing slopes. Small streams in steeply sloping channels are common.<sup>4</sup>

The landscape to the south and east of the Project area is generally flat to rolling within the floodplain of the Androscoggin River and includes several small ponds. The flat land adjacent to the river directly south of the Project is open agricultural land. The landscape to the north and west contains more mountainous terrain.

The topography in the Project area ranges from relatively flat, at the lower elevations and in the vicinity of the O&M building, to moderate and steep side slopes that climb from roughly 1,000 feet to 1,600 feet above sea level. The main ridge on Canton Mountain is approximately 1.0 mile in length. The ridgeline between the northernmost and southernmost proposed turbines ranges in elevation from 1,324 to 1,538 feet above sea level. Other significant landforms in the study area include Colonel Holman Mountain (elevation 1,850 feet) to the northwest in Dixfield, and Puzzle Mountain (elevation 3,133 feet) to the northeast in Jay.

- **Water Resources.** The study area within eight miles of the Project contains 10 lakes and ponds, ranging in size from 582 acres (Lake Anasagunticook) to small, unnamed ponds of less than ten acres. There are no named ponds within three miles of the Project. Forest Pond (3.8 miles south of the Project) and Nelson Pond (6.5 miles south of the Project) are rated "Significant" for scenic resources by the Maine Finest Lake Study.

The Androscoggin River bisects the study area, with the closest point being 1.5 miles south of the Project. Most of the approximately 24 miles of river within the 8-mile study area is meandering and relatively smooth with a few islands. This section of the Androscoggin River is not rated for scenic values by the Maine Rivers Study.

- **Vegetative Patterns.** The predominant vegetative cover in the study area is a mixture of second growth forestland, freshwater wetlands, and old field growth. The vegetative patterns within the immediate area of the Project are typical of forestland that has been commercially harvested over the past several generations.

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<sup>3</sup> McMahon, J.S. *The Biophysical Regions of Maine: Patterns in the Landscape and Vegetation*. M.S. Thesis. University of Maine, Orono. 1990. Bailey, R.G. *Description of the Ecoregions of the United States*. Miscellaneous Publication No. 1391, U.S. Department of Agriculture, Forest Service, Washington, DC. 1995.

<sup>4</sup> Bailey, R.G. *Description of the Ecoregions of the United States*. Miscellaneous Publication No. 1391, U.S. Department of Agriculture, Forest Service, Washington, DC. 1995.

- **Cultural Features** within eight miles of the Project are concentrated in and around the towns of Canton (4.6 miles to the south), Jay (4.3 miles to the east), Livermore Falls (6.3 miles to the southeast), Wilton (5.8 to the northeast), and Dixfield (7.4 miles to the west). Canton features a small village center with numerous homes, town hall, historic buildings (none on the National Register), Heritage Park, a war monument, a recently rebuilt dam, and a few commercial buildings. There are also numerous lakeside cottages on Lake Anasagunticook (Canton Lake), Worthley Pond in Peru, Wilson Lake in Wilton, and Round Pond and Long Pond in Livermore. The small village of North Jay, located 3.6 miles to the northeast at the intersection of Routes 17 and 4, features several historic structures including the Jay-Niles Memorial Library and the North Jay Grange Store, both on the National Register of Historic Places. Scattered rural residential development is found along many of the local roads.

The study area is a largely natural landscape with several areas of significant human alteration. Current land use in the Project area consists of undeveloped, privately owned forestland and commercial forestry operations in the vicinity of the proposed access road, ridgeline, and transmission line.

#### 4.2 Distance Zones

The concept of distance zones 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>5</sup> Given the size of the wind turbines that are being used throughout Maine, the distances that have been used to evaluate scenic impacts may have different significance for wind power projects. Nonetheless, the evaluation of foreground, midground, and background provides a useful framework for evaluating the presence of wind turbines and their related facilities in the larger landscape. The distance zones used for the study of the Canton Mountain Wind Project are defined as:

- **Foreground:** 0 to 1/2 mile in distance. Within the foreground, observers are 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. There are no scenic resources of state or national significance within the foreground of the Canton Mountain Wind Project.
- **Midground:** 1/2 mile to 3-5 miles in distance. The midground is a critical part of the natural landscape. The Maine Wind Power Act presumes that a visual impact assessment will be required to evaluate potential scenic impacts to scenic resources within three miles. 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.

Since wind turbines are very large and relatively simple objects, their form and color are readily distinguishable within the midground and well beyond into the background (up to eight miles from the observer). All of the turbines will be seen in the midground from Forest Pond, where the closest turbines will be seen at distances of 3.8 to 4.6 miles to the south. Most of the

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<sup>5</sup> Landscape Aesthetics: A Handbook for Scenery Management. USDA Forest Service. Agricultural Handbook Number 701. December 1995.

turbines will be seen filtered through deciduous vegetation from the Jay-Niles Memorial Library at distances of 3.7 to 4.6 miles and from the North Jay Grange Store at distances of 3.6 to 4.5 miles.

- **Background:** greater than 3 to 5 miles.<sup>6</sup> Background distances provide the setting for panoramic views that give the observer the greatest sense of the larger landscape. However, distance and haze will often obliterate the surface textures, detailing, and form of project components. At these distances wind turbines tend to be perceived as relatively small objects in the landscape, especially when compared to the height of surrounding landforms. They are most noticeable when seen on ridgelines silhouetted against the sky. The Maine Wind Power Act has recognized that turbines beyond 8 miles will be relatively indistinct and will not have a significant impact on scenic resources of state or national significance.

Due to the thinness of the design, the ends of the turbine blades will be minimally visible in the outer portion of the background. Turbines beyond 8 miles will be visible only if they present a noticeable contrast in form or line and weather conditions are favorable. Beyond that distance turbine blades are usually only visible under extremely clear weather conditions.

There are no scenic resources of state or national significance with views of the Project in the background.

## 5.0 PROJECT DESCRIPTION

The following section describes the visible components of the Canton Mountain Wind Project.

### 5.1 Wind Turbines

Canton Mountain Wind, LLC (CMW) is proposing the Canton Mountain Wind Project, a 22-megawatt (MW) wind project located in Canton, Oxford County, Maine. The Project will consist of eight General Electric (GE) 2.75-MW wind turbines: seven model GE 2.75-103 turbines and one model GE 2.75-100 turbine. Each turbine is 85 meters (approximately 279 feet) to the center of the hub. The seven GE 2.75-103 will have 103-meter diameter rotors for a total height of 136.5 meters (approximately 448 feet) to the tip of a fully extended blade. The one GE 2.75 -100 will have a 100-meter diameter rotor for a total height of 135 meters (approximately 443 feet) to the tip of a fully extended blade. The seven GE 2.75-103 turbines run north /south on Canton Mountain, and the GE 2.75-100 turbine is located on the southwestern end of the string. The turbines are controlled electronically so they always face into the wind.

The Project may also use turbines from other manufacturers including the Gamesa G90 turbine on a 78-meter tower with a 90-meter rotor diameter. Alternate turbines proposed are smaller, so all studies have used the larger GE turbine layout (seven 2.75-103 and one 2.75-100 turbines) to show the possible worst-case scenario.

All components of the turbine will be painted white to provide contrast for pilots. White turbines will allow the Project to only have red nighttime lighting. If an alternate color were used, the FAA would

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<sup>6</sup> For purposes of this visual impact assessment, the background viewing distance is limited to eight miles, since the Legislature has determined that “the primary siting authority shall consider insignificant the effects of portions of the development’s generating facilities located more than 8 miles, measured horizontally, from a scenic resource of state or national significance.” (§ 3452.3.)

likely recommend white strobes for daytime lighting, which would make the Project considerably more noticeable.

Turbine contrast and visibility is a highly variable phenomenon; turbines can appear to change from dark gray to a shade that almost matches the background sky, depending upon the time of day, orientation of the viewer, atmospheric conditions, and weather. In the midground and background viewing distances (greater than five miles) where the Project will typically be seen, the turbines will appear as light gray due to the effects of atmospheric perspective, especially on hazy or overcast days.

The turbine blades will spin very slowly in low wind and will begin producing power when the wind velocity reaches 3 m/s (approximately 6.7 mph). If the wind reaches a certain maximum velocity (generally 25 m/s or approximately 56 mph), which will vary with the intensity of turbulence, the machines will cut out. The turbines may not be operational at other times, such as when the winds are in-line (wind direction is parallel to the string, which limits the number of turbines that can operate) or when they are taken out of service for repair.

Depending upon the wind velocity, the blades will rotate at 5-14.8 revolutions per minute (RPM), which is equivalent to one revolution every 4 to 12 seconds. Under typical viewing conditions (within eight miles) individual blades will be visible with virtually no detectable blurring as they rotate.

Turbine spacing is a function of meteorological considerations related to wind speed and direction, interference from adjacent turbines, and other technical factors. The siting of individual turbines has taken into account the wind resource, site-specific topography, access road locations, proximity to wetlands, and other site conditions.

## **5.2 Project Lighting**

Lighting for the Project will follow the Federal Aviation Administration (FAA) recommendations for aviation safety. By using white turbines, which offer a considerable amount of visual contrast for pilots, the FAA will not require daytime lighting.<sup>7</sup> Red nighttime lights will be mounted on the top of some of the nacelles in accordance with an FAA-approved lighting design. Lights are typically required on the ends of turbine strings, and at one-half mile intervals. The nighttime lights will be red, synchronized, and flash with a slow-on, slow-off profile.

The L-864 lamp that is specified by the FAA is designed to be most visible to oncoming pilots. Because nighttime lighting is required by FAA regulation to concentrate emitted light to a beam that is  $3\pm$  degrees of horizontal, the intensity of the light diminishes below the horizon, which minimizes impacts on surrounding land uses.

## **5.3 Access Roads**

The Project will include the upgrading of 7,175 linear feet (LF) of an existing road known as Ludden Lane, the upgrading of 8,600 feet of an existing unnamed private gravel logging road that begins at the end of Ludden Lane, and construction of a new 3,425-LF access road extending to the ridgeline that will be 24' in width. Access along the ridgeline during construction will be via an approximately 7,175-LF gravel road,  $32'\pm$  in width, which will connect the wind turbine tower foundations. Following construction, the width of new access roads will be reduced to  $12'\pm$  with periodic turnouts, and existing roads will be reduced to their original width.

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<sup>7</sup> Advisory Circular AC 70/7460-1K. Obstruction Marking and Lighting. Chapter 13: Marking and Lighting Wind Turbines. Federal Aviation Administration, U. S. Department of Transportation. February 1, 2007.

## **5.4 Electrical Collection System**

Power from the turbines will be collected in a 34.5-kilovolt (kV) underground electric collector line system buried within the ridgeline road work limits. The underground collector line will transition to an aboveground transmission line on the access road, approximately 3,425 feet down from the new ridgeline access road. From there it will continue aboveground, mounted on wood poles, for approximately 8,405 feet roadside along the upgraded private road until it reaches the transmission line corridor for the Saddleback Ridge Wind Project (Maine DEP license L-25137-24-A-N/L-25137-TG-B-N). Poles will be placed within the existing transmission corridor and travel 5,800 feet to the Ludden Lane Substation; for one section of approximately 1,400 feet the conductors will be mounted on an existing set of poles within the corridor.

## **5.5 Operations and Maintenance Facility**

The operations and maintenance (O&M) building will be located on a leased parcel of land along Ludden Lane in Canton. The facility will consist of a 3,500-square-foot (SF) building (either one or two stories) that will serve as an office for up to six people, a 7,500 (SF) parking area, and an area for outside storage.

## **5.6 Meteorological Tower**

One temporary meteorological tower has been installed on Canton Mountain, and a second is being installed in December 2011; both will be removed during construction. There will be no permanent meteorological tower at the Project; instead, each turbine will have built-in anemometers to measure wind speed.

## **5.7 Turbine Pads**

A cleared and level pad averaging one acre in size will be required at the base of each turbine for staging, crane movement, and turbine installation. Additional clearing and grading may be needed in some areas to account for cut/fill slopes. Following construction the majority of crane assembly and turbine pad areas will be allowed to naturally revegetate.

## **5.8 Laydown Areas**

The design calls for laydown areas along the ridgeline to be used in various locations for temporary storage of turbine and/or electrical components to accommodate the need to potentially store equipment and materials during construction. These areas will be reseeded after construction.

# **6.0 VISUAL IMPACTS ON SCENIC RESOURCES OF STATE OR NATIONAL SIGNIFICANCE**

## **6.1 Evaluation Criteria in the Maine Windpower Act**

As noted in Section 3, there are eight scenic resources of state or national significance within eight miles of the Canton Mountain Wind Project. Of these, three may be affected by views of the turbines. The following section evaluates the potential visual impact on each of these resources, using the criteria in the Maine Windpower Act:

- **Context.** The existing character of the surrounding area and the context of the proposed activity. (35-A MRSA § 3452.3.B and 3452.3.D).
- **Significance.** The significance of the potentially affected scenic resource of state or national significance (§ 3452.3.A).
- **Public Uses.** The extent, nature and duration of potentially affected public uses of the scenic resource of state or national significance. (§ 3452.3.E).
- **Viewer Expectations.** The expectations of the typical viewer who would be using or enjoying the scenic resource of state or national significance. (§ 3452.3.C).
- **Project Impact.** The scope and scale of the potential effect of views of the Project 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. (§ 3452.3.F).
- **Potential Effect on Public Use.** 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. (§ 3452.3.E).
- **Overall Scenic Impact.** A determination of whether the development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of the scenic resource of state or national significance. (§ 3452.1).

## 6.2 Scenic Areas of State or National Significance

The following section describes each of the scenic areas of state or national significance within the study area that may be affected by views of the Project.

**A. National natural landmarks (NNL), federally designated wilderness areas, or other comparable outstanding natural and cultural features.** According to the NNL website<sup>8</sup> there are no National Natural Landmarks within eight miles of the Canton Mountain Wind Project.

**B. A property listed on the National Register of Historic Places.** The National Register of Historic Places lists six properties within eight miles of the Canton Mountain Wind Project (see Table 1). The Viewshed Map and field investigation have determined that two of these resources – the North Jay Grange Store and the Jay-Niles Memorial Library in Jay – will have Project visibility. Views of the Project from the other sites are blocked by intervening vegetation and topography.

<b>HISTORIC PLACE</b>	<b>TOWN</b>	<b>NPS REF #</b>	<b>DISTANCE (miles)</b>	<b>TURBINES VISIBLE</b>
Goodspeed Memorial Library	Wilton	88003019	5.7	0
Bass Boarding House	Wilton	88000396	5.6	0
North Jay Grange Store	North Jay	74000150	3.6	8
Jay-Niles Memorial Library	North Jay	87000414	3.7	8
Holmes-Crafts Homestead	Jay	73000105	3.8	0
Nelson Family Farmstead	Livermore	92001707	7.1	0

<sup>8</sup> [www.nature.nps.gov/nnl/state.cfm?State=ME](http://www.nature.nps.gov/nnl/state.cfm?State=ME)

## NORTH JAY GRANGE STORE

**Context.** The North Jay Grange Store is a privately-owned building that occupies a prominent corner at the intersection of Routes 4 and 17 in North Jay. The period of significance is 19<sup>th</sup> century. A vacant lot and remnant gas pumps next to the Grange Store stand as mute testimony to structures and activities that once helped form a small village at this location, rather than the highway intersection that it has become. The building is in need of paint and cosmetic repair. The Jay-Niles Memorial Library, the other structure within the study area on the National Register, sits on a commanding hill on the northeast side of the intersection. See photographs of the property in Appendix A.

**Significance.** The North Jay Grange Store was nominated to the National Register in 1974. At that time, the building had the distinction of being “America’s last Grange Store.” The nomination form noted its areas of significance as agriculture, commerce, and social/humanitarian. The North Grange Hall and store “stands as a symbol of an earlier day, still preserved in the rapidly disappearing rural landscape.” The building is described as “some giant clapboard ark sailed from the days of Benjamin Harrison.”<sup>9</sup> There is no mention in the nomination form of how the building relates to its immediate landscape setting.

**Public Uses.** Under the “Accessible to the Public” box on the nomination form, both ‘Restricted’ and ‘Unrestricted’ are checked. According to local residents the Grange Hall is still used for occasional Grange meetings, but the Grange Store itself is closed. There are no signs or other visual cues indicating public access to either the building or the grounds where views of the Project may be possible. On June 8, 2011, 71 people gathered to celebrate the 137<sup>th</sup> anniversary of the founding of the North Jay Grange Store.<sup>10</sup> The store apparently went out of business in 1976, a victim of “hard times and supermarket chains.”<sup>11</sup>

**Viewer Expectations.** The entrance is on the north side of the building, from which there will not be views of the Project. It is unlikely that attendees at Grange events have heightened scenic expectations, given the current condition of the property and its immediate surroundings.

**Project Impact.** The Project will not be visible to someone standing at the front of the building (facing northeast), since the turbines will be seen on the hills to the southwest, at the rear of the building. As seen in Photosimulation 2, one turbine would be visible at a distance of less than four miles to the southwest during the leaf-on months. Up to 8 turbines may be visible during leaf-off conditions, filtered through the branches of the large trees that surround the store. See photographs of the surrounding landscape in Appendix A. The visible turbine(s) will be seen in the context of the highway intersection, the remnants of an adjacent gas station, a pizza shop on the opposite side of Route 17, and the Jay-Niles Memorial Library. At this distance, the turbine(s) will not be a dominant presence in the landscape.

**Potential Effect on Public Use.** The Project should have no impact on the use of the property, since the primary function of the Grange now seems to be occasional meetings inside the structure, which is not related to the scenic quality of the surrounding landscape.

**Cumulative Impact.** The Cumulative Viewshed Map (Figure 5) illustrates that turbines from both the Canton Mountain Wind Project and the Saddleback Ridge Wind Project may be visible from the Grange

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<sup>9</sup> National Register of Historic Places Inventory – Nomination Form. North Jay Grange Store. Aug. 29, 1974.

<sup>10</sup> Jay Fire and Rescue website, June 8, 2011. <http://jayfirerescue.com/news.html?view=1&id=40831>

<sup>11</sup> Milwaukee Sentinel. January 22, 1976.

<http://news.google.com/newspapers?nid=1368&dat=19760122&id=YnVQAAAAIIBAJ&sjid=2REEAAAAIIBAJ&pg=2354,3663885>

Store. The turbines from the Canton Mountain Wind Project would be seen at the rear of the building (to the southwest); however, the VIA for the Saddleback Project determined that the turbines for that Project would be blocked by intervening vegetation and buildings, so there will be no cumulative visual impact.

**Conclusion.** The Project should not compromise views from or of the North Jay Grange Store. The Project should not have an unreasonable adverse effect on its scenic character or the uses related to the scenic character of this historic property. The Project should have no impact on the public's use of the property, since the primary functions of the store (now closed) and the Grange Hall occur inside the structure and are not related to the scenic quality of the surrounding landscape.

### **JAY-NILES MEMORIAL LIBRARY**

**Context.** The Jay-Niles Memorial Library is a municipally owned building on Route 4 in North Jay, designed in the Colonial Revival style by Prescott and Sidebottom, Architects. The period of significance is from 1900 to 1924. The building sits on a hillside overlooking the intersection of Routes 4 and 17 in North Jay. The North Jay Grange Store, the other structure within the study area on the National Register, sits on the opposite side of the intersection (see description above). Other structures in the immediate vicinity include older homes with attached barns and shed, a pizza shop, and highway commercial buildings. See photographs of both properties in Appendix A.

**Significance.** The Memorial Library was added to the National Register in 1987. The nomination form noted its significance as "architecture", and describes it as "one of the most notable buildings in this small cross-road community." It holds further significance as a reminder of the past -- and present -- commitment to the provision of a public library for the citizens of North Jay."<sup>12</sup>

**Public Uses.** The library is open to the public six days a week (except during July and August when it is closed on Saturdays).

**Viewer Expectations.** The community takes a great deal of pride in the building, as evidenced by its current condition and the descriptions on the library website. Library patrons will only be able to see the turbines from the front of the building (west side) and the pathway leading from the parking lot to what had been the main entrance. The current entrance is on the north side of the building, which will not have views of the Project. The turbines should not affect typical users, who will not be aware of their presence when they are inside the library in the normal course of using its facilities.

**Project Impact.** From the west side of the library (the former main entrance) views of all but one of the turbines would be filtered by vegetation on the opposite side of the highway throughout most of the year. As seen in Photosimulation 1, one turbine would be visible at a distance of less than four miles to the southwest during the leaf-on months. Up to 8 turbines may be visible during leaf-off conditions, filtered through the branches of the large trees that surround the Grange Store. See photographs of the surrounding landscape in Appendix A. The visible turbine(s) will be seen in the context of the highway intersection, the Grange Store, and a significant number of wire utilities in the foreground. At this distance, the turbine(s) will not be a dominant presence in the landscape.

**Potential Effect on Public Use.** The Project should have no impact on the public's use of the property, since the primary functions of the library occur inside the structure and are not related to the scenic quality of the surrounding landscape.

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<sup>12</sup> National Register of Historic Places Inventory – Nomination Form. Niles Memorial Library.

**Cumulative Impact.** From the outside of the library the eight Canton Mountain turbines will be seen in conjunction with the 12 turbines that were approved by DEP for the Saddleback Ridge Wind Project. The Canton turbines will be seen in the midground over an arc of 10° in the southwest, filtered through trees in the foreground. The Saddleback turbines will be seen at a distance of 7.8 miles over an arc of 12° in the northwest, filtered through trees and utility lines in the immediate foreground. The viewing angle between the two groups of turbines (measured at their closest points) is 59°. This is an example of a successive cumulative visual impact where observers would not be aware of both groups of turbines without turning their head.<sup>13</sup>

**Conclusion.** The Project should not compromise views from the Jay-Niles Memorial Library or its setting. The Project should not have an unreasonable adverse effect on the scenic character of the library or the uses related to the scenic character of this historic property. The Project should have no impact on the public's use of the property, since the primary functions of the library occur inside the structure and are not related to the scenic quality of the surrounding landscape.

**C. National or State Parks.** There are no National or State Parks within eight miles of the Project.

**D. Specified Great Ponds.** There are two great ponds within eight miles of the Project that have been designated as significant from a scenic perspective: Forest Pond in Canton and Nelson Pond in Livermore. The Viewshed Map and field investigation have determined that there would be no views of the Project from Nelson Pond. The pond is also entirely surrounded by private property (TJD&A had to gain permission from the landowner to visit this site).

## FOREST POND

**Context and Character.** Forest Pond in Canton, (45 acres, elevation 437 feet) is a small, rather remote pond, and is the only waterbody that is considered a scenic resource within the 8-mile study area. The surrounding landscape is comprised of rolling wooded hills draining to Fuller Brook to the east and the Androscoggin River, 0.7 to 1.0 miles to the northwest and northeast. The most distinctive landform in the immediate vicinity is Jewett Hill (elevation 913), which rises 476 feet above the west side of the pond. The Canton Comprehensive Plan notes that the pond is 44 acres in size, drains 0.31 square miles, and has a maximum depth of 23 feet. It is described as "relatively isolated and thus has experienced little development."<sup>14</sup> Photographs of the pond and the surrounding landscape are provided in Appendix A.

Maine Department of Inland Fisheries and Wildlife surveyed the pond in 1999 and reported the following:

*Forest Pond is a small, remote pond with no development. Its rocky shoreline has several rock bluffs, which are commonly used by campers.*

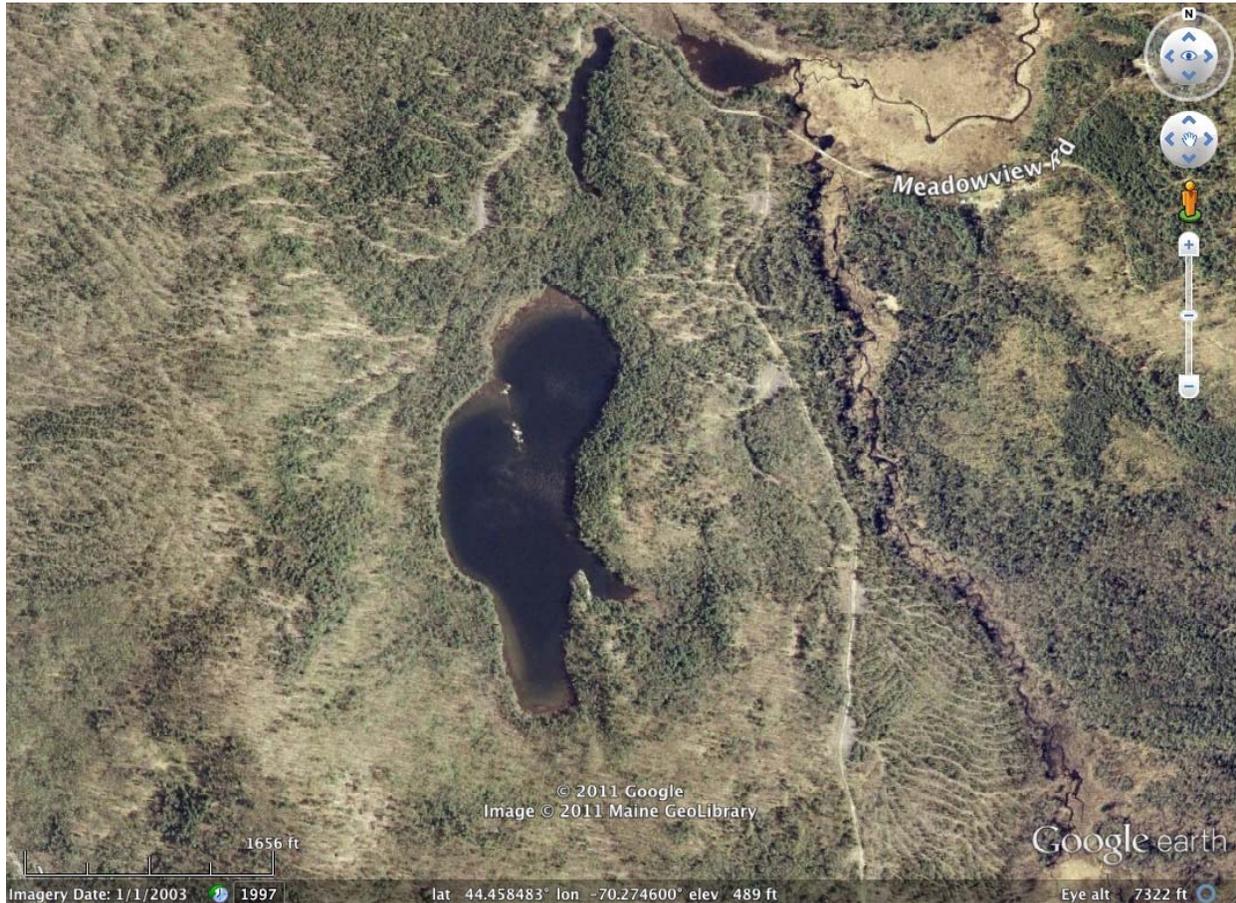
*The pond can be accessed via a rough, dirt road located on Meadow View Road in Canton. A traditional access exists on the western and northern shoreline, but the rough entry road limits access to canoes and car-top boats. Purchasing and developing access is a continuing priority of this department.<sup>15</sup>*

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<sup>13</sup> MaineOIEIS, Assessment of Cumulative Visual Impacts from Wind Energy Development. November 15, 2011.

<sup>14</sup> Town of Canton Comprehensive Plan, 2004.

<sup>15</sup> Maine Department of Inland Fisheries and Wildlife. Forest Pond, Canton Twp., Oxford County. Surveyed September 1954, Revised 1999.

**Figure 6: Forest Pond Vicinity, Canton, Maine**

As seen in the Google Earth image, the woodland surrounding the pond has been harvested in recent years. A series of haul roads has been created to provide access to this commercial forestland. However, none of these roads provide direct access to the pond.

A gravel road provides limited access to the northwest side of the pond. The dirt road leading south from Meadow View Road is currently blocked by earth mounds to prevent vehicular access. Access to the pond requires a considerable amount of bushwhacking through dense second growth and wetlands to reach the peninsula on the southern end.

At its southern end of the pond, the closest turbine is approximately 3.8 miles to the north-northwest.

**Significance.** Maine's Finest Lakes, The Results of the Maine Lakes Study rated the scenic character of Forest Pond as significant, along with its shoreline character and fisheries resources. The Maine Lakes Study gave the pond an Overall Rating of 2 (lakes or ponds with no outstanding values but at least one significant value).

Prior to the publication of the Maine's Finest Lakes, the State Planning Office issued An Evaluation of Lake Scenic Quality in Maine's Organized Towns, which evaluated the scenic characteristics of all 963 lakes and ponds (with a surface area greater than 10 acres) in Maine's organized towns. The Evaluation was based on six criteria: relief, physical features, shoreline configuration, vegetation diversity, special

features, and inharmonious development. A point system was developed to assign a rating to each of the criteria, depending upon their presence in the landscape. Table 2 provides a short description of each of the criteria and summarizes the findings for Forest Pond:<sup>16</sup>

**Public Uses.** Recreational use of the pond includes boating, fishing, ice fishing, camping, and swimming. There is no formal boat access, although it may be possible to carry a light boat in from Meadowview Road on the north. There are no public records that indicate the use levels on the pond. According to local residents a small beach at the north end (outside of the Project viewshed) is used by people in the vicinity. The Canton Comprehensive Plan does not mention Forest Pond in the section on public recreation. The Plan does not have a section on scenic resources within the community.

**Viewer Expectations.** People who use Forest Pond are expected to have moderate to high expectations of scenic quality, based upon the complexity of the views from the pond, the relief offered by the surrounding landforms, and the configuration of the shoreline.

<b>CRITERIA</b>	<b>DEFINITION</b>	<b>MAX. PTS</b>	<b>SCORE</b>
A. Relief	Complexity of relief Dramatic relief	30	20
B. Physical Features	Cliffs, vertical ledges, slab ledges, rockslides, boulders, islands, beaches.	25	15
C. Shoreline Configuration	Relative complexity of the shoreline.	15	10
D. Vegetation Diversity	Four possible types were identified: mixed hardwood/softwoods; softwoods; marsh; super-story trees.	15	0
E. Special Features	Water clarity Opportunities for wildlife viewing	15	0
F. Inharmonious Development	Residential development, visible roads, powerlines, etc.	-20	-0
<b>TOTAL</b>		<b>100</b>	<b>45</b>

**Visual Impact on Forest Pond.** The viewshed map indicates that turbines will be visible from approximately 75% of the pond, primarily on the southeasterly side. The only exception is an area on the north and northwestern end of the pond, where shoreline vegetation will block views of the turbines.

Photosimulation 3 illustrates the change in the visual environment of the pond from the construction of the Project. The viewpoint is from a distinct rocky peninsula at the southern end of the pond, where campfires and rustic lean-to's provide evidence of some informal camping activity. From this location all eight turbines will be visible and seen in silhouette against the sky over an arc of approximately 10° at distances of 3.8 to 4.6 miles. Seven of the turbines will be visible on Canton Mountain; an eighth turbine will appear as an isolated installation (to the left of the view in the photosimulation). As seen in the photosimulations, the turbines will appear to be approximately 1/3 of the height of Canton Mountain.

Canton Mountain acts as a focal point from the southern end of Forest Pond, framed by the lower elevations of Jewett Hill on the east. The presence of the turbines will have an effect on the character of the southern end of Forest Pond and the view toward Canton Mountain by introducing man-made

<sup>16</sup> Maine State Planning Office. An Evaluation of Lake Scenic Quality in Maine's Organized Towns. May 1989.

elements in a largely natural landscape. The presence of the turbines will have an adverse impact to the scenic value of the southern half of Forest Pond.

The primary visual impact will be to the campers, boaters, anglers, and swimmers who use the southern part of the pond, uses which are generally not scenery-dependent. The red warning lights on the turbines will be visible from most locations on the pond; however, since there is no development or designated campsites on the privately-owned shoreline, the number of people who would be affected by the lights is limited.

**Potential Effect on Public Use.** Recent surveys of recreational users in Maine for wind power projects near water bodies have shown that the presence of wind turbines will not have a major effect on the public's continued use and enjoyment for water-related activities. For example, for the Bull Hill Wind Project, in a survey of recreational users of Donnell Pond, 78% of the respondents indicated that the addition of wind turbines to the view would not affect their use of the pond for water activities such as boating, canoeing, kayaking, swimming, or fishing. In addition, 4% of the respondents indicated that they would more likely return to Donnell Pond for water activities, while 3% said that they would be less likely to return for water activities.<sup>17</sup>

Given the limited existing use of Forest Pond, the presence of the turbines is not expected to have a substantial effect on public recreational use.

**Overall Scenic Impact.** The presence of the turbines will have an adverse visual impact on Forest Pond, as illustrated in the photosimulation from the southern end. Major moderating factors include the relatively low use that the pond receives, the lack of designated and/or easy public access, and the types of uses (fishing, swimming, boating) that occur there are not scenery dependent. Surveys of similar situations indicate that, while the presence of wind turbines will have a negative effect on the scenic value of the resource, they will not affect people's desire to return to the pond to enjoy water-based recreational activities. Therefore, the Project should not have an unreasonable adverse effect on its scenic character or the uses related to the scenic character of Forest Pond. The overall scenic impact for Forest Pond is rated Low to Medium.

**E. Specified Scenic Rivers.** There are no scenic rivers or streams identified as having unique or outstanding scenic attributes, as listed in the Maine Rivers Study, within eight miles of the Project.

**F. Scenic viewpoints or specified trails.** There are no scenic viewpoints located on state public reserved land within eight miles of the Project. There are no trails exclusively for pedestrian use within eight miles of the proposed Project.

**G. Scenic turnouts.** There are no scenic turnouts on any designated scenic highways constructed by the Department of Transportation within eight miles of the Project.

**H. Scenic viewpoints located in the coastal area.** The Project is not located within eight miles of a coastal area, nor are there any scenic coastal viewpoints within eight miles of the Project.

### 6.3 Associated Facilities

The associated facilities for the Canton Mountain Wind Project include the access road, the crane pad and assembly areas, the O&M facility, and the generator lead line. None of these associated facilities will be

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<sup>17</sup> Bull Hill Wind Power Project Intercepts Research Report, Market Decisions, October 2010.

visible from any scenic resource of state or national significance. As discussed in more detail below, the associated facilities will not be of a location, character, or size to have an unreasonable adverse effect on scenic character of the study area, and accordingly are appropriately reviewed under the modified visual standard contained in the Wind Energy Act. Because of the limited visual impact of the associated facilities, they would also comply with the traditional Site Law § 484 Standards for Development.

**A. Access Roads.** During construction, the access roads into the Project will be 24' in width and will use existing forest management roads wherever possible to reduce site disturbance. Each wind turbine site will be linked by a 32' wide gravel road designed to provide safe travel by the crane to the structures throughout construction. After construction the width of access roads will be reduced to 12' with the exception of periodic turnouts. In some instances the topography will dictate a circuitous route to accommodate the engineering requirements of the installation equipment and minimize site disturbance. Where possible, existing logging roads will be upgraded to minimize cutting and earthmoving. The ridgeline roads will be screened by existing vegetation in most locations and will not be highly visible from outside the immediate area.

**B. Crane Pads and Crane Assembly Areas.** Following construction the majority of the crane assembly area and turbine pad areas will be allowed to naturally revegetate. Most of these areas will be screened by existing vegetation that will minimize visibility outside the immediate area.

**C. Operations and Maintenance Facility.** The 3,500 SF O&M building to be constructed along Ludden Lane will be painted a neutral color to minimize color contrast with the surrounding landscape. The location and design have been selected to minimize adverse effects on the scenic character of the surrounding area. The facility will not be visible from any scenic areas of state or national significance.

**D. Generator Lead Line.** The generator lead line has been sited to avoid visual impacts on both the surrounding landscape as well as scenic resources of state or national significance. Power from the turbines will be collected in an underground collector line buried within the ridgeline road work limits. The line will remain underground for 0.65 miles, where it will then be mounted on wooden poles along an upgraded woods road for 1.6 miles. From there it will travel within an existing transmission corridor for another 1.1 miles, avoiding additional clearing. The line terminates at the Ludden Lane Substation. Throughout most of its length the generator lead line will be hidden from public view. The only people who will come in contact with it are those who use Ludden Lane or the woods roads that will be upgraded for the Project.

## 7.0 SUMMARY

The Maine Wind Power Act established several criteria to determine whether expedited wind energy development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of the resource. The summary presented in Table 1 Summary of Evaluation Criteria is based upon the information provided in the Visual Impact Assessment and other information on existing use patterns.<sup>18</sup>

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<sup>18</sup> This section and the Summary of Evaluation Criteria are based upon the Review of the Spruce Mountain Wind Project Visual Assessment, prepared for the Maine Department of Environmental Protection by James F. Palmer, June 11, 2010.

The first five criteria evaluate the 8-mile study area, the immediate Project area, the quality of the resource, existing use patterns and viewer expectations, and the purpose of the Project. Table 1 summarizes the evaluation criteria for the eight resources within the 8-mile study area.

- A. Resource Significance:** This criterion reflects the designation of scenic significance by the State or Federal Government. All the resources on the table have been identified as scenic resources of state or national significance. The light gray shading in Column A in Table 1 denotes a significant resource; there are no resources that have been rated as outstanding (which would have received a darker shading).
- B. Character of Surrounding Area:** This criterion evaluates the setting of the resource and its surrounding area. In most cases the surroundings have been noted as medium (generally of a natural condition for ponds, and of a typical Maine village condition for historic resources). A light gray was assigned to the Grange Store to reflect the vacant properties in the immediate vicinity.
- C. Viewer Expectation:** This criterion takes into account the designation of scenic quality by state agencies, the intrinsic character of the resource, the presence of cultural modifications, and other factors. The darker shades indicate higher viewer expectations. No shading indicates that the site is not open to the public.
- D. Purpose and Context:** This criterion is a reflection of how the Project contributes to the state's goals for energy as per the Wind Energy Act. A light gray color was assigned for all resources, since the Project will make a moderate contribution toward achieving the State's goals.
- E.1. Extent, nature & duration of uses:** This criterion looks at the number of users, the potential for access (in the case of lakes and ponds), the type and extent of facilities, and typical length of stay. Darker shading signifies higher use.

The last two criteria evaluate the possible effect that the Project may have on the use of the resource and the likely visual impacts:

- E.2. Effect on continued use and enjoyment:** Light gray indicates that the Project is not expected to have a major impact on people's continued use and enjoyment. If the Project will not be visible from the resource (as in the case of four historic properties and Nelson Pond), the cell is left blank (no effect).
- F. Scope and scale of project views:** This criterion looks at the number of turbines visible, their position in the landscape, the angle of view that they are seen over, and the distance from the observer. Only turbines within eight miles of the resource are considered. Light gray indicates that the turbines will be seen over a relatively small portion of the view. The darker gray indicates that turbines will be seen as a prominent component of the landscape. If turbines will not be visible the cell is left blank.

## 8.0 CONCLUSION

There are eight scenic resources of state or national significance within the 8-mile viewshed of the Project. Of these, three will have views of the turbines. The visual impact assessment examined the criteria established by the Maine Wind Power Act: i.e., the context, significance, existing public use, viewer expectations, project impact, and the potential effect on public use for each of the scenic resources of state or national significance. This information was used to make a determination of whether the Project would significantly compromise views from these resources such that it would have an unreasonable adverse effect on its scenic character or the existing uses related to its scenic character.

<b>Table 3: Summary of Evaluation Criteria</b>								
<b>Scenic Resource of State or National Significance within 8-mile Study Area</b>	<b>Scenic Impact Evaluation Criteria</b>						<b>Overall Scenic Impact</b>	
	<b>A: Resource Significance</b>	<b>B. Character of Surrounding Area</b>	<b>C: Viewer Expectation</b>	<b>D: Purpose and Context</b>	<b>E.1: Extent, Nature, Duration of Use</b>	<b>E.2: Continued Use and Enjoyment</b>		<b>F: Scope and Scale of Project Views</b>
<b>6B Historic Sites</b>								
Goodspeed Memorial Library, Wilton								None
Bass Boarding House Wilton								None
North Jay Grange Store North Jay								<b>Low</b>
Jay-Niles Memorial Library, North Jay								<b>Low</b>
Holmes-Craft Homestead Jay								None
Nelson Family Farmstead Livermore								None
<b>6D. Great Ponds</b>								
Forest Pond, Canton								<b>Low/Medium</b>
Nelson Pond, Livermore								None

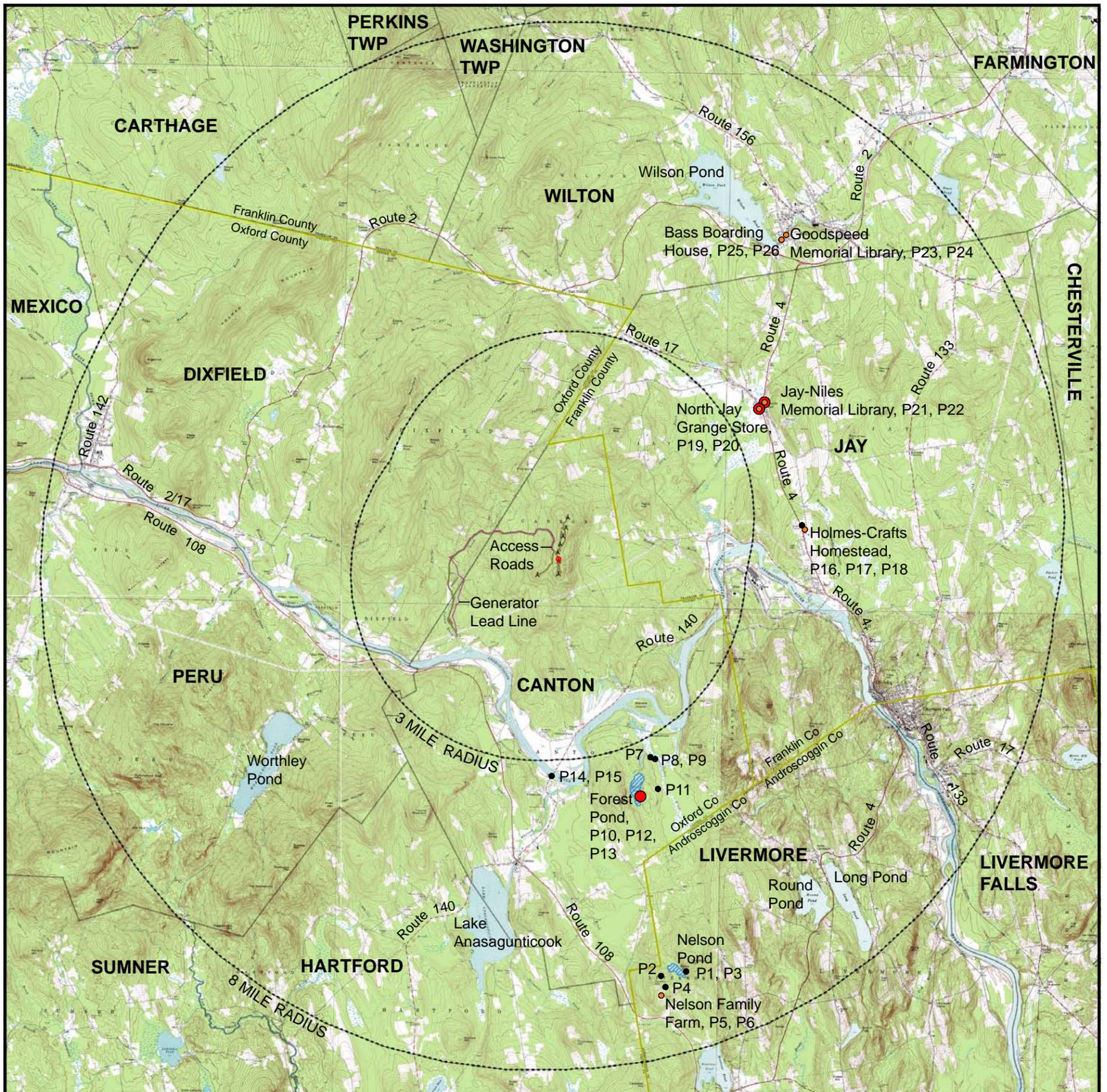
**Legend:** See 7.0 above for descriptions of shading used.

While low to moderate visual impacts are anticipated, the Canton Mountain Wind Project should not have an unreasonable adverse impact on scenic values and existing uses of scenic resources of state or national significance.

- The Project will be visible from approximately 75% of Forest Pond, a small, isolated waterbody in Canton with relatively low use that is a significant scenic resource. The overall scenic impact for Forest Pond is rated Low tending toward Medium.
- The Project will be visible from two structures on the National Register of Historic Places: the North Jay Grange Store and the Jay-Niles Memorial Library. The Project should have no impact on the public’s use of either property, since the primary functions of the library and the store (now closed) occur inside the respective structures and are not related to the scenic quality of the surrounding landscape.

- The Project will not be visible from any National Natural Landmarks, federally designated wilderness areas, National Parks, State Parks, scenic river segments, scenic viewpoints located on state public reserved land or on a trail used exclusively for pedestrian use, or MDOT scenic turnouts.
- Throughout the majority of this area, views of the wind turbines (“generating facilities”) are blocked by topography and roadside vegetation.
- The associated facilities for the Project will have no impact on views from scenic resources of state or national significance. The associated facilities are located in actively managed timberland that is generally out of view from the surrounding area. The associated facilities will not be of a location, character, or size to cause an unreasonable adverse visual affect on the scenic character of the study area.

Figure 2: Study Area Map  
CANTON MOUNTAIN WIND PROJECT



LEGEND

-  PROPOSED TURBINES
-  EXISTING MET TOWER
-  SCENIC LAKE OR POND
-  STUDY AREA PHOTOGRAPHS (SEE APPENDIX A)
-  PHOTOSTIMULATION LOCATION (SEE APPENDIX B)
-  STRUCTURE ON NATIONAL REGISTER
-  COUNTY LINES
-  TOWN LINES
-  PROPOSED ACCESS ROADS
-  PROPOSED GENERATOR LEAD LINE

STUDY AREA MAP

Canton Mountain Wind Project



tjd&a

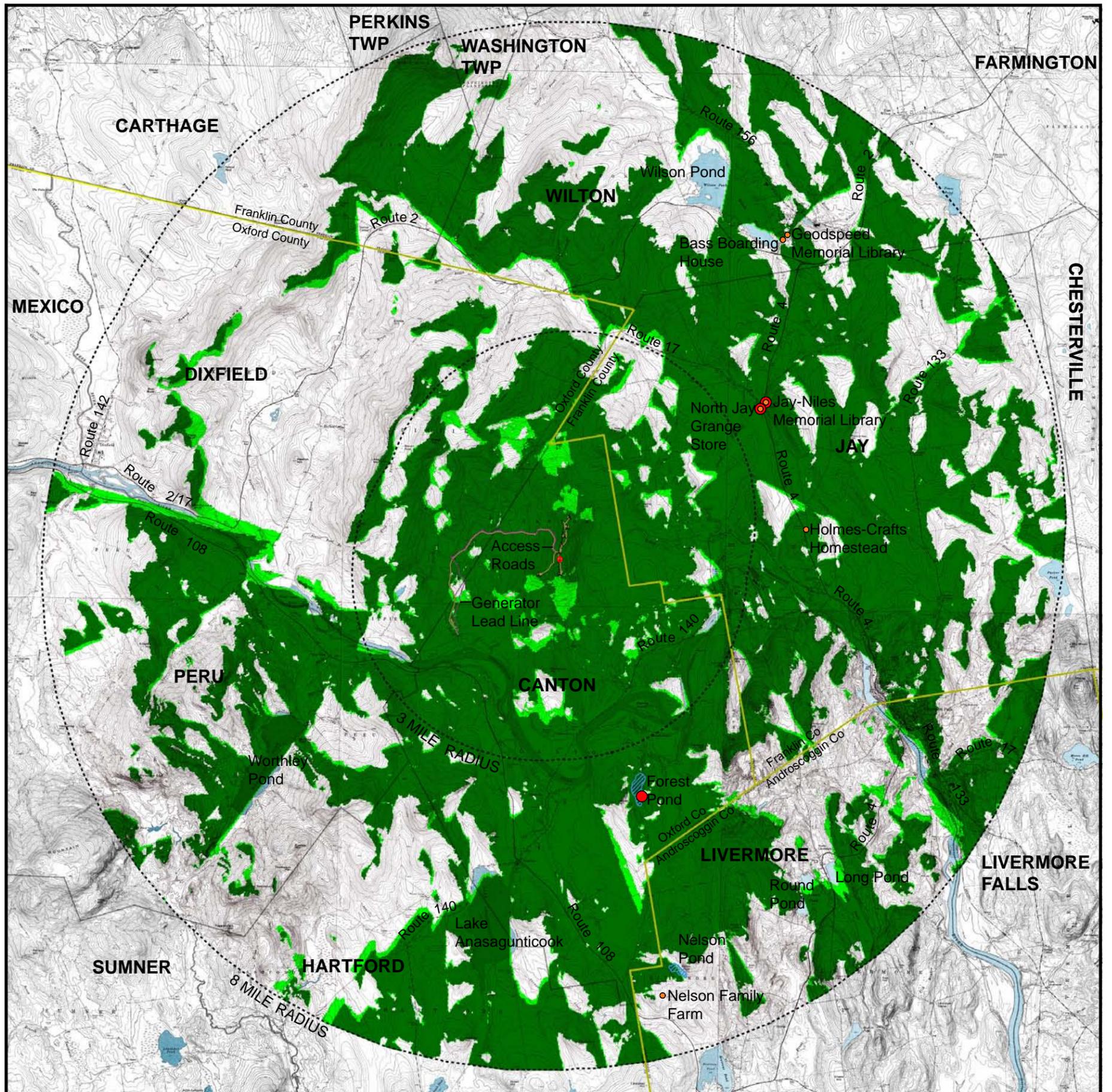


1.0 MILE

DECEMBER 2011

**NOTE:** Viewshed mapping is a preliminary means of visual analysis. While beneficial for preliminary orientation and investigation, viewshed maps are not a definitive indication of visibility. Potential visibility was confirmed through cross sectional analysis, field investigation, and other visualization techniques.

Figure 3: Topographic Viewshed Map  
CANTON MOUNTAIN WIND PROJECT



**LEGEND**

- PROPOSED TURBINES
- EXISTING MET TOWER
- SCENIC LAKE OR POND
- STUDY AREA PHOTOGRAPHS (SEE APPENDIX A)
- PHOTOSIMULATION LOCATION (SEE APPENDIX B)
- STRUCTURE ON NATIONAL REGISTER
- COUNTY LINES
- TOWN LINES
- PROPOSED ACCESS ROADS
- PROPOSED GENERATOR LEAD LINE

**NUMBER OF TURBINES VISIBLE**

- 1-4 VISIBLE TURBINES
- 5-8 VISIBLE TURBINES

**NOTES**

Viewshed Map does not account for the screening effects of existing vegetation, buildings, or other structures that will block views of the Project.

**VIEWSHED MAP  
Topographic**

Canton Mountain Wind Project



**tjd&a**

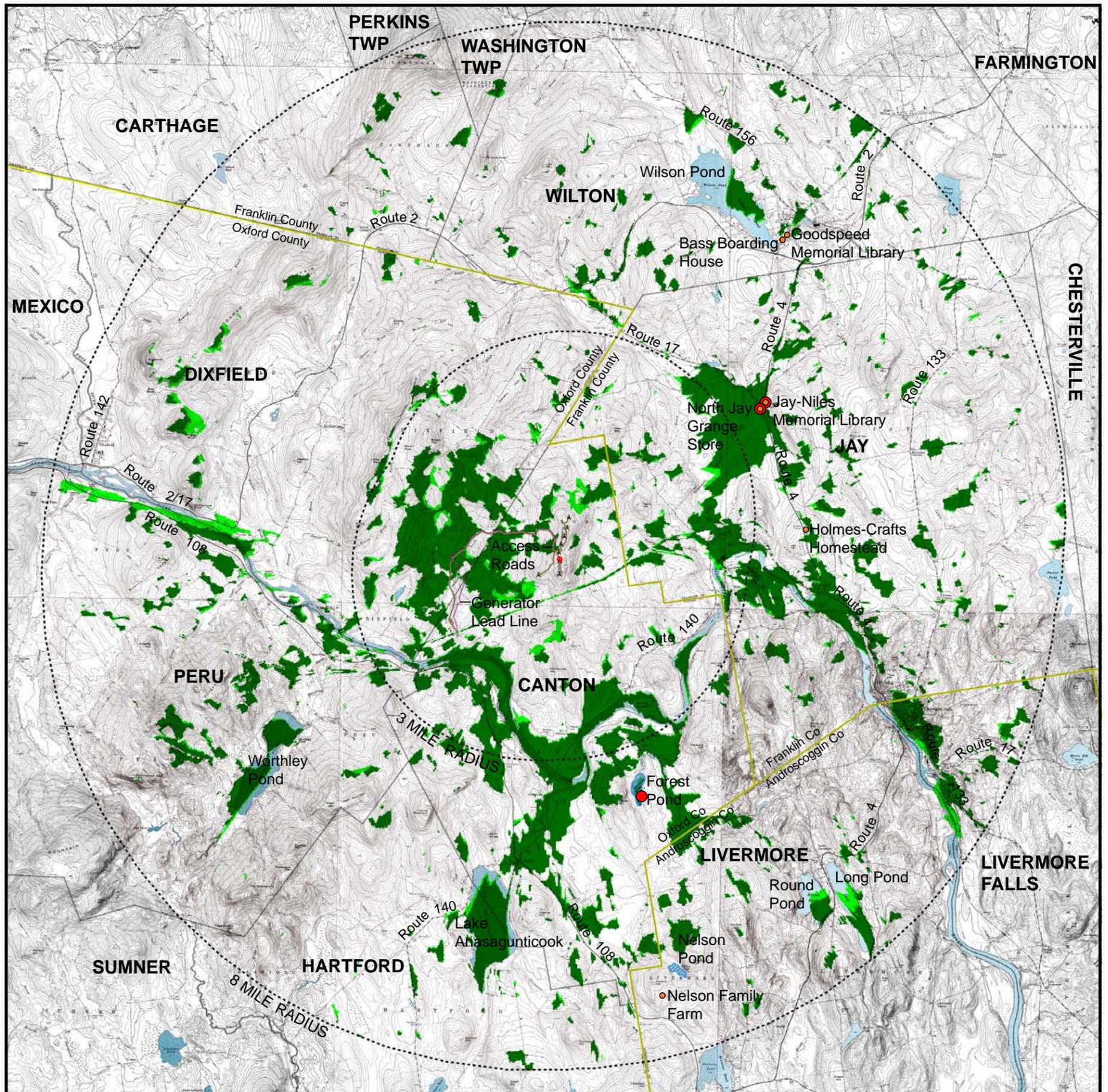


1.0 MILE

DECEMBER 2011

**NOTE:** Viewshed mapping is a preliminary means of visual analysis. While beneficial for preliminary orientation and investigation, viewshed maps are not a definitive indication of visibility. Potential visibility was confirmed through cross sectional analysis, field investigation, and other visualization techniques.

Figure 4: Topographic and Landcover Viewshed Map  
CANTON MOUNTAIN WIND PROJECT



<h2>VIEWSHED MAP</h2> <h3>Topographic and Landcover</h3>	<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li> PROPOSED TURBINES</li> <li> EXISTING MET TOWER</li> <li> SCENIC LAKE OR POND</li> <li> STUDY AREA PHOTOGRAPHS (SEE APPENDIX A)</li> <li> PHOTOSIMULATION LOCATION (SEE APPENDIX B)</li> <li> STRUCTURE ON NATIONAL REGISTER</li> <li> COUNTY LINES</li> <li> TOWN LINES</li> <li> PROPOSED ACCESS ROADS</li> <li> PROPOSED GENERATOR LEAD LINE</li> </ul>	<p><b>NUMBER OF TURBINES VISIBLE</b></p> <ul style="list-style-type: none"> <li> 1-4 VISIBLE TURBINES</li> <li> 5-8 VISIBLE TURBINES</li> </ul>	<p><b>NOTES</b></p> <p>This Viewshed Map accounts for the screening effects of 3 existing vegetation types as well as topography.</p> <p>Landcover data from the Maine OGIS.</p> <p>Evergreen: 40' Deciduous: 40' Mixed: 40'</p>	<p><b>tjd&amp;a</b></p> <p>NORTH</p> <p>1.0 MILE</p> <p>DECEMBER 2011</p>

Figure 5: Cumulative Viewshed Map

This cumulative viewshed map identifies scenic resources of state or national significance within 8 miles of the Saddleback Ridge Wind Project in Carthage, the Spruce Mountain Wind Project in Woodstock, and the Canton Mountain Wind Project in Canton.

From the Jay-Niles Memorial Library in Jay it may be possible to see turbines from the Saddleback Ridge Wind Project (7.8 miles away) and the Canton Mountain Wind Project (3.7 miles away). The viewing angle between the two projects is 59 degrees.

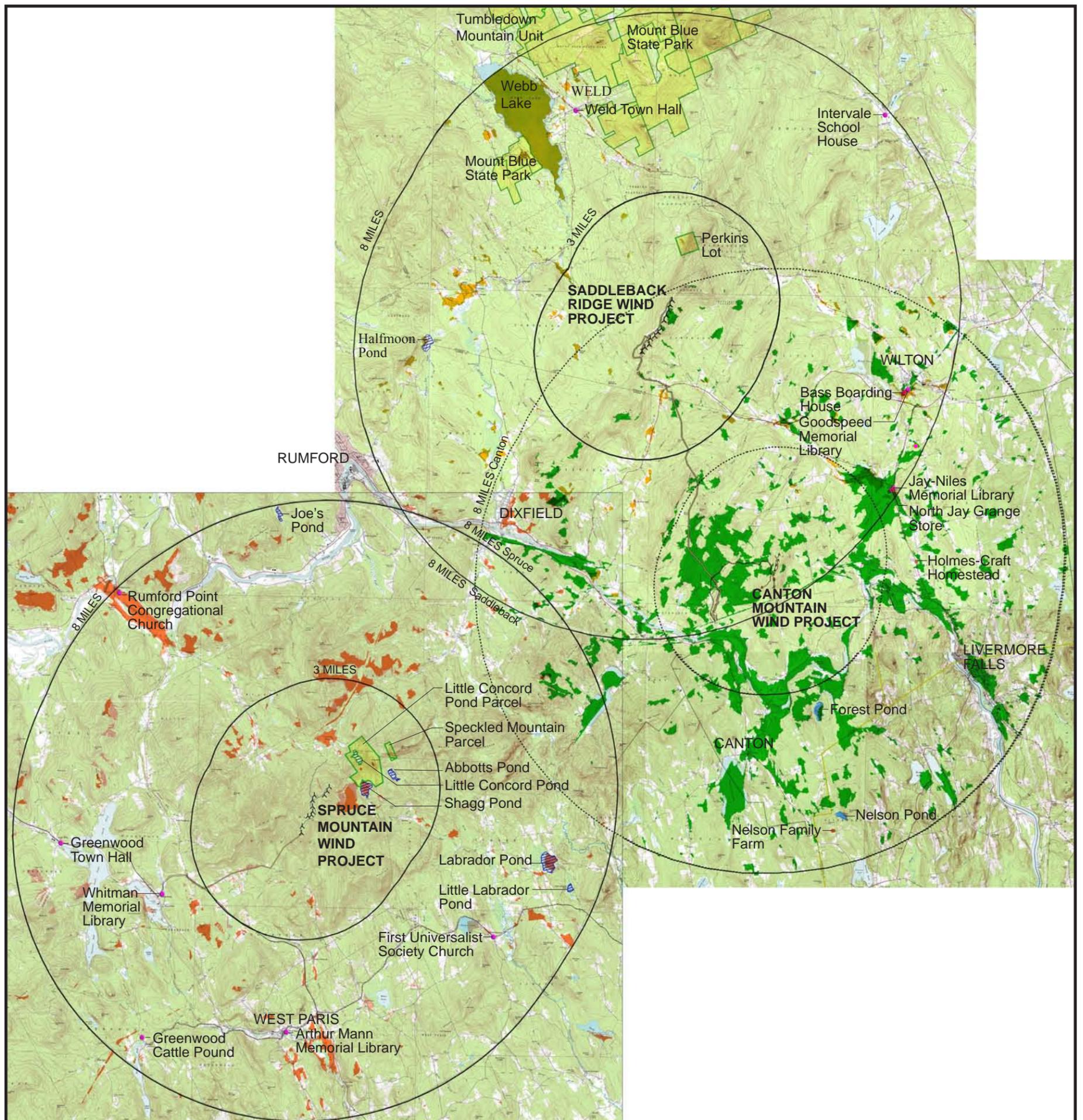


FIGURE 5		LEGEND	VIEWSHED KEY	NOTES
<h2 style="text-align: center;">CUMULATIVE VIEWSHED MAP</h2> <h3 style="text-align: center;">Topographic and Landcover</h3>		<ul style="list-style-type: none"> <li> EXISTING (SPRUCE), APPROVED (SADDLEBACK) OR PROPOSED (CANTON) TURBINES</li> <li> GREAT POND RATED AS 'SIGNIFICANT' OR 'OUTSTANDING' IN MAINE'S FINEST LAKE STUDY</li> <li> STATE PARKS AND MAINE PUBLIC RESERVE LANDS</li> <li> STRUCTURE ON NATIONAL REGISTER OF HISTORIC PLACES</li> </ul>	<ul style="list-style-type: none"> <li> AREA OF VISIBILITY FOR CANTON MOUNTAIN WIND PROJECT</li> <li> AREA OF VISIBILITY FOR SADDLEBACK RIDGE WIND PROJECT</li> <li> AREA OF VISIBILITY FOR SPRUCE MOUNTAIN WIND PROJECT</li> </ul> <p>The color indicates the visibility of at least one turbine from the project.</p>	<p>These Viewshed Maps account for the screening effects of three existing vegetation types (evergreen, deciduous and mixed vegetation) at assumed heights of 40' as well as topography. Landcover data from the Maine OGIS.</p>
		<p><b>Canton Mountain Wind Project</b></p> <p><b>PATRIOT RENEWABLES</b> Canton Mountain Wind, LLC</p>	<p style="text-align: center;"><b>tjd&amp;a</b></p> <p style="text-align: center;">NORTH</p> <p style="text-align: center;">1.0 MILE</p> <p style="text-align: center;">DECEMBER 2011</p>	

## **Appendix A**

### **Study Area Photographs**



P 1: Panoramic view looking northwest from the southern end of Nelson Pond in Livermore. The Project will not be visible from the pond due to intervening topography and vegetation. Nelson Pond is a designated scenic resource with a 'significant' rating in the [Maine's Finest Lake Study](#).



P 2: View looking northwest from Nelson Road, west of Nelson Pond. The land on both sides of this road is posted for No Trespassing. The Project will not be visible from Nelson Road.



P 3: Path to southern end of Nelson Pond.



P4: Panoramic view looking southwest from Nelson Road toward the Nelson Family Farm, on the National Register of Historical Places. The Project will not be visible from the Nelson Farm.



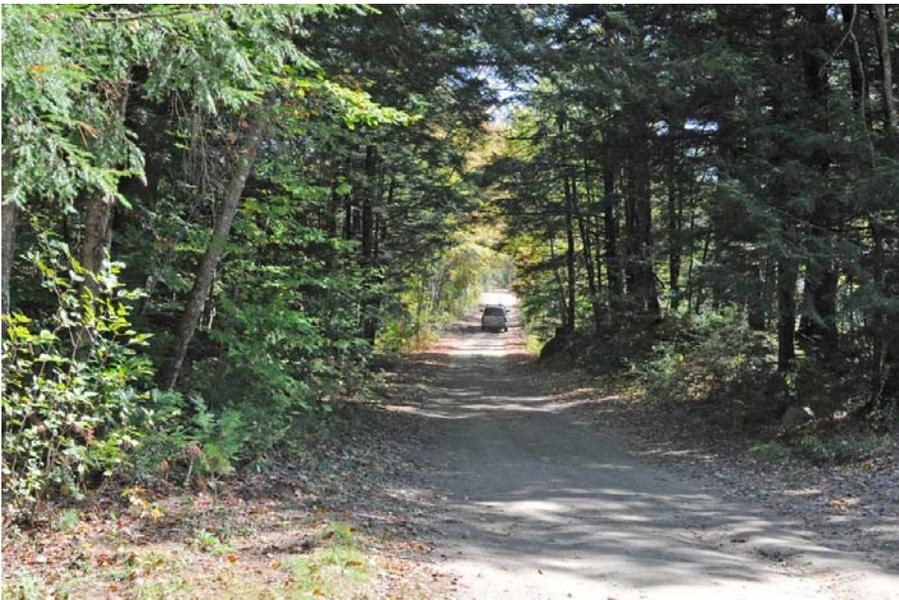
P 5: Nelson Farm House



P 6: Nelson Farm Barn.



P 7: View looking northwest from Meadowview Road toward the proposed Project and the wetlands associated with Fuller Brook. The Project will be visible from this viewpoint at distances of 3.3 to 4.1 miles. This water body is not a designated scenic resource.



P 8: Meadowview Road near the intersection with the woods road on the east side of Forest Pond.



P 9: Entrance to the woods road on the east side of Forest Pond.



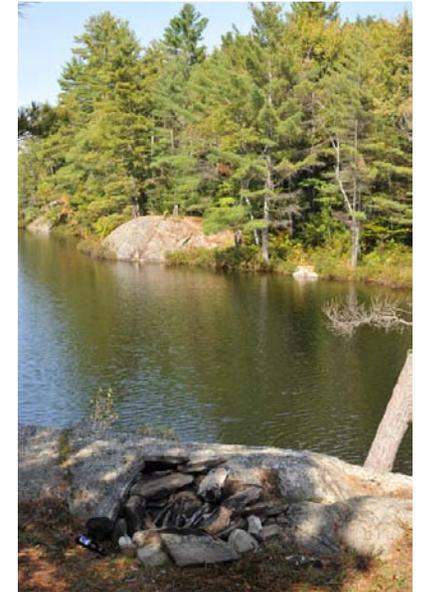
P 10: Panoramic view looking north from a point of land on the southern end of Forest Pond toward the proposed Project. Eight turbines will be visible from the majority of the pond at distances of 3.8 to 4.6 miles. Forest Pond is a designated scenic resource with a 'significant' rating in the [Maine's Finest Lakes Study](#). See Photosimulation 3.



P 11: Woods road on east side of Forest Pond.



P 12: Wilderness shelter on the southern end of Forest Pond.



P 13: Fire circle



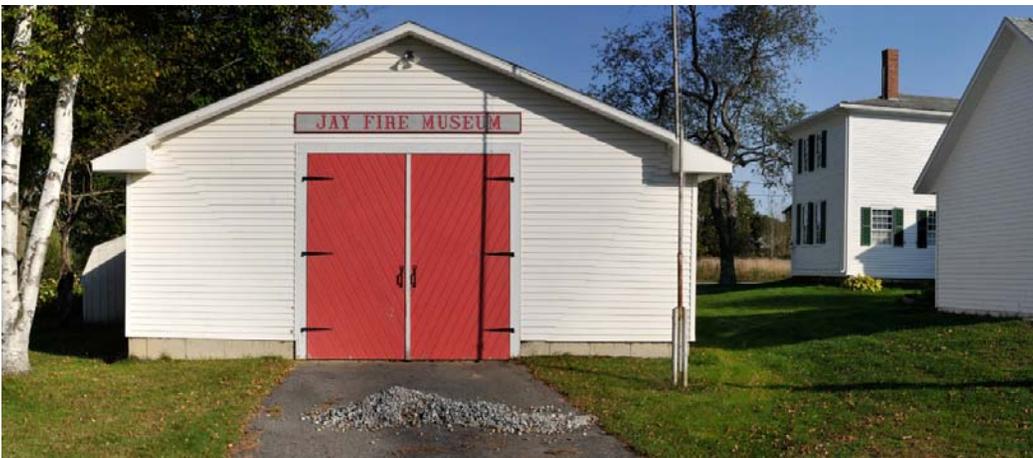
P 14: View looking north from the Route 140 bridge over the Androscoggin River in Canton toward the proposed Project. The Project will be visible at distances of 3.2 to 4.2 miles. This section of the river is not a designated scenic resource.



P 15: View looking north from the highpoint of Route 140 bridge over the Androscoggin River toward the proposed Project.



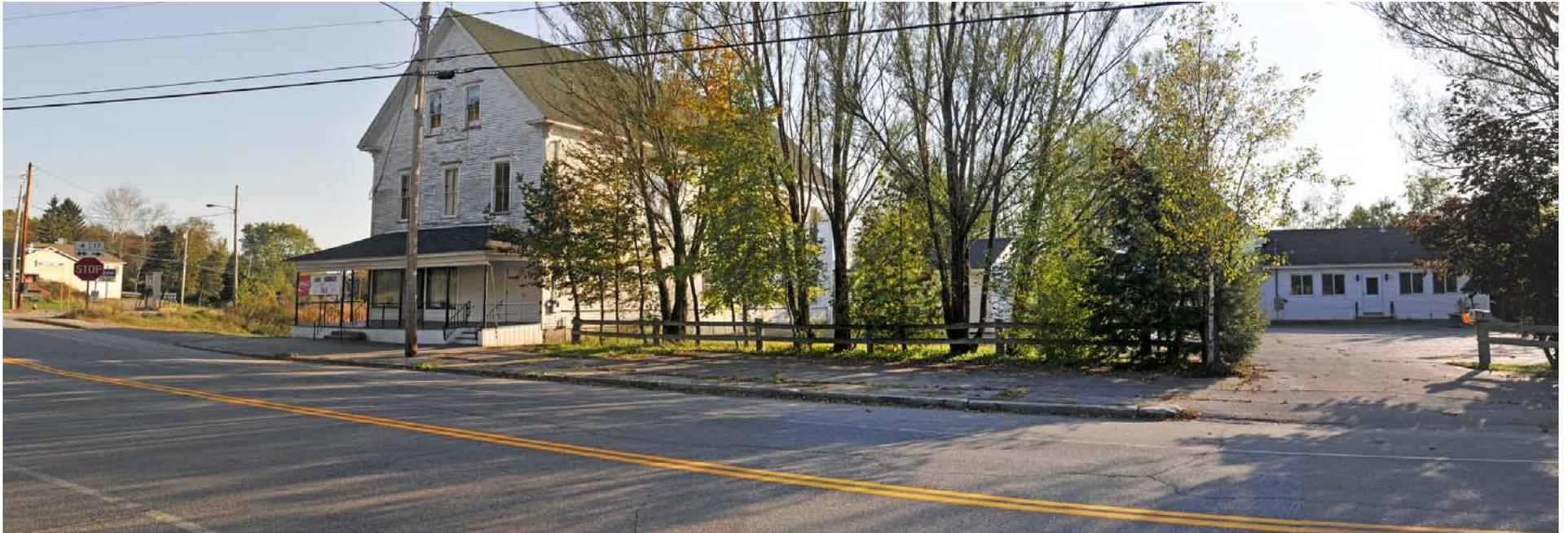
P 16: View looking northwest from Old Jay Hill Road in Jay toward the Holmes-Crafts Homestead. This structure is on the National Register of Historical Places and is currently the home of the Jay Historical Society. The Florence Raymond building is located to left of the Homestead in the photo. The Jay Fire Museum is the one story outbuilding to the right of the Homestead in the photo. The proposed Canton Mountain Wind project will not be visible from this structure due to the intervening evergreen vegetation.



P 17: The Jay Fire Museum is located in an outbuilding adjacent to the Holmes Crafts Homestead (Jay Historical Society) on Old Jay Hill Road.



P 18: The proposed Project will be screened from view due to evergreen vegetation located on the west side of Route 4 as seen in the photo.



P 19: Panoramic view looking south from Route 17 toward the North Jay Grange Store in North Jay. This structure is on the National Register of Historical Places. The proposed Canton Mountain Wind Project will be visible in context of this structure. See Photosimulation 2.



P 20: Panoramic view looking southwest from the intersection of Routes 4 and 17 toward the North Jay Grange Store. From this location, there will be filtered views of the proposed Canton Mountain Wind Project at distances of 3.6 to 4.5 miles. See Photosimulation 2.



P 21: Panoramic view of the Jay-Niles Memorial Library in Jay. This structure is on the National Register of Historical Places. The proposed Project will be visible from this structure at distances of 3.7 to 4.6 miles. See Photosimulation 1.



P 22: Panoramic view looking south from the parking lot adjacent to the Jay-Niles Memorial Library toward the proposed Project. The project will be visible, through mixed vegetation at distances of 3.7 to 4.6 miles. See Photosimulation 1.

*Appendix A: Study Area Photographs*  
*CANTON MOUNTAIN WIND PROJECT*



P 23: View of the Goodspeed Memorial Library in Wilton. This structure is on the National Register of Historical Places.



P 24: View looking southwest from in front of the Goodspeed Memorial Library. The proposed Project will not be visible from this structure due to intervening topography, vegetation, and structures.



P 25: View of the Bass Boarding House in Wilton. This structure is on the National Register of Historical Places.



P 26: View looking southwest from the north end of the Bass Boarding House. The proposed Project will not be visible from this structure due to intervening topography, vegetation, and structures.

## **Appendix B**

### **Photosimulations**



**Photosimulation 1:** Panoramic view looking southwest from Jay-Niles Memorial Library in Jay toward the proposed Canton Mountain Wind Project. Approximately eight turbines will be visible from this location. The visibility of seven of the eight turbines will be filtered during leaf on season.

LEGEND	VIEWPOINT LOCATION MAP	PHOTOSIMULATION INFORMATION																														
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Canton Mountain Wind Project Turbines</li> <li><span style="color: red;">↔</span> Viewpoint location and direction of view</li> </ul>		<table border="0"> <tr> <td>Turbine Model:</td> <td>GE 2.75</td> </tr> <tr> <td>Hub Height:</td> <td>85m (279 ft)</td> </tr> <tr> <td>Rotor Diameter:</td> <td>103m (338 ft), 100m (328 ft)</td> </tr> <tr> <td>View Coordinates:</td> <td>Latitude: 44.548167°, Longitude: -70.237462°</td> </tr> <tr> <td>Viewer Elevation:</td> <td>118m (386 ft)</td> </tr> <tr> <td>Direction of View:</td> <td>Southwest</td> </tr> <tr> <td>Focal Length:</td> <td>Digital equivalent to 50mm normal lens</td> </tr> <tr> <td>Closest Turbine:</td> <td>3.7 miles</td> </tr> <tr> <td>Closest Visible Turbine:</td> <td>3.7 miles</td> </tr> <tr> <td>Furthest Turbine:</td> <td>4.6 miles</td> </tr> <tr> <td>Furthest Visible Turbines:</td> <td>4.6 miles</td> </tr> <tr> <td>Turbines Visible:</td> <td>8±</td> </tr> <tr> <td>Date of Photo:</td> <td>09.21.10</td> </tr> <tr> <td>Time of Photo:</td> <td>10:38 am</td> </tr> </table>	Turbine Model:	GE 2.75	Hub Height:	85m (279 ft)	Rotor Diameter:	103m (338 ft), 100m (328 ft)	View Coordinates:	Latitude: 44.548167°, Longitude: -70.237462°	Viewer Elevation:	118m (386 ft)	Direction of View:	Southwest	Focal Length:	Digital equivalent to 50mm normal lens	Closest Turbine:	3.7 miles	Closest Visible Turbine:	3.7 miles	Furthest Turbine:	4.6 miles	Furthest Visible Turbines:	4.6 miles	Turbines Visible:	8±	Date of Photo:	09.21.10	Time of Photo:	10:38 am	<h2>Photosimulation 1</h2> <h3>Jay-Niles Memorial Library</h3>	
Turbine Model:	GE 2.75																															
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Time of Photo:	10:38 am																															
		<h2>Canton Mountain Wind Project</h2> <h3>Visual Impact Assessment</h3>																														
		<p><b>PATRIOT RENEWABLES</b> Canton Mountain Wind, LLC</p>	<p><b>tjd&amp;a</b> Terrence J. DeWan &amp; Associates Landscape Architects &amp; Planners</p>	<p>December 2011</p> <hr/> <p>Page 1</p>																												



**Photosimulation 1A:** Normal view looking southwest from Jay-Niles Memorial Library toward the proposed Canton Mountain Wind Project. Approximately eight turbines would be visible from this location at distances of 3.7 to 4.6 miles.



**Photosimulation 2:** Panoramic view looking southwest from the intersection of Route 17 and Route 4 in Jay toward the proposed Canton Mountain Wind Project. Approximately eight turbines will be visible from this location. The visibility of five of the eight turbines will be filtered during leaf on season.

LEGEND	VIEWPOINT LOCATION MAP	PHOTOSIMULATION INFORMATION																														
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Canton Mountain Wind Project Turbines</li> <li><span style="color: red;">↔</span> Viewpoint location and direction of view</li> </ul>		<table border="0"> <tr> <td>Turbine Model:</td> <td>GE 2.75</td> </tr> <tr> <td>Hub Height:</td> <td>85m (279 ft)</td> </tr> <tr> <td>Rotor Diameter:</td> <td>103m (338 ft), 100m (328 ft)</td> </tr> <tr> <td>View Coordinates:</td> <td>Latitude: 44.547461°, Longitude: -70.238537°</td> </tr> <tr> <td>Viewer Elevation:</td> <td>115m (378 ft)</td> </tr> <tr> <td>Direction of View:</td> <td>Southwest</td> </tr> <tr> <td>Focal Length:</td> <td>Digital equivalent to 50mm normal lens</td> </tr> <tr> <td>Closest Turbine:</td> <td>3.6 miles</td> </tr> <tr> <td>Closest Visible Turbine:</td> <td>3.6 miles</td> </tr> <tr> <td>Furthest Turbine:</td> <td>4.5 miles</td> </tr> <tr> <td>Furthest Visible Turbines:</td> <td>4.5 miles</td> </tr> <tr> <td>Turbines Visible:</td> <td>8±</td> </tr> <tr> <td>Date of Photo:</td> <td>10.07.11</td> </tr> <tr> <td>Time of Photo:</td> <td>4:30 pm</td> </tr> </table>	Turbine Model:	GE 2.75	Hub Height:	85m (279 ft)	Rotor Diameter:	103m (338 ft), 100m (328 ft)	View Coordinates:	Latitude: 44.547461°, Longitude: -70.238537°	Viewer Elevation:	115m (378 ft)	Direction of View:	Southwest	Focal Length:	Digital equivalent to 50mm normal lens	Closest Turbine:	3.6 miles	Closest Visible Turbine:	3.6 miles	Furthest Turbine:	4.5 miles	Furthest Visible Turbines:	4.5 miles	Turbines Visible:	8±	Date of Photo:	10.07.11	Time of Photo:	4:30 pm	<h2>Photosimulation 2</h2> <h3>North Jay Grange Store</h3>	
Turbine Model:	GE 2.75																															
Hub Height:	85m (279 ft)																															
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			<h2>Canton Mountain Wind Project</h2> <h3>Visual Impact Assessment</h3>																													
				December 2011  Page 3																												



**Photosimulation 2A:** Normal view looking southwest from intersection of Route 17 and Route 4 toward the proposed Canton Mountain Wind Project. Approximately eight turbines would be visible from this location at distances of 3.6 to 4.5 miles.



**Photosimulation 3:** Panoramic view looking northwest from Forest Pond in Canton toward the proposed Canton Mountain Wind Project. Eight turbines will be visible from this location.

LEGEND	VIEWPOINT LOCATION MAP	PHOTOSIMULATION INFORMATION	<h2>Photosimulation 3</h2> <h3>Forest Pond</h3>																													
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Canton Mountain Wind Project Turbines</li> <li><span style="color: red;">↔</span> Viewpoint location and direction of view</li> </ul>		<table border="0"> <tr> <td>Turbine Model:</td> <td>GE 2.75</td> </tr> <tr> <td>Hub Height:</td> <td>85m (279 ft)</td> </tr> <tr> <td>Rotor Diameter:</td> <td>103m (338 ft), 100m (328 ft)</td> </tr> <tr> <td>View Coordinates:</td> <td>Latitude: 44.456272°, Longitude: -70.275662°</td> </tr> <tr> <td>Viewer Elevation:</td> <td>133m (437 ft)</td> </tr> <tr> <td>Direction of View:</td> <td>Northwest</td> </tr> <tr> <td>Focal Length:</td> <td>Digital equivalent to 50mm normal lens</td> </tr> <tr> <td>Closest Turbine:</td> <td>3.8 miles</td> </tr> <tr> <td>Closest Visible Turbine:</td> <td>3.8 miles</td> </tr> <tr> <td>Furthest Turbine:</td> <td>4.6 miles</td> </tr> <tr> <td>Furthest Visible Turbines:</td> <td>4.6 miles</td> </tr> <tr> <td>Turbines Visible:</td> <td>8±</td> </tr> <tr> <td>Date of Photo:</td> <td>10.07.11</td> </tr> <tr> <td>Time of Photo:</td> <td>1:43 pm</td> </tr> </table>	Turbine Model:	GE 2.75	Hub Height:	85m (279 ft)	Rotor Diameter:	103m (338 ft), 100m (328 ft)	View Coordinates:	Latitude: 44.456272°, Longitude: -70.275662°	Viewer Elevation:	133m (437 ft)	Direction of View:	Northwest	Focal Length:	Digital equivalent to 50mm normal lens	Closest Turbine:	3.8 miles	Closest Visible Turbine:	3.8 miles	Furthest Turbine:	4.6 miles	Furthest Visible Turbines:	4.6 miles	Turbines Visible:	8±	Date of Photo:	10.07.11	Time of Photo:	1:43 pm	<h2>Canton Mountain Wind Project</h2> <h3>Visual Impact Assessment</h3>	
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**Photosimulation 3A:** Normal view looking northwest from Forest Pond toward the proposed Canton Mountain Wind Project. Eight turbines would be visible from this location at distances of 3.8 to 4.6 miles.