STATE OF MAINE

Department of Environmental Protection

JOHN ELIAS BALDACCI
GOVERNOR

David P. Littell
COMMISSIONER

August, 2009

Record Hill Wind, LLC.
c/o Mr. Robert Gardiner
110 Foreside Rd.
Cumberland Foreside, ME 04110

RE: Site Location of Development Act/Natural Resources Protection Act Application, Roxbury, #L-24441-24-A-N/L-24441-TF-B-N

Dear Mr. Gardiner:

Under cover please find a signed copy of the permit for your project which the Department has reviewed and approved. Your permit is written to include a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take a moment to carefully read your permit, paying particular attention to the conditions of the approval. The Department works hard to craft reasonable conditions that meet the requirements of Maine law. I have also included some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit or thoughts on how the Department processed this application please get in touch with me directly. I can be reached at (207) 287-7898 or at beth.callahan@maine.gov.

Sincerely,

Beth Callahan

Beth Callahan, Project Manager
Division of Land Resource Regulation
Bureau of Land & Water Quality

pc: File

AUGUSTA
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DEP INFORMATION SHEET
Appealing a Commissioner's Licensing Decision

Dated: May 2004 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's General Laws, 38 M.R.S.A. § 341-D(4), and its Rules Concerning the Processing of Applications and Other Administrative Matters (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL MUST CONTAIN
PAPERWORK

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status*. Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.

2. *The findings, conclusions or conditions objected to or believed to be in error*. Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.

3. *The basis of the objections or challenge*. If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.

4. *The remedy sought*. This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *All the matters to be contested*. The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.

6. *Request for hearing*. The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.

7. *New or additional evidence to be offered*. The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5)

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record*. A license file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials.
There is a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal*. DEP staff will provide this information on request and answer questions regarding applicable requirements.

3. *The filing of an appeal does not operate as a stay to any decision.* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II APPEALS TO MAINE SUPERIOR COURT

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MRCivP 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

ADDITIONAL INFORMATION: If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER

IN THE MATTER OF

RECORD HILL WIND, LLC.	) SITE LOCATION OF DEVELOPMENT ACT
Roxbury, Oxford County	) NATURAL RESOURCES PROTECTION ACT
RECORD HILL WIND PROJECT	) WATER QUALITY CERTIFICATION
L-24441-24-A-N (approval)	)
L-24441-TF-B-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. Sections 481 et seq. and 480-A et seq., 35-A M.R.S. § 3401, et seq., and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of RECORD HILL WIND, LLC with the supportive data, agency review comments, public comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: The applicant proposes to construct a 50.6-megawatt (MW) wind energy development, known as the Record Hill Wind Project, in the Town of Roxbury in Oxford County, Maine. The proposed development consists of 22 wind turbines and associated turbine pads, electrical collection infrastructure (below-ground power line and above-ground down mountain transmission corridor), an electrical collector substation, and an Operations & Maintenance (O&M) building for a total of 18.4 acres of new impervious area and 18.8 acres of new developed area. Prior to construction, the applicant will construct two permanent 80 meter meteorological towers within the project site in order to monitor wind turbine performance during operation. The proposed Record Hill Wind Project meets the definition of an expedited wind energy development set forth in 35-A M.R.S. §3451 (A).

1.) Wind Turbines. The applicant proposes to construct 22 Siemens SWT-2.3-93 wind turbines, each of which is capable of generating 2.3MW. The turbines will be constructed in a north-south orientation along the ridgelines of Record Hill, Flathead Mountain, and Partridge Peak. Each turbine is approximately 262 feet (80 meters) in height from the ground to the center of the hub; the total height from the ground to the tip of a fully extended turbine blade is approximately 415 feet (126.5 meters).

2.) Turbine Pads. The turbines will be constructed on 22 turbine pads. The total area of each turbine pad is approximately 1.6 acres; each turbine pad is comprised of a crane

pad, turbine foundation, and circular construction laydown area. Each crane pad will measure 70 feet by 83 feet and require a graded laydown area that will measure 315 feet in diameter. The crane pads will be constructed with approximately 16 inches of compacted gravel or processed rock. Impervious area associated with each crane pad is 6,170 square feet. The total amount of impervious area of the (22) crane pads is 3.2 acres. Each construction laydown area will be allowed to re-vegetate; however, the crane pads and turbine foundations will remain as impervious area.

3.) Access Roads and Crane Path. The applicant proposes to construct approximately 6.1 miles of new access roads and crane path. The primary access to the ridgeline for component delivery, operations, and maintenance will be Mine Notch Road. Approximately 0.5 linear miles of Mine Notch Road will be upgraded to 16 feet wide; and the road will be extended by 1.1 miles to fully access the ridgeline. Portions of this access road will be widened to 29 feet for component delivery vehicles to negotiate sharp turns and to act as pull-off areas. Portions of a nearby road, Bunker Pond Road may be used for construction access; however, the applicant does not propose to upgrade this road. There is approximately 12.7 acres of impervious area associated with the access road and crane path.

The applicant proposes to construct a road specifically for an assembly crane to access and assemble components of the wind turbine. This road is known as a crane path. The crane path will be located along the ridgeline and will connect all of the turbine pads. This path will measure 32 feet wide and will total 5.0 miles in length. The crane used to assemble the turbines will be delivered via Mine Notch Road and assembled at the top of the ridge. The crane path will be allowed to re-vegetate back to a 16 foot wide road following usage and removal of the crane.

4.) Electrical Transmission Lines. Power from the 22 turbines will be collected in two 34.5-kilovolt (kV) collector line totaling 19,500 linear feet each. Approximately 4,500 linear feet of this line will travel underground along the ridgeline and then move aboveground while traveling down Flathead Mountain. The approximately 15,000 linear feet, 34.5 kV down mountain collector lines will consist of fiber optic conductor lines on single pole, double circuit structures. Pole structures will vary in height from 50-55 feet depending on the grade and the need to span particular features and resources. A clearing width of 80 feet will be required for the length of the down mountain corridor. Once the collector lines reach the existing Central Maine Power Company (CMP)-owned transmission line corridor at the base of the ridgeline, the collector line (generator lead) will travel approximately 9,000 linear feet south to a collector substation. The collector substation is located on Route 120/Roxbury Notch Road east of the proposed wind turbine location.

5.) Electrical Collector Substation. At the collector substation, power will be converted to 115 kV for transmission to the regional market through transmission lines owned and operated by CMP. CMP has agreed to upgrade these transmission lines prior to the start of operation of the proposed project. The collector substation will measure approximately 115 feet by 180 feet, and is located off Route 120. Electrical design

details can be seen on a sets of plans, prepared by Perkins Engineering, Inc. and SGC Engineering, LLC, and dated November 27, 2007 with the latest revision date on any of the plans being July 9, 2009.

6.) Operations & Maintenance (O &M) Building and Associated Structures. The proposed wind energy development will include an operations and maintenance building. The building will measure 52.5 feet by 105 feet and will be located adjacent to the collector substation off Route 120, east of the proposed wind turbines. The applicant also proposes to construct an associated gravel parking lot. The building and gravel parking lot will be constructed within the footprint of an existing developed area.

7.) Meteorological Towers. The proposed project will include the construction of two permanent 80 meter meteorological towers to monitor and assess wind conditions. One tower will be constructed on the west side of Turbine 4; the other tower will be erected west of Turbine 7. An underground electrical line and fiber optic line will be brought from the turbines out to each of the meteorological towers within the limits of the access roads. The towers will be constructed prior to the start of operation of the proposed project. The applicant submitted line drawings along with construction notes for the towers in Exhibit 1 of Section 30 in the application.

The applicant is also seeking approval under the Natural Resources Protection Act to permanently fill 13,364 square feet of forested, scrub shrub, and emergent freshwater wetlands and to clear 30,172 square feet of wetland vegetation for construction of the transmission lines. Approximately 12% of the proposed wetland fill is a result of expanding Mine Notch Road. In addition, the applicant proposes four new stream crossings. The generator lead crosses seven streams; however, no in-stream work is anticipated for these crossings. Details of proposed wetland impacts are discussed further in Finding #17.

The applicant submitted two Natural Resources Protection Act, Permit By Rule (PBR) applications, one under Section 10 and one under Section 19 of Chapter 305 of the Department's regulations (PBR #47468 and PBR #47469). These applications are for activities associated with the proposed project and request approval for proposed access road crossings over streams and construction activities within an upland portion of significant vernal pool habitat. The applicant proposes to utilize four culverts and one bridge as stream crossings. Details of the stream crossings and photographs of the streams were submitted as Exhibit 6 in the PBR application. The applicant proposes to alter upland critical terrestrial habitat associated with two significant vernal pools (SVP 03CF and SVP 18CF) as a result of clearing and grading. Existing development has impacted approximately 17% of critical terrestrial habitat within an identified significant vernal pool known as SVP 03CF. The proposed project will impact an additional 5% of critical terrestrial habitat by upgrading Mine Notch Road. The proposed project will also impact approximately 17% of critical terrestrial habitat within an identified significant vernal pool known as SVP 18CF. The Department approved PBR #47468 and PBR

#47469 on January 5, 2009. Specific details about these significant vernal pools are discussed further in Finding 7.

The applicant submitted a Notice of Intent (NOI #47380) to comply with requirements of the Maine Construction General Permit. The Department approved NOI #47380 on December 22, 2008.

Details of the proposed wind energy development are shown on a set of plans, the first of which is entitled "Project Site Map," prepared by Stantec Consulting Services, Inc., and dated October 31, 2008, with a last revision date of July 9, 2009. The project site is located on the north side of Route 120/Roxbury Notch Road in the Town of Roxbury.

B. Current Use of Site: The proposed project site includes the ridgelines of Partridge Peak, Flathead Mountain, and Record Hill. Commercial timber management is common in this area and is currently ongoing on the site. There are a number of existing developed logging roads. A residential structure and gravel drive are located on the property in the area of the proposed location of the collector substation and O&M building.

Rural residential and seasonal properties are located to the east, south and west of the project area with the nearest residential property line on adjacent property approximately 2,800 feet to the east of the nearest proposed wind turbine on Partridge Peak. The approximate distance from the proposed wind turbines on Partridge Peak to the nearest residential property line to the southwest is 3,100 feet. The approximate distance from the proposed wind turbines on Partridge Peak to the nearest residential property line to the west is 3,500 feet. The approximate distance to the nearest residential property line in the Roxbury Village area and east of the nearest proposed wind turbine is 6,800 feet. All of the closest residential properties in the vicinity of the project are located in the Town of Roxbury.

C. Public Interest: While the application was being reviewed, the Department received numerous comments from the general public throughout a broad geographic area from within the state of Maine; these persons are "interested parties", as defined in Department Rules, Chapter 2(1)(I), for the purposes of this application review.

The Department received two requests, one verbal and one written, from interested parties for a public hearing on the proposed project. The requests for a public hearing were denied because there was insufficient credible conflicting technical information submitted regarding the licensing criteria.

In consideration of the large amount of public interest that was conveyed to the Department regarding the proposed project throughout the review process, the Department held a public meeting pursuant to 38 M.R.S. §345-A(5). The purpose of this meeting was to provide all interested parties with an opportunity to present their concerns to the Department and submit information into the Department's record. The Department held a public meeting on February 18, 2009 in the auditorium of the Mountain Valley

High School in the Town of Rumford, Maine. Approximately 70 people were in attendance at the meeting, 25 of whom presented oral comments. The Department accepted all information that was presented into the record and subsequently received additional letters and supplemental documents, raising questions and concerns regarding specific aspects of the proposed project. Overall, a total of 132 people submitted letters or information into the public record.

2. TITLE, RIGHT, OR INTEREST:

The applicant demonstrated title, right, or interest in the property proposed for development by submitting a redacted copy of a wind energy facility ground lease between the applicant and the property owner for the proposed project site. The applicant also submitted a quitclaim deed which shows that the property owner has ownership over the parcel on which development or use is proposed. A warranty deed was submitted by the applicant for the property containing the proposed O&M building and collector substation. The lease, quitclaim deed, and warranty deed were submitted by the applicant as Appendix 2-1 to the application. Further, the applicant submitted an executed option agreement to allow the generator lead to cross the northeastern corner of the property abutting the O&M building parcel.

Interested parties contend that the applicant does not have sufficient title, right, or interest, because the applicant does not have the necessary transmission infrastructure to connect with the grid nor allow the grid to safely absorb the project's output.

The applicant stated that safety, reliability, and scheduling of electrical resources in Maine are coordinated by the Independent System Operator of New England (ISO-NE). Interconnection approval requires an engineering study on project feasibility and system impact. The Record Hill Wind Project will require an upgrade of the Central Maine Power Company's grid, and the applicant will be required by the Federal Energy Regulatory Commission to reimburse Central Maine Power Company for some portion of the cost of such an upgrade. However, the projects will be owned by, and the work will be supervised by the two separate entities.

The Department reviewed the concerns stated by interested parties and concludes that while the upgrade to the grid system is a related project without which the proposed wind energy development would not be built; it is a separate project and the applications for permits may be processed separately.

The Department finds that the lease and deeds submitted by the applicant demonstrate a right to the reasonable use of the property and adequate duration and terms for the proposed project and its associated uses sufficient for the processing of this application. Therefore, the Department finds that the applicant demonstrated sufficient title, right, or interest in all of the property which is proposed for development or use.

3. FINANCIAL CAPACITY:

The total cost of the project is estimated to be $120,000,000.00. The applicant will raise non-recourse debt financing through a third party for the proposed project. The applicant submitted a letter of support from CoBank, dated October 2, 2008 and referenced as Appendix 3-1 in the application. In the letter, CoBank indicated that it intends to provide financing for this project. The applicant also submitted a 2008 Certificate of Good Standing from the Delaware Secretary of State and Maine Secretary of State as Appendices 3-2 and 3-3, respectively, as part of the application. Prior to the start of construction, the applicant must submit evidence for review and approval that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State, or evidence of another form of financial assurance determined by the Department to be adequate pursuant to Chapter 373(1).

Interested parties assert that the applicant did not provide an estimate of costs of an upgrade of Central Maine Power Company's transmission lines that run from the town of Rumford to the town of Roxbury. Interested parties contend that this transmission line upgrade is connected with the proposed project; thus, the applicant should provide an estimate of costs.

The applicant stated that the Federal Energy Regulation Commission (FERC) requires that any project which proposes to interconnect with the regional grid undergo a system impact study of the impact the new power will have on the regional electrical grid system. If the study shows that an upgrade is required, the project has to agree to reimburse some portion of those costs. In the case of the Record Hill Wind Project, its impact will require some upgrade to the Central Maine Power Company's grid, and the parties will be entering into a FERC dictated standard interconnection agreement. The applicant states that it acknowledges that Central Maine Power Company's transmission line upgrade is accelerated by the proposed project; however, the upgrade is of its own independent origin. Further, the applicant states that the proposed project and Central Maine Power Company's transmission line upgrade are two separate and distinct projects because they will be owned, maintained, and supervised by separate entities with different interests; will contract for equipment and labor separately; and will be financed by separate methodologies.

The Department finds that the applicant has demonstrated adequate financial capacity to comply with Department standards provided that the applicant submits final evidence of financial capacity prior to the start of construction as referenced above.

4. TECHNICAL ABILITY:

The applicant provided resume information for key persons involved with the project and a list of projects successfully constructed by the applicant. The applicant also retained the services of several consulting firms to assist in the design and engineering of the project. These firms and their involvement in the proposed project are as follows:

- Independence Wind, LLC and Wagner Forest Management, Ltd. – project design
- Stantec Consulting – natural resource assessment, permitting
- James W. Sewall Company – civil engineering design
- SGC Engineering, LLC – civil and electrical engineering design
- Perkins Engineering, Inc. – electrical engineering design, property research and acquisition
- Terrence J. DeWan and Associates – visual impact analysis
- Resource Systems Engineering (RSE) – sound assessment
- TRC/Northeast Cultural Resources – prehistoric archaeological resources
- Independent Archaeological Consulting – historic archaeological resources
- Public Archaeology Lab – historic architectural resources
- Albert Frick Associates, Inc. – soils assessment

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards.

5. NOISE:

The applicant submitted a sound level study entitled "Sound Level Assessment", completed by Resource Systems Engineering (RSE) and dated December 1, 2008 with a last revision date of January 20, 2009. The applicant submitted a supplement to the sound level study, dated June 16, 2009, which analyzed potential noise implications of a change from originally proposed Clipper turbines to Siemens turbines. The sound level study was conducted to model expected sound levels from the proposed Record Hill Wind Project and to compare the model results to operational standards pursuant Chapter 375 (10), the Site Location of Development Rules.

Chapter 375 §10 applies hourly sound pressure level limits (L_{Aeq-Hr}) at facility property boundaries and at nearby protected locations. Chapter 375 §10 (G) (16) defines protected locations as "any location accessible by foot, on a parcel of land containing a residence or approved subdivision.…" In addition to residential parcels, protected locations include but are not limited to schools, state parks, and designated wilderness areas.

The hourly equivalent level resulting from routine operation of a development is limited to 75 dba at any development property boundary as outlined in Chapter 375 § 10 C (1) (a) (i). The hourly equivalent sound level limits at any protected location varies depending on local zoning or surrounding land uses and existing (pre-development) ambient sound levels. At protected locations within commercially or industrially zoned areas, or where the predominant surrounding land use is non-residential, the hourly sound level limits for routine operation are 70 dba daytime (7:00 a.m. to 7:00 p.m.) and 60 dba nighttime (7:00 p.m. to 7:00 a.m.). At protected locations 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 (7:00 a.m. to 7:00 p.m.) and 50 dba nighttime (7:00 p.m. to 7:00 a.m.). In addition, where the daytime pre-development ambient hourly sound level is equal to or less than 45 dba and/or nighttime ambient hourly sound level is equal to or

less than 35 dba, quiet location limits apply. For such "Quiet Locations", the hourly sound level limits for routine operation are 55 dba daytime (7:00 a.m. to 7:00 p.m.) and 45 dba nighttime (7:00 p.m. to 7:00 a.m.). In all cases, nighttime limits at a protected location apply at the property line of a protected location or up to 500 feet from sleeping quarters when the property line is greater that 500 feet from a dwelling.

The Record Hill Wind Project must be in compliance with Department regulations applicable to construction, routine operation and routine maintenance. The applicant submitted a Vicinity Site Plan that shows residential parcels in relation to the project area and parcels where the most restrictive sound level limits apply. The plan also shows the parcels' approximate distance from the nearest proposed wind turbine.

In recognition of the rural nature of the site, the applicant opted to apply quiet limits of 55 dba daytime and 45 dba nighttime at all nearby protected locations in accordance with Chapter 375 §10 (H) (3) (1), even though pre-development ambient sound levels under weather conditions suitable for wind turbine operation can exceed area thresholds of 45 dba daytime and 35 dba nighttime. Quiet limits of 55 dba daytime and 45 dba nighttime are consistent with Department standards.

Sound Level Modeling. The applicant's noise consultant, RSE, developed a sound level prediction model to estimate sound levels from operation of the proposed project. The acoustic model was developed using the CADNA/A software program performing calculations in accordance with the generally recognized standard for estimating the propagation of sound in the environment promulgated by the International Standards Organization (ISO) as Chapter 9613-2, *Attenuation of Sound During Propagation Outdoors*. CADNA/A uses three dimensional terrain, proposed wind turbine characteristics and locations plus environmental factors to calculate outdoor sound propagation from the wind turbines. Area topography and wind turbine locations, for entry into CADNA/A, were provided to RSE by Stantec Consulting based on USGS topographic information and project design.

RSE calculated sound levels for simultaneous operation of the Siemens SWT-2.3-9.3 wind turbines at all 22 prospective turbine locations. Calculations were based on the apparent sound power spectrum produced at full sound power provided by Siemens. The wind turbines were treated as point sources at the hub height of 80 meters above base/grade elevation using sound power levels provided by WINDTEST, Kaiser-Wilhelm-Koog GmbH, which is a report of acoustical emissions of a Siemens wind turbine generator system of the type SWT-2.3-9.3, September 2005. RSE computed sound power for whole octaves from the one-third octave spectrum provided by Siemens.

Sound levels from wind turbine operation were modeled in the area surrounding the proposed project site. Nine residential receiver points (PL1 to PL9) in the vicinity of the proposed project were selected by the applicant as being representative of the protected locations where the most stringent DEP nighttime limits apply. These receiver points are the locations closest to the wind turbines in various directions where sound levels have the greatest potential to exceed sound limits.

Table 5-2S in the application shows the estimated sound levels from the proposed wind turbine operation at each of the nine receiver points. The results presented in Table 5-2S indicate that sound levels at full sound power production of the proposed project will be from 5 to 11 dba below the nighttime sound level limit of 45 dba hourly equivalent sound level at the closest protected locations. Results also indicate that sound levels at full sound power production of the wind project will be from 12 to 20 dba below the 55 dba hourly equivalent limit. Results of the sound level modeling are as follows:

Receiver	Distance to Nearest Wind Turbine in Feet	Estimated Sound Level	Nighttime Sound Limit
PL1	6,000	35	55
PL2	6,800	38	55
PL3	2,800	43	55
PL4	3,100	40	45
PL5	3,100	40	45
PL6	3,500	43	55
PL7	8,100	37	45
PL8	11,500	37	45
PL9	11,000	34	45

Tonal Sound. According to Chapter 375 §10, a regulated tonal sound occurs when the sound level in a one-third octave band exceeds the arithmetic average of the sound levels in the two adjacent one-third octave bands by a specified dB amount based on octave center frequencies. The applicant stated that Siemens SWT-2.3-9.3 turbine performance specifications were analyzed for the potential to generate regulated tonal sounds. A-weighted, one-third-octave band sound power level specification data were converted to a linear scale and are shown in Figure 5-4S of the application. Based on the Siemens SWT-2.3-9.3, the applicant determined that tonal thresholds are not likely to be exceeded. Therefore, the applicant determined that the Siemens 2.3 SWT-2.3-9.3 wind turbines are not expected to generate regulated tonal sounds as set forth in DEP 375.10.

The Department retained a third party noise consultant, EnRad Consulting (EnRad), to review the sound level study that was submitted by the applicant. In comments dated April 30, 2009 and August 10, 2009, EnRad stated that the Record Hill Wind Project noise assessment is technically correct according to standard engineering practices and Department Regulations on Control of Noise (06-096 CMR 375.10). EnRad further stated that the wind project prediction model based on CADNA/A software with incorporation of an uncertainty factor of + 5 dba yielded an estimate that does not account for potential excessive amplitude modulation under stable atmospheric conditions, which would invoke a 5 dB penalty for short duration repetitive sounds, potentially resulting in borderline compliance at protected locations (within 2 dba of respective limits) receiving greater than predicted sound levels, even potentially in excess of 45 dba. For this reason, EnRad recommended a routine operation noise compliance assessment plan for the proposed project when it is operating that is based on selective meteorological conditions with low ambient background sound levels, carefully specified sound measurement parameters, and detailed reporting requirements. This monitoring

would require compliance measurements under the most favorable conditions for sound propagation, during periods of significant maximum amplitude modulation and would utilize appropriate measurement parameters outlined by the Department.

In consideration of EnRad's comments, the applicant developed a compliance assessment plan, entitled "Record Hill Wind Project Wind Turbine Sound Compliance Assessment Plan", dated June 2, 2009 with the latest revision date being August 3, 2009. EnRad reviewed the compliance assessment plan and stated that the applicant's compliance assessment plan to measure routine operation sound levels at representative protected locations under a rigorous protocol and meteorological condition requirements is appropriate.

Interested parties stated several concerns regarding the issue of noise. Specifically, concerns were raised in regards to potential impacts to public health, the breadth of the Department's standards for noise, and whether the proposed project would generate SDR sound.

First, interested parties raised concerns regarding the human health effects linked to infrasound low frequency sound less than 250 Hz from wind turbines. Infrasound is sound that is generally considered to be less than 20 Hz, the normal limit of human hearing. In response to the interested parties' submissions, EnRad stated that infrasound has been widely accepted to be of no concern below the common human perception threshold for tonal sounds. The Department finds EnRad's comments to be credible, and that there is insufficient evidence to conclude otherwise. Numerous national infrasound standards limit industrial facilities, impact equipment and jet engines, but wind turbine infrasound levels fall below these standards.

The Maine Center for Disease Control (MCDC) within the Department of Health and Human Services (DHHS) reviewed the materials submitted by interested parties pertaining to potential health effects associated with wind turbines. MCDC stated that speech interference and noise-induced hearing loss is not an issue when studying the effects of noise from wind turbines because the exposure levels are too low. The MCDC found no evidence in peer-reviewed medical and public health literature of adverse health effects from the noise generated by wind turbines other than occasional reports of annoyances. Most studies on the health effects of low frequency noise and infrasound have been done using thresholds of 70 dba or higher outdoors, much higher than wind turbines typically generate.

Second, the interested parties stated that the applicant did not correctly predict the 45 dB nighttime limit at protected locations, and the noise modeling should have been performed by calculating line sources rather than point sources.

In response to this concern, EnRad stated that sound sources can vary widely in their arrangement and complexity, and that dB should not be confused with dba. By definition, a line source is a source of noise that emanates from a linear geometry and is comprised of multiple point sources. Roadway noise is an example of a linear source of noise. A point source is a single localized source. EnRad stated that at times a situation

may present itself to be convenient and sufficiently accurate to approximate a multiple source arrangement (line source) into a single simplified configuration (e.g. point source, infinite line source or infinite plane source); however, it is often tenuous or impossible to base calculations on each individual source of a particular configuration or array. When applied correctly, point source and line source measurements produce the same data. A difference in data may occur only in instances where topography is consistently level. In the case of known sound sources in a linear array, such as wind turbines along a ridge, calculations are the most accurate when based on each turbine as a point source. EnRad further stated that the applicant's sound level model provides sufficient accuracy for the given situation. Chapter 375 §10 standards are applied using the A-weighted scale, which is widely used in noise ordinances and sound control regulation. The Department finds that the applicant adequately applied the A-weighted scale when modeling estimated sound levels for the proposed project pursuant to Chapter 375 §10.

Short Duration Repetitive (SDR) Sounds. Interested parties stated with documentation that the applicant's noise analysis failed to make an allowance for SDR sound, specifically, the thumping noise produced by the turbine blades. Maine's noise regulations require a 5 dB penalty to be added to the predicted sound level to adjust for this type of repetitive sound. Interested parties stated a review of studies of wind turbine noise can produce SDR sounds of 5-6 dB commonly and 10-15 dB in some instances.

SDR sounds are a sequence of sound events, each clearly discernible, that cause an increase of 6 dba or more in the sound level observed before and after an event. SDR sound events are typically less than 10 seconds in duration and occur more than once within an hour. Published studies of noise from wind turbine operations indicate that sound levels can fluctuate over brief periods as noted by the passage of wind turbine blades and typically range from 2 to 4 dba. The applicant stated that operations of the proposed project are not expected to result in the 6 dba increase required to be SDR sounds as set forth in Chapter 375.10

In response to the interested parties' concerns, EnRad commented that the position stated by the interested parties is not a widely accepted fact, and the applicant's noise analysis is reasonably and technically correct. EnRad further stated that predicted sound levels including tonal and short duration repetitive sounds are indicated to be below Department sound level limits.

The sound level modeling that was conducted by RSE included the following assumptions: all wind turbines operating at full sound power output, downwind conditions in all directions simultaneously, moderate ground absorption, no foliage attenuation, and the addition of a 5 dba uncertainty factor applied to the turbine manufacturer's specifications.

While the sound modeling techniques used by the applicant are in keeping with standard industrial sound modeling protocols, the Department finds that there is sufficient concern related to the model's ability to accurately predict SDR sounds to require the applicant to implement the assessment plan referenced above. If the compliance data indicates that,

under most favorable conditions for sound propagation and maximum amplitude modulation, the Record Hill Wind Project is not in compliance with Department standards as described above, within 60 days of a determination of non-compliance by the Department, the applicant must submit, for review and approval, a revised assessment plan that demonstrates that the project will be in compliance at all the protected locations surrounding the development. This revised assessment plan must include, among other strategies, consideration and analysis of how potential turbine shutdown scenarios may cause the wind energy development to operate in compliance with the terms of this permit.

6. SCENIC CHARACTER, VISUAL QUALITY, & EXISTING USES:

In order to assess the potential scenic impact of the Record Hill Wind Project on resources of state and/or national significance, the applicant submitted a visual assessment of the project area which was prepared by Terrence J. DeWan & Associates (TJD&A). The visual study area focused on the Town of Roxbury and included all the abutting towns and unorganized townships within eight miles of the proposed project. This includes all of Roxbury and Byron and portions of Townships C, D, and E, Township 6 North of Weld, Weld, Carthage, Mexico, Rumford, Newry, Andover, and Andover North Surplus.

Three-dimensional resources of Google Earth Pro were used to look at the study area from the air and on the ground in order to give reviewers the capability to experience the overall physical characteristics of the landscape and understand the setting of the wind project relative to the surrounding topographic features. Field data was collected during site visits on October 16 and 17, 2007, June 8, 2008, August 13, 2008, and October 18, 2008. Fieldwork concentrated on examining scenic areas of state or national significance.

Title 35-A § 3452 (1) in pertinent part provides that:

> In making findings regarding the effect of an expedited wind energy development on scenic character and existing uses related to scenic character pursuant to…Title 38 § 484 (3) or § 480-D the Department shall determine, in a manner provided in subsection 3, whether the development significantly compromises views from a scenic resource of state or national significance… . Except as otherwise provided in subsection 2, determination that a wind energy development fits harmoniously into the existing natural environment in terms of potential effects on scenic character and existing uses related to scenic character is not required for approval under…Title 38, section 484 § 3.

Title 35-A § 3452 (2) provides in pertinent part that:

> The primary siting authority (Department) shall evaluate the effect of associated facilities of a wind energy development in terms of potential effects on scenic character and existing uses related to scenic character in accordance with…Title 38 § 484 (3), in the manner provided for development other than wind energy development if the Department determines that application of the standard in subsection 1 to the development may result in unreasonable adverse effects due to the scope, scale, location or other characteristics of

the associated facilities. An interested party may submit information regarding this determination to the Department for its consideration. The Department shall make a determination pursuant to this subsection within 30 days of its acceptance of the application as complete for processing.

Title 35-A § 3452 (3) provides that:

In making its determination pursuant to subsection 1, and in determining whether an applicant for an expedited wind energy development must provide a visual impact assessment in accordance with subsection 4, the Department shall 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 expedited wind energy development's 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.

A finding by the Department that the development's generating facilities are a highly visible feature in the landscape is not a solely sufficient basis for determination that an expedited wind energy project has an unreasonable adverse effect on the scenic character and existing uses related to scenic character of a scenic resource of state or national significance. In making its determination under subsection 1, 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.

Title 35-A § 3452 (4) provides, in pertinent part that:

An applicant for an expedited wind energy development shall provide the Department with a visual impact assessment of the development that addresses the evaluation criteria in subsection 3 if the Department determines such an assessment is necessary in accordance with subsection 3. There is a rebuttable presumption that a visual impact assessment is not required for those portions of the development's generating facilities that are located more than 3 miles, measured horizontally, from a scenic resource of state or national significance. The Department may require a visual impact assessment for portions of the development's generating facilities located more than 3 miles and up to 8 miles from a scenic resource of state or national significance if it finds there is substantial evidence that a visual impact assessment is needed to determine if there is the potential for significant adverse effects on the scenic resource of state or national significance…

The proposed Record Hill Wind Project contains “generating facilities” including wind turbines and towers as defined by 35-A M.R.S. § 3451 (5) and “associated facilities” such as buildings, access roads, substations, and generator lead transmission lines as defined by 35-A M.R.S. § 3451 (1). Therefore, the proposed Record Hill Wind Project must be reviewed pursuant to the expedited wind energy development standards outlined above and, to the extent applicable, 38 M.R.S. § 484 (3).

In accordance with 35-A M.R.S. § 3452 (4), the applicant conducted a visual assessment of all viewsheds of the proposed project. The Department requires that an applicant conduct a visual impact assessment within a three mile radius of the proposed project. Because the Swift River, a resource of state or scenic significance, is located within three miles of the proposed project, a visual assessment was required. Although not specifically required by the Department, the applicant elected to conduct a visual impact assessment within eight miles in recognition of the number and variety of scenic resources of state or national significance surrounding the proposed project. The applicant’s visual assessment identified scenic resources of state or national significance as defined pursuant to 35-A §3451(9).

1.) National natural landmarks (NNL). The applicant determined that there are no NNL within eight miles of the Project.

2.) Historic Resources. The applicant conducted several historic resource surveys, which indicated that there are four properties on the National Register of Historic Places within eight miles of the Project area.
• Lovejoy Bridge, Maine’s shortest covered bridge, over the Ellis River in South Andover (6.0 miles)
• Andover Library, Andover (6.0 miles)
• Hook and Ladder Building, Andover (5.8 miles)
• Merrill-Poor House, Andover (5.5 miles)
The applicant determined that none of these properties will have a view of the wind turbines or associated facilities due to intervening topography and vegetation.

3.) National or State Parks. The applicant determined that there are no State Parks within eight miles of the proposed project. The closest unit of Mount Blue State Park is over eight miles from the closest turbine, and there will be no view from this area. Mount Blue, in the eastern part of Mount Blue State Park, is 15 miles to the east of the proposed project. The closest unit of the National Park Service (NPS) is the Appalachian National Scenic Trail, which is approximately 7.8 miles to the west at its closest point. This is discussed further below.

4.) Great Ponds. There are two great ponds located on the west side of the proposed project, known as Ellis Pond (Roxbury Pond/Silver Lake) and Little Ellis Pond (Garland Pond). These ponds are not designated as scenic resources of state or national significance according to "Maine's Finest Lakes, the Results of the Maine Lakes Study",

published by the Maine State Planning Office (MSPO), pursuant to 35-A M.R.S. § 3451 (9)(D) .

Interested parties acknowledged that Ellis Pond and Little Ellis Pond are not listed in the report on Maine's Finest Lakes, as stated above. However, the interested parties contend that these ponds should be considered, evaluated, and included in the report.

The Department considered the concerns raised by interested parties and asked the MSPO to comment regarding this issue. MSPO commented that 35-M.R.S. §3451(9) defines "scenic resources of state or national significance" as including a "great pond that is one of the 66 great ponds located in the State's organized area identified as having outstanding or significant scenic quality in the 'Maine's Finest Lakes' study published by the Executive Department, State Planning Office in October 1989." This report discusses potential impact to the 66 identified great ponds. The Maine's Finest Lakes study involved assessment of great ponds of 10 acres or more in size for a number of different natural resources-related values, one of which was scenic quality. The report is used as guidance for statewide planning and Department land use permit review. In its findings, the report indicates that there are 66 lakes identified as having "outstanding" or "significant" scenic quality. These 66 "finest" lakes are those that under the study methodology detailed in the report were "judged to have cumulative resource values that are of statewide significance." Ellis Pond and Little Ellis Pond are not among the lakes identified as having outstanding or significant scenic quality in the report. For each lake studied, the assessment results indicate whether the lake was found to be "significant" or "outstanding" for each category assessed. The report sets forth the methodology used in assessing each lake's scenic quality. Pursuant to 35-M.R.S. §3451(9), the Legislature directed that the "Maine's Finest Lakes" study be used as a tool for the primary siting authority to determine whether a great pond is designated as a scenic resource of state or national significance for review of a wind energy development.

5.) Scenic Rivers. The Swift River, located between 1.5 and 2.5 miles to the east of the project area, is identified by the Maine Rivers Study as having unique/significant scenic resource values. The Swift is rated as a "C" River in the Maine Rivers Study, which means that it has a composite of natural and recreational resource values of statewide significance. The wind turbines of the proposed project would be seen from some sections of this river. One of the most notable portions of the Swift River is the segment that flows through and carves into Coos Canyon, 2.7 miles north of the project. However, the wind turbines would not be visible from Coos Canyon or the immediate area surrounding the canyon. The other point of interest along the Swift River in the study area is the Swift River Falls, also known as Three Falls, adjacent to Route 17 due east of the southernmost turbine in Roxbury. It may be possible to see some turbines during fall and winter months through the bare branches of the trees above the western riverfront; however, this would be at a time when recreational use the river is expected to be very low. While the GIS-based, topographic viewshed map indicates that there may be views along one-third of the Three Falls segment, the applicant determined it is unlikely that there would be much visual contact due to the dense streamside vegetation and intervening micro-topography. Most views of the turbines will be blocked by

riparian vegetation and topography throughout the majority of the pertinent length of the river.

6.) Scenic Viewpoints or Trails. The applicant identified two scenic viewpoints or trails within eight miles of the proposed project.

Tumbledown Mountain, Trails, and Webb Lake. The summit of Tumbledown Mountain affords a 360º view of the surrounding mountains and broad valleys. One of the focal points is Webb Lake, four miles to the southeast. This is the largest waterbody in the immediate area, sitting in the valley defined by West Mountain, Spruce Mountain, Saddleback Mountain, Mount Blue, and several other peaks. There are three main routes to access the summit of Tumbledown Mountain. The Loop Trail begins approximately 5.3 miles from the northerly end of the project. Views of the project area start near the summit of Tumbledown Mountain, 5.8± miles away. Two other trails, the Brook Trail and Parker Ridge Trail, are within eight miles of the proposed project. The maximum project visibility will occur on the West Peak of Tumbledown Mountain. This viewpoint would be 5.7± miles from the nearest wind turbine and 8.6 miles from the most distant one. At this point, most of the ridgeline and all of the turbines will be visible above Whale Back and West Mountains. The applicant stated that there will be no views of the proposed project from Webb Lake.

Little Jackson Mountain and Trail. The view from the summit of Little Jackson Mountain will be very similar to the view from the West Peak of Tumbledown, but the turbines will appear somewhat smaller since the viewer on Little Jackson will be 1.3 miles further away than a viewer on the West Peak.

Appalachian Trail. A 2-mile section of the Appalachian National Scenic Trail (AT) that includes the summit of Old Blue Mountain is located within eight miles of the Project. At its closest point, the AT will be 7.8± miles to the northwest of the northerly end of the project. Most of this 2-mile section will not have any views of the proposed project due to topography and intervening mountains.

7.) Scenic Turnouts. Pursuant to 35-M.R.S. §3451 (9)(G), the applicant determined that there are no scenic turnouts off a public road that are constructed by the Maine Department of Transportation within eight miles of the proposed project. The closest turnout off a public road is at Height of Land on the Rangeley Lake Scenic Byway (Route 17), 11.5 miles to the north. The applicant determined that there are no views of the project site from Height of Land.

GENERATING FACILITES AND ASSOCIATED FACILITIES:
The following describes the generating facilities and associated facilities, which are the visible components of the proposed project:

Wind Turbines. The turbines used for the project are identified by the applicant as Siemens SWT-2.3-93. The turbines have a blade diameter of 93 meters. With blade fully extended, the turbines will have a total height of 126.5 meters, or approximately 415 feet.

A nacelle is the structure that contains the generating components for the turbine. The turbines are controlled so they face into the wind when it is strong enough to generate power. All components of the turbine will be painted white. The blades will spin very slowly in low wind and will begin producing power when the wind velocity reaches approximately 4 meters per second (m/s). After the wind reaches a certain maximum velocity (approximately 25 m/s or 60 mph, but will vary with the intensity of turbulence), the machines will shut down for protection. The turbines may not be operational at other times, such as when the turbines are in-line or when they are taken out of service for repair or regularly scheduled maintenance. Depending upon the wind velocity, the blades will rotate at 9.6 to 15.5 revolutions per minute, which is equivalent to one revolution every 3.9 to 6.3 seconds. With unobstructed viewing conditions , individual blades will be clearly visible with virtually no detectable blurring while they rotate. The turbines in the project will be spaced a minimum of 720 feet apart and are on average 920 feet apart. When siting the individual turbines, the applicant took into account the wind resource, site-specific topography, town boundaries, proximity to wetlands, and other site conditions.

Lighting. Lighting for the proposed project will comply with Federal Aviation Administration (FAA) recommendations for aviation safety. The only lighting that is proposed are lights which will be mounted on the top of some of the nacelles. These lights will be mounted in accordance with an FAA-approved lighting design. Under normal operations, the lights will be on at night, red, flashing, and have a slow-on, slow-off profile. The permanent meteorological towers will also have FAA-approved lighting. By using white turbines, which offer sufficient visual contrast for pilots, the FAA will not require daytime lighting. There are no scenic resources of state or national significance within eight miles of the proposed project that are expected to have viewers after dark.

Access Roads and Crane Path. Access to the project site is proposed by upgrading and extending the existing Mine Notch Road. The existing roads will be modified to accommodate the delivery and construction vehicles needed for the proposed project. The access roads will not be visible to the general public beyond their immediate intersections with Route 120 and the Frye Crossover Road. Each wind turbine will be linked by a 32-foot wide crane path designed to provide safe access for the construction crane to the structures throughout the installation process. This path will be screened by existing vegetation in most locations and will not be visible from outside the immediate area.

Electrical Collector Substation and Operations & Maintenance Building. These structures are proposed to be located on the north side of Route 120, at a distance of approximately 2 miles east of the project site. The structures will be built on an existing area of development. The structures will be visible from Route 120.

Meteorological Towers. Two permanent 80 meter (262 feet) towers will be constructed and remain on site for the life of the proposed project. These towers will be lighted according to FAA requirements as described above and will be constructed of guyed lattice with a triangular cross section approximately 18 inches across. Due to their profile

and coloration, the applicant determined that the visibility of these towers at distances greater than one mile will be minimal.

The applicant avoided scenic and aesthetic impacts from the public viewpoints by proposing to use existing access roads wherever practicable for construction and maintenance, and siting the proposed generating facilities and associated facilities in areas where existing topography and vegetation provide visual screening. Therefore, the Department finds that the generating facilities and associated facilities will not have an unreasonable adverse effect on the scenic character or existing uses related to scenic character of scenic resources of state or national significance.

EXISTING USES:

1.) Andover Earth Station. Interested parties expressed concern regarding potential adverse impacts in the form of radio interference with the Andover Earth Station in the town of Andover. Interested parties assert that satellite antennas at this station are pointed toward Partridge Peak, North Twin Mountain, and South Twin Mountain.

The Verizon Satellite Earth Station, commonly known as the Andover Earth Station, is owned and operated by Verizon Network Services Group. The earth station has been federally licensed by the Federal Communications Commission (FCC) since the 1960s to operate Fixed Satellite Services. A license was required from the FCC, because all earth stations that transmit satellite signals must have a telecommunications license for each antenna.

In November 2008, a representative from the earth station contacted the applicant to determine if the proposed project would create a physical obstruction of the signal path from any of the antennas and/or create electronic noise. The applicant provided information about the scope of the proposed project to the representative. Based on the information provided, the representative determined that the line of proposed turbines would not extend south of Partridge Peak. The representative further stated to the applicant that there appeared to be no conflict between the proposed project and the earth station.

The Department contacted the same representative, who confirmed to the Department in a statement, dated June 4, 2009, that the turbines of the proposed wind energy development will be out of the line of transmittal sight from the antennas and that the proposed project will not create any concerns for the earth station.

With regards to North and South Twin Mountains, the Department concludes that no wind turbines or other similar activities are proposed on these mountains. For this reason, there are no adverse impacts to satellite antenna transmittal associated with the proposed project.

2.) Domestic Animals. Interested parties stated that wind turbines were the cause for 400 goats to die from terminal insomnia on an island off the mainland of Taiwan.

Interested parties assert that similar events will occur within the surrounding community as a result of the proposed project and referenced an article available online on this topic.

The current use of the proposed project site is primarily commercial timber management. According to the Maine Geographic Information Systems (GIS) mapping database, the nearest pasture or open field is approximately 4500 linear feet from the ridgeline; however, the Department was not able to confirm whether livestock are kept at this location. While the keeping of domestic animals in the vicinity of the proposed project is an existing use, interested parties supplied no credible evidence to indicate that the operation of the Record Hill Wind Project at the proposed project site will adversely affect livestock.

3.) Weather. Interested parties stated that wind turbines interfere with the line of sight operation of weather radar resulting in a decreased ability of weather radar to accurately track and or predict severe weather events.

On June 1, 2009, the applicant submitted a request to the National Oceanic and Atmospheric Administration (NOAA) for an analysis of the proposed project's potential impacts to weather radar.

In a report entitled "Impact Analysis of the Proposed Record Hill Wind Project", dated July 27, 2009, NOAA stated that its organization had reviewed the proposed project and its location relative to the Portland, Maine WSR-88D (KGYX) radar. The report stated that the greatest penetration into the radar beam at 0.5 degree elevation will be 90 meters (6% of beam height), and the proposed project is far enough away at a distance from the radar that only 1 degree of azimuth of data will potentially be impacted. Results of NOAA's impact risk scored operation impacts to be less than 1, which suggests that the proposed project will have a minimal impact risk to weather radar.

Based on the project's location and design and in consideration of the evaluation criteria pursuant to 35-A M.R.S. § 3452 (3), the Department finds that the applicant has made reasonable accommodation to fit the development into the natural environment and that no aspect of the project will have an unreasonable adverse effect on the scenic character or existing uses related to scenic character of scenic resources of state or national significance.

7. WILDLIFE AND FISHERIES:

Prior to submittal of the application, the applicant initiated a series of ecological field surveys, including migrating and breeding bird and raptor surveys, acoustic bat surveys, vernal pool surveys, wetland delineations, and rare, threatened, and endangered (RTE) species surveys. Surveys were targeted to provide data to help assess the project's potential to impact birds and bats, RTE plants and animals, breeding amphibians, and wetlands. The scope of the surveys was based on a combination of developing standard methods within the wind power industry for pre-construction surveys based upon guidelines outlined by U.S. Fish and Wildlife Service (USFWS) and Maine Department

of Inland Fisheries and Wildlife (MDIFW). The applicant conducted additional agency consultations with MDIFW in January 2008 to discuss work that had already been completed in 2007 at the project site, as well as a proposed work scope for the project that would be followed during spring 2008. The additional surveys discussed at that meeting were conducted during spring 2008 and were in compliance with the final work plan submitted and approved by MDIFW on March 6, 2008. The applicant completed a third avian survey during summer 2009.

Temporary and permanent changes in habitat conditions from the construction and installation of wind turbines, access roads, collector line poles, and collector lines for the proposed project have the potential to impact wildlife habitat. Impacts to habitats will consist of clearing land on the ridgelines of Partridge Peak, Flathead Mountain, and Record Hill and along the proposed generator lead segment on the east side of the ridge for turbines and roads, and along the proposed collector line segment on the east side of the ridge. Direct and indirect impacts to wildlife such as injury, mortality, or displacement are possible during clearing, construction, and operation of wind turbines, access roads, and electric lines and poles.

Avian and bat mortality through direct collisions with the turbines are two of the primary wildlife impacts expected from the proposed project. The applicant stated that, once constructed, the turbines and associated facilities are anticipated to pose little threat to terrestrial wildlife.

1.) Significant Vernal Pools. Vernal pool surveys were conducted in May 2008 and May 2009. The vernal pool surveys focused on those areas that were identified as Potential Vernal Pools during the wetland and waterbody delineations conducted between September and November 2007. In total, 32 vernal pools were identified. Of these pools, fourteen were determined to be man-made and occurred within either a roadside ditch or a rut created by heavy equipment. For this reason, these fourteen vernal pools did not meet the Department's identification criteria for significant vernal pools pursuant to Chapter 335, Significant Wildlife Habitat. The remaining 18 pools were naturally occurring and supported breeding activity by wood frogs and/or spotted salamanders. Five pools met the criteria to be considered Significant Vernal Pools based upon the level of amphibian breeding activity. A summary of identified vernal pools can be seen in Appendix 7-1(D) in the application.

The applicant's proposed clearing and grading will impact upland critical terrestrial habitat to two of the five identified significant vernal pools (SVP 03CF and SVP 18CF). When combined with existing impacts, these activities will alter 22% of critical terrestrial habitat within SVP 03CF and 17% of critical terrestrial habitat within SVP 18CF. The applicant submitted two Permit By Rule notifications indicating that the activities within critical terrestrial habitat would be done in accordance with Department Rules, Chapter 305, Section 19.

2.) Inland Waterfowl and Wading Bird Habitat. The proposed project area does not contain Geographic Information System (GIS) mapped Inland Waterfowl and Wading

Bird Habitat in areas proposed for wind turbines, access roads, collector lines, and associated structures.

3.) Deer Wintering Areas. The proposed project area does not contain GIS mapped Deer Wintering Areas in areas proposed for wind turbines, access roads, collector lines, and associated structures.

4.) Rare, Threatened, and Endangered (RTE) Species. The applicant conducted an RTE species survey for plant and animal species within the project area wetland. In addition to an RTE survey, bird and bat surveys conducted during fall 2007 and spring 2008 were also capable of documenting RTE species or Species of Special Concern if any were present. No RTE species or Species of Special Concern were observed during the fall 2007 or spring 2008 RTE surveys. However, one peregrine falcon (State Endangered), one bald eagle (State Threatened), one red-shouldered hawk (State Special Concern species), one Cooper's hawk (State Special Concern species), and one Northern goshawk (State Special Concern species) were observed passing through the area during the raptor migration surveys. The applicant states that raptor mortality documented from developed wind energy projects across the country has shown that diurnally migrating species are at low risk of collision with wind turbines with only 0 to 0.07 fatalities/turbine/year recorded from other developed wind projects in the United States outside of California. Breeding bird surveys documented a number of Maine special concern species within or in the vicinity of the project area, including tree swallow, veery, American redstart, black-and-white warbler, chestnut-sided warbler, and white-throated sparrow. These species are on conservation watch lists because of recent declines in their regional population trends, mainly due to loss of habitat. These species are known to occur in disturbed habitats as a result of industrial and commercial timber harvests and were found to be common in the project area. Based upon results of the surveys, the applicant determined that the proposed project is not anticipated to have an adverse impact to RTE species. Appendices 7-2 and 7-3 in the application provide details of RTE species observed at the project.

5.) Migratory Birds, Bats, and Raptors. The applicant conducted nocturnal radar surveys during the spring 2007 and fall 2008 migration periods to monitor nighttime migratory bird activity at the project site. Surveys were conducted using X-band marine radar, sampling from sunset to sunrise. Each hour of sampling included the recording of radar video files during horizontal and vertical operation. The radar site was located at the summit of Flathead Mountain and provided sufficient visibility. Targets were observed in most areas of the radar viewshed. The spring radar survey included 20 nights of sampling from April 22 to June 8, 2007. The fall radar survey included 20 nights of sampling from September 5 to October 13, 2007.

The applicant's migratory bird survey also included bald eagles which were conducted during fall 2007, spring 2008, and summer 2009. Two adult bald eagles were observed on September 4, 2007. Both were seen migrating at approximately 70 meters over Flathead Mountain. A juvenile bald eagle was observed on September 20, 2007, migrating west of the project ridgeline at an altitude of 200 to 300 meters. Two bald

eagles were observed during the spring 2008 raptor migration survey on May 1 and May 6, 2008. These individuals were observed flying parallel to the ridgeline over the valley to the west of the project. One eagle was observed flying low along the valley, while the other was estimated at 200 meters above the valley. Seven bald eagles were observed during the summer 2009 raptor migration between July 13, 2009 and August 16, 2009. These individuals were seen flying over Ellis Pond.

The applicant acknowledged that there is one bald eagle nest on French Island in Ellis Pond to the west of the project site. The applicant stated that bald eagles primarily fly along river corridors at varying heights in pursuit of prey, during aerial displays, and during daily movements. However, they also often expand their feeding grounds for many miles to lakes, ponds, and other waterbodies. The applicant stated that mortality from collisions with turbines is not expected due to the location of the turbines on upland ridgelines, because bald eagles tend to hunt on bodies of water.

The applicant conducted acoustic bat surveys with Anabat detectors within the project area in the fall of 2007 and the spring of 2008. The acoustic bat survey was designed to document bat activity patterns near the rotor zone of the proposed turbines, at an intermediate height, and near the ground. Acoustic surveys were also intended to document bat activity patterns in relation to weather factors, including wind speed, temperature, and relative humidity. Four bat detectors were deployed across the ridgeline of the project site during the fall migration season from August 9 to October 21, 2007 and during the spring migration season from May 1 to June 16, 2008.

Based on the results of the nocturnal radar surveys, raptor surveys, and acoustic bat surveys in 2007 and 2008, the applicant states that operation of wind turbines in the project area will not pose a significant threat to birds or bats. The radar surveys indicate that passage rates at the project are comparable to other radar sites in the state. Flight height and flight direction data indicate that the majority of migratory birds are flying at a height sufficient to avoid the proposed turbines and blades. Raptor surveys indicate that passage rates of raptors is low in the project area. The applicant states that this low rate is likely due to the lack of large landscape features that would concentrate raptor migration activity. Data from the surveys also indicate that the number of bats in the project area is similar to other sites in the vicinity of the project area.

Interested parties assert that the proposed project will negatively affect the bald eagles that utilize the existing nest on French Island, which is located approximately 1.8 miles west of the proposed project site.

In response to interested parties' concerns, MDIFW commented that its agency has monitored nesting of bald eagles at French Island since 1998. The nest and surrounding ¼ mile radius is designated as an Essential Habitat under the Maine Endangered Species Act to enable reviews of projects which might significantly alter or unreasonably harm the immediate nest vicinity. That regulation has been a key to mitigating potential disturbances near nesting eagles and bolstering species recovery. MDIFW stated that most bald eagle activity is along the shores of lakes, rivers, streams and coastal waters.

However, ridgelines like Record Hill can create updrafts favorable for soaring flights. The applicant conducted routine monitoring of raptor activity (including eagles) during fall and spring. MDIFW concluded that results from the studies showed relatively low use of the ridgeline being proposed for development by bald eagles during the surveys.

Based upon results of the applicant's wildlife studies and MDIFW's comments, the Department finds that the proposed project is not located in an area of significant bald eagles usage, and the construction of the project will not significantly impact populations of these species.

MDIFW determined that the survey results submitted by the applicant are consistent with other pre-construction studies conducted for wind power projects that MDIFW has reviewed in Maine. MDIFW believes that additional pre-construction studies at this site are not necessary.

MDIFW recommended that a detailed post-construction monitoring plan should be developed in conjunction with MDIFW. The post-construction monitoring efforts should be at least as rigorous as the pre-construction efforts, and include an appropriate amount of radar studies allowing for comparison with preconstruction radar data. This monitoring plan should be conducted in three separate years after the proposed project is placed on-line, specifically after years 1, 3, and 5. MDIFW stated that post-construction monitoring protocols must incorporate a sampling effort at all turbine locations in order to determine impacts to wildlife. Monitoring must be done at the individual turbine scale as well as at the project scale. Sampling all turbine locations provides the opportunity to assess whether individual turbines pose an undue risk to wildlife. This sampling scheme will guide MDIFW and the applicant in the implementation of appropriate and practical measures for ensuring the avoidance or minimization of any unreasonable adverse impacts, recognizing that such measures will depend on the research and science, since new technology is constantly developing. Based on recent research findings, measures that must be considered include, but are not limited to:

(1) Modified Operations. If a turbine is found to be causing unreasonable adverse impacts, the applicant must consider suspending its operation for periods determined by the Department to be of highest risk, provided there is good reason to expect that a non-operating turbine will pose less risk than an operating turbine. For example, if impacts were occurring at night during certain periods of fall migration, the applicant must modify the operation of the turbine during those high-risk nights; and

(2) On-Site Habitat Management. The applicant must consider habitat management measures in the vicinity of the turbines to modify wildlife behavior and reduce the risk of impacts. Any such measures must be determined by the Department in consultation with MDIFW in response to specific concerns or impacts that are related to habitat factors. Examples include, but are not limited to, modifying the type or extent of vegetation cover, forest openings, perching and nesting sites, or cover for prey species; and

(3) Habitat Protection. The applicant must consider providing appropriate compensatory mitigation for wildlife impacts such as protection or enhancement of wildlife habitat with a similar function and value similar to that impacted by the project. The Department in consultation with MDIFW will determine the appropriateness of any compensatory mitigation.

The post-construction monitoring plan also must include a survey of bald eagle activity associated with Ellis Pond and the ridgeline habitats along the Record Hill Wind Project. The survey protocol must be developed in consultation with MDIFW and the U.S. Fish and Wildlife Service, and must be inclusive of both migratory and non-migratory periods. How the post-construction monitoring plan is implemented will be determined by the Department, and will be dependent on the type and severity of impacts, cost benefit considerations, and practicality. Additional measures may be considered depending on future research findings.

In order to address concerns raised by MDIFW regarding avian, bat, and raptor (including bald eagle) mortality associated with the proposed project, the applicant agreed to conduct post-construction monitoring in consultation with MDIFW and the Department. Post-construction monitoring shall begin in the first year of the project's operation. The applicant must submit a finalized post-construction monitoring protocol to the Department for review and approval prior to the start of operation.

6.) Other Wildlife (Loons and Creeper).

Loons. Interested parties state that a large population of loons resides close to Ellis Pond, that the applicant failed to consider loons in their wildlife studies, and that the proposed project will negatively affect this population of loons.

In response to this concern, MDIFW commented that loons are protected by state and federal laws that prohibit the harassment of wildlife; however, they are not classified as a rare, threatened, or endangered avian species. MDIFW stated that there is a potential risk that loons may collide with a turbine associated with the Record Hill Wind Project. However, MDIFW believes that this risk is low since most of the loon flights would occur during daylight hours when they could see the structures. Preconstruction studies done by the applicant for the proposed project indicate that loons did not utilize the ridgeline. MDIFW does not anticipate that either the local loon population, or migrating loons, will be adversely impacted by the Record Hill Wind Project.

Creeper. Interested parties state that creeper, a species of freshwater mussel, is present in the Ellis River in the Andover area, and that the outlet to Ellis Pond is the start of the Ellis River, and that construction of the proposed project and its associated activities will negatively affect any present creeper population. The Ellis River is located approximately 2.8 miles west of the project site.

In response to this concern, MDIFW commented that the creeper is listed as a species of special concern in Maine. Creepers are usually found in clean, flowing streams and rivers. Sometimes, creepers are found in impounded stretches, and lake outlets which can be productive habitats for this species. The creeper can tolerate a range of flow conditions, but is rarely found in high-gradient streams of mountainous regions. These mussels are listed as a species of special concern because they are rarely abundant where they occur and are vulnerable to major disturbances and degradations to their habitats. Some of the activities associated with the construction of the Record Hill Wind Project will occur within the watershed where creepers are known to occur. The applicant has agreed to comply with the Department's Best Management Practices (BMPs) for erosion and sediment control and road construction. As such, MDIFW does not anticipate any negative impacts to this species.

Based on the comments of MDIFW, the Department finds that the proposed project, with BMPs for erosion and sedimentation control being followed, will not result in any negative impacts to loons and creeper.

7.) Streams and associated fisheries. The streams that will be affected on the ridgeline include a small perennial stream and intermittent streams. The applicant submitted evidence that the three intermittent streams would be unlikely to support fish, and the small perennial stream would support small non-game species. No fish were observed during the applicant's field surveys in the project area. The generator lead will cross both perennial and intermittent streams; however, no in-stream work is anticipated for these crossings. The applicant stated that there will be no in-stream vehicle crossings during construction. Impacts to the streams will only occur through limited clearing of the vegetated buffer. A small amount of thermal gain, a temperature increase of the water, is expected directly after clearing, but these areas will re-vegetate with a shrub buffer. The buffer clearing requirements that will be utilized to minimize impacts to fisheries are discussed in Finding 9.

The Department finds that the applicant has avoided and minimized impacts to significant wildlife habitat to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project. Moreover, the Department finds that the activity will not degrade any significant wildlife habitat, unreasonably disturb the subject wildlife, or unreasonably affect use of the site by the subject wildlife, provided that the applicant submits a finalized post-construction avian, bat, and raptor (including bald eagles) post-construction monitoring protocol to the Department for review and approval prior to the beginning of operation of the Record Hill Wind Project. The post-construction monitoring plan must also include a survey of Bald Eagle activity associated with Ellis Pond and the ridgeline habitats along the Record Hill Wind Project.

8. HISTORIC SITES AND UNUSUAL NATURAL AREAS:

Historic Sites: The applicant conducted historic architecture, Euro-American archaeological, and historic archaeological investigations of the proposed project area to determine potential impacts on historic resources.

1.) Prehistoric Archaeological Survey. The applicant submitted the results of documentary research and field surveys dated December 5, 2007. Documentary research was conducted at the Maine Historic Preservation Commission (MHPC). Research, performed in conjunction with assistance from MHPC, concluded that no archaeological sites are located within one mile of the project site. A site visit was conducted on November 15, 2007 to assess whether the project site is likely to contain prehistoric resources and to determine whether stone may be present that might have been exploited by prehistoric inhabitants. Given that the project area is located largely along an upland ridge with poorly drained soils, prehistoric sensitivity is low. Further, the likelihood of prehistoric rock being exploited is minimal. Results of the prehistoric archaeological survey are compiled in a document prepared by TRC Companies, Inc., dated December 5, 2007 and was submitted as Appendix 8-1 of the application. The applicant's documentary research and field surveys concluded that there is no evidence that supports that prehistoric archaeological resources are present and the project area is of low archaeological sensitivity.

2.) Euro-American Archaeology Phase O Survey. This assessment consisted of background research, a sensitivity model pertinent to the project area, and a site visit to confirm the presence or absence of potential archaeological resources. The Euro-American Archaeological Phase O Survey was prepared by Independent Archaeological Consulting, Inc., dated February 26, 2008 with the last revision dated November 29, 2008, and was submitted as Appendix 8-2 of the application. Results of the applicant's assessment concluded that the project area has little sensitivity for Euro-American archaeological resources. The only likely historic land use in the area has been limited to logging. While there is ample evidence of modern logging, these features are less than 50 years old and are not significant due to their late date and their commonality over much of the modern state.

3.) Historic Architecture Survey. A historic architecture survey was conducted in accordance with the requirements of Section 106 of the National Historic Preservation Act of 1966. The report and analysis of the historic architecture was prepared by Independent Archaeological Consulting, Inc., dated November 2008, and is seen in that application in Appendix 8-3. This survey was conducted within a five mile radius, which is known as the Area of Potential Effect. Within the Area of Potential Effect, the applicant evaluated 289 historic resources. None of the evaluated properties are listed on the National Registry of Historic Places. The applicant also identified nine properties within the Area of Potential Effect that have resources that are potentially eligible for listing on the national registry; of these resources, four would have no view of the project site. The five remaining properties would have intermittent views of the proposed project; however, those views are not

anticipated to significantly affect the qualities that make the properties potentially eligible for listing.

Unusual Natural Areas: To determine if unusual natural areas, including rare, threatened, and endangered (RTE) species occur with the scope of the project, the applicant consulted with the Maine Natural Areas Program. In a letter dated September 13, 2007, the Natural Areas Program stated that there are no known rare botanical features documented specifically within the project area.

Additionally, Stantec Consulting completed field investigations in 2007 and 2008 that included wetland delineations, vernal pool surveys, and a landscape analysis-based RTE plant field survey. The survey characterized the existing natural communities and assessed the potential of the on-site natural communities to support RTE plant species. No RTE species were observed during the field surveys.

The Department finds that the proposed development will not have an adverse effect on the preservation of any historic sites or unusual natural areas either on or near the development site.

9. BUFFERS:

The applicant proposes to utilize several types of vegetative buffers with a vegetation management plan in order to balance the operational needs of the proposed project with the environmental benefits of riparian buffers. Buffers for the proposed project include no-ground-disturbance buffers around roads and turbines, a corridor buffer, waterbody buffers at streams and other crossings, and a buffer around the 250-foot habitat of significant vernal pools. The vegetation cutting practices which will be used to preserve and maintain buffers include no cutting, limited and selective clearing, and mechanized clearing combined with selective use of herbicides.

1.) Access Road, Crane Path, & Turbine Buffers. The applicant proposes to maintain forested buffers for access roads and turbines. These buffers are restricted ground disturbance areas designed for the purpose of creating a visual screen and providing stormwater runoff and phosphorus treatment, which is further described in Finding 11. In specific areas where grading will allow for sheet flow of stormwater runoff, the applicant proposes to maintain a 55 foot wide forested buffer. In areas where sheet flow is not possible, stormwater will be collected in ditches along the downhill side of the roads. Sixteen feet of the proposed 32 foot wide crane paths and most of the turbine pad areas, specifically the construction laydown area, for each turbine will be allowed to re-vegetate in order to provide additional buffering capacity.

In addition to roadside buffers described above, a portion of one access road (Station 53+50 to 80+75) and the crane path (Sheets C117 to C124) will be bordered by an approximately 100 foot wide Phosphorous Restriction zone. The zone also includes roadside and ditch turnout buffers. This zone totals approximately 155 acres. The zone encompasses all developed area within the Ellis Pond watershed and includes most of the proposed turbines and associated turbine pads. While selective cutting of vegetation and

harvesting under frozen conditions may occur in this area, no grubbing or soil disturbance will be permitted.

2.) Generator Lead Buffers. The area within the generator lead corridor will require vegetative cutting to meet line safety and reliability goals. The applicant proposes to employ ISO-New England safety standards to vegetative management of the collector line. Corridor construction and maintenance procedures will provide for the retention of low ground cover to the greatest extent practicable during construction, restoration and stabilization of areas affected by construction, and ongoing maintenance activities with the intention of promoting long-term growth of low vegetation.

3.) Stream Buffers. The applicant proposes to maintain a minimum of a 100 foot wide forested buffer along streams crossed by the generator lead line and streams adjacent to new access roads. The use of herbicides will be prohibited within all waterbody buffers and within 25 feet of any wetlands with water visible at the surface. Additionally, no refueling or maintenance of equipment will be performed within waterbody buffer areas. No permanent structures will be placed within 100 feet of any stream. Further, tree cutting in stream buffer areas will be limited to hand removal of capable species greater than eight feet.

4.) Vernal Pool Buffers. The applicant proposes to maintain a minimum of a 250 foot vegetated buffer, as measured from the edge of the 250 foot habitat on each side, for significant vernal pools that are present within the vicinity of the proposed project. Clearing for developed area and electrical infrastructure will not result in greater than 25 percent of habitat conversion of any significant vernal pool, which includes the vernal pool depression and its critical terrestrial habitat. Herbicide use within this buffer will be prohibited; no refueling or maintenance of equipment will be conducted within this buffer.

Vegetation Maintenance Plan. The applicant submitted a vegetation management plan (Appendix 10-1 of the application) entitled “Post-Construction Vegetation Management Plan” prepared by James W. Sewall Company and Stantec Consulting and dated November 2008 with the last revision date being July 2009. The plan summarizes vegetation maintenance methods and procedures that will be utilized by the applicant for the transmission line corridor, describes maintenance requirements and restrictions associated with waterbody crossings, and describes the procedures to be followed in the vicinity of vernal pools. Further, the plan provides procedures for managing or removing osprey nests built on power line structures, describes a system for identifying restricted areas, and summarizes training requirements for personnel and contractors.

The Department finds that the applicant has made adequate provision for buffer strips provided that the applicant complies with the post-construction vegetation management plan submitted in the application, and that all visual screening buffers and stormwater treatment buffers must be marked on the ground pursuant to Chapter 500 Stormwater Management rules within 60 days of the start of operation. Further, prior to the start of operation, the applicant must record deed restrictions with the Registry of Deeds for the

subject parcel(s). The deed restrictions must be consistent with Chapter 500 Stormwater Management Rules and have attached a plot plan for the parcel(s), drawn to scale, that specifies the location of all stormwater buffers on the parcel. The applicant shall submit a copy of the recorded deed restrictions, including the plot plan(s), to the Department within 90 days of the recording.

10. SOILS:

The applicant submitted a Class C Medium-High Intensity Soil Survey and a Medium-high to High Intensity Soil Survey for the proposed project site prepared by Albert Frick Associates, Inc. and dated October 31, 2008. The applicant also submitted a Class B High-Intensity Soil Survey for the collector substation, prepared by Statewide Surveys, Inc, and dated July 3, 2009. Both reports are in the appendices of Section 11 in the application. These reports concluded that the soils are generally appropriate for the proposed construction activities.

All of the reports were reviewed by staff from the Division of Environmental Assessment (DEA) of the Department's Bureau of Land and Water Quality. DEA also reviewed a Blasting Plan submitted by the applicant and outlining the proposed procedures for blasting in the area of the turbine foundations, the proposed access roads in areas requiring significant cut, and underground power line trenches. DEA commented that the blasting plan does not include specific limits for ground vibration. For any blast at which ground vibration is monitored, the applicable limit on ground vibration at inhabitable structures not owned or controlled by the developer is the frequency-dependent standard in Figure B-1 of Appendix B, U.S. Bureau of Mines Report of Investigations 8507. The applicant acknowledged DEA's comments and has agreed to apply the specific limits in Figure B-1 for ground vibration.

Prior to any blasting on the project site, the applicant must submit a pre-blast survey to the Department for review and approval. All blasting must be conducted in compliance with the provisions set forth by 38 M.R.S. § 490-Z (14). In addition, the applicant must follow all applicable limits on ground vibration at inhabitable structures not owned or controlled by the applicant in conformance with the U.S Bureau of Mines Report of Investigations 8507.

The applicant does not anticipate using a rock crusher on the project site during the construction of the proposed project; however, if a rock crusher is required to be utilized on site, the applicant must insure that the crusher is licensed by the Department's Bureau of Air Quality and is being operated in accordance with that license.

The Department finds that the applicant has submitted evidence that the soils on the project site present no limitations to the proposed project that cannot be overcome through standard engineering practices provided that the applicant submits a pre-blast survey to the Department for review and approval, prior to any blasting on the project site, and if a rock crusher will be utilized on site, the applicant must insure that the

crusher is licensed by the Department's Bureau of Air Quality and is being operated in accordance with that license.

11. STORMWATER MANAGEMENT:

The proposed project includes approximately 18.4 acres of new impervious area and 18.8 acres of new developed area. Approximately 0.7 acres of developed area currently exists due to existing logging rods. The proposed project lies within the watershed of the Swift River, Meadow Brook, and Ellis Pond (also known as Roxbury Pond or Silver Lake). The applicant submitted a stormwater management plan based on the basic, general, and flooding standards contained in Department Rules, Chapter 500. Under the general standards, the applicant is applying the phosphorous methodology to address impacts to Ellis Pond. Stormwater quality treatment will be achieved with various roadside, turnout, and level spreader buffers, and two grassed underdrained soil filters. Stormwater flooding mitigation will be achieved with lengthening flow paths and disconnecting impervious area through the use of buffers and by two small detention areas.

A. Basic Standard:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan (Section 14 of the application) that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by the Division of Watershed Management (DWM) of the Department’s Bureau of Land & Water Quality. DWM commented that, as stated in the erosion control plan, minimum erosion control measures will need to be implemented. However, based on site and weather conditions during construction, additional erosion and sedimentation control measures may be necessary. All areas of instability and erosion must be repaired and maintained immediately during construction until the site is completely stabilized or vegetation is established.

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor. Given the size and nature of the project site, the applicant must retain the services of a third party inspector in accordance with the Special Condition for Third Party Inspection Program, which is attached to this Order. Prior the start of construction, the applicant must conduct a pre-construction meeting to discuss the construction schedule and the erosion and sediment control plan with the appropriate parties. This meeting must be attended by the applicant's representative, Department staff, the design engineer, the contractor, and the third-party inspector.

Interested parties stated that erosion occurred at the site of a previously permitted wind energy development, known as Kibby Mountain. In part due to this experience, interested parties assert that erosion is likely to occur at the proposed project site.

DWM commented that reports from the third party inspector for Kibby Mountain have indicated that major erosion control issues resulted from the logging and clearing practices on the site. These factors were not under the control of the developer of the permitted wind energy development. Rather, the erosion control issues on that site were the result of activities undertaken by the property owner. For the proposed project, the applicant must retain the services of a third party inspector to make weekly visits to the project site and report on the erosion and sedimentation control efforts, problems encountered during their inspections, if any, and recommend corrective measures taken. This is in addition to the contractor's own efforts at compliance, additional site visits from Department staff and, the applicant's reviewed and approved erosion and sedimentation control plan as guidance to the level of effort necessary to conduct the project.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short and long-term maintenance requirements. This plan was reviewed by, and revised in response to the comments of DWM. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on DWM's review of the applicant's erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500(4)(A).

B. General Standards:

The applicant's stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. Mitigation for the non-linear portion of the project (the collector substation and Operations & Maintenance building) is being achieved by using Best Management Practices that will control runoff from 96% of the impervious area and 95% of the developed area. The proposed access roads meet the definition of "a linear portion of a project" in Chapter 500 and the applicant is proposing to reduce runoff volume to 82% of the volume from the impervious area and 82% of the developed area.

Because of the proposed project's location partially within the watershed of Ellis Pond, stormwater runoff from the portion of the project site in the Pond's watershed will be treated to meet the phosphorus standard outlined in Chapter 500(4)(C). The applicant's phosphorus control plan was developed using methodology developed by the Department and outlined in "Phosphorus Control in Lake Watersheds: A Technical Guide for Evaluating New Development". For this project, the Permitted Phosphorus Export is 6.37 pounds of phosphorus per year. The applicant proposes to remove phosphorus from

the project's stormwater runoff by utilizing the stormwater treatment methods discussed above and incorporating a Phosphorous Restriction Zone totaling approximately 155 acres discussed in Finding 9. The proposed stormwater treatment will be able to reduce the export of phosphorus in the stormwater runoff equal to the maximum permitted phosphorus export for the project site.

The forested, limited disturbance stormwater buffers will be protected from alteration through the execution of a deed restriction, as described in Finding 9. A deed restriction must be put in place for any portion of the designated buffer and have attached to it a plot plan, drawn to scale, that specifies the location of the buffers. The applicant proposes to use the deed restriction language contained in Appendix G of Chapter 500. Prior to the start of construction, the applicant must submit a copy of the recorded deed restriction including the plot plan to the Department within 90 days of its recording.

Prior to initiating work in an area, the location of forested buffers must be permanently marked on the ground. Methods of marking the ground shall include, but are not limited to, a combination of field flagging and clearly marked signage.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to, comments from DWM. After a final review, DWM commented that the proposed stormwater management system is designed in accordance with the Chapter 500 General Standards. DWM recommended that the applicant retain the services of a professional engineer to inspect the construction and stabilization of the road ditch turnouts and stone bermed level spreaders to be built on the site. Inspections must consist of weekly visits to the site to inspect each turnout and level spreader's construction, stone berm material and placement, and settling basin from initial ground disturbance to final stabilization. If necessary, the inspecting engineer will interpret the turnouts' and spreaders' location and construction plan for the contractor. Once the turnouts and spreaders are constructed and stabilized, the inspecting engineer will notify the Department in writing within 14 days to state that the turnouts and spreaders have been completed. Accompanying the engineer's notification must be a log of the engineer's inspections giving the date of each inspection, the time of each inspection, the items inspected on each visit, and include any testing data or sieve analysis data of the berm media.

The applicant must also retain the services of a professional engineer to inspect the construction and stabilization of the grassed underdrained soil filters. The same protocol as listed above must be followed. The engineer must include data that includes information about the filters' effectiveness and determine any maintenance items needed.

Based on the stormwater system's design and DWM's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 General Standards provided that the applicant adheres to the required protocol for inspections of the ditch turnouts, level lip spreaders, and grassed underdrained soil filters as outlined above.

C. Flooding Standard:

The applicant is proposing to utilize a stormwater management system based on estimates of pre- and post-development stormwater runoff flows obtained by using Hydrocad, a stormwater modeling software that utilizes the methodologies outlined in Technical Releases #55 and #20, U.S.D.A., Soil Conservation Service and detains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency.

DWM reviewed the analysis of the watersheds involved in the proposed project for flooding. DWM commented that the nature of the linear project creates relatively little impervious area in any one sub-watershed. The applicant analyzed the impact of the conversion of cover type on the wider watershed area. The project design results in a large amount of disconnected impervious areas. This design keeps flows from exiting the site in a concentrated flow and lengthens the flow path in a manner that will mitigate for local flooding impact. DWM commented that the proposed system is designed in accordance with the Chapter 500 Flooding Standard.

Based on the system's design and DWM's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500, Flooding Standard for channel limits and runoff areas, and peak flow from the project site.

12. GROUNDWATER:

The proposed project is located across two U.S. Geological Survey quadrangles: Roxbury and Ellis Pond. The applicant submitted significant sand and gravel aquifer data for these areas from the Maine Geological Survey. The Maine Geological Survey data indicates that the nearest aquifer is located over one mile east of the proposed project near the Swift River. A single bedrock well is proposed to serve domestic needs at the project's Operations & Maintenance building. This location for a well will not affect any significant sand and gravel aquifers.

Spill Prevention, Control, and Countermeasures (SPCC) plan. The applicant stated that the potential sources of groundwater contamination during construction will be fuel and hydraulic and lubricating oils used in the operation of vehicles and construction equipment. The applicant submitted a set of procedures for handling these materials and preventing spills should such an event occur. The Department's Division of Environmental Assessment (DEA) reviewed the applicant's draft SPCC plan and commented that the applicant must submit a final SPCC plan for construction of the facility to the Department for review and approval prior to the start of construction. The applicant must also submit a final SPCC plan for the operation of the facility prior to the start of operation. The applicant must also apply setbacks proposed in the current plan for buffer areas between petroleum storage and fueling areas and wells and protected resources to areas of herbicide usage or other use of chemicals and fuels in maintenance of the right-of-way. Prior to any construction, site preparation, or maintenance, the applicant must flag the boundaries of any such setbacks in the field. All staff must

receive suitable training to recognize and comply with these setback markers and requirements. Prior to any application of herbicides or other use of chemicals or petroleum products in maintenance of the right of way, the right of way must be checked for any new construction that would require establishment of setbacks for herbicides or other use of chemicals or petroleum products, and any such setback must be clearly flagged in the field.

The Department finds that the proposed project will not have an unreasonable adverse effect on ground water quality provided that the applicant must submit a final SPCC plan for construction of the facility to the Department for review and approval prior to the start of construction and a final SPCC plan for the operation of the facility for review and approval prior to the start of operation and adhere to additional procedures as referenced above.

13. WATER SUPPLY:

The proposed project will not require water supply for the operation of the wind turbines or the electrical equipment. The only anticipated demand for water will be at the Operations & Maintenance building. A private water well will be drilled on-site to supply potable water to the Operations & Maintenance building. During construction, the applicant or its contractors will supply drinking water to workers. Drinking water will be supplied either from an existing public water supply or by bottled or other bulk water supply.

Non-potable water will be needed for dust abatement at a rate of up to 20,000 gallons per day during construction. This water will not be withdrawn from a groundwater source. Rather, a 4,000 gallon tanker truck will bring water to the site from the boat ramp at Ellis Pond in Roxbury Pond Village. Pursuant to 06-096 Chapter 587 (6) of the Department's Rules, In-stream Flows and Lake and Pond Water Levels, this activity will not change the naturally occurring water levels of the Ellis Pond or surrounding lakes given the limited volume of the withdrawal amount. The applicant stated that it has taken steps to coordinate efforts with the local municipality to regulate water withdrawal from Roxbury Pond for the purpose of dust abatement. Concrete required for the project will not be produced on-site, but instead will be provided by existing batch plants.

The applicant submitted an assessment of groundwater supplies that are available on the project site and a map provided by the Maine Geological Survey which denotes the locations of bedrock wells within the vicinity of the project site (submitted as Appendix 16-1 in Section 15 of the application). This assessment was reviewed by the Department's Division of Environmental Assessment, who commented that there is adequate groundwater resource for the proposed project.

The Department finds that the applicant has made adequate provision for securing and maintaining a sufficient and healthful water supply, provided that the applicant adheres to 06-096 Chapter 587 (6) of the Department's Rules, In-stream Flows and Lake and Pond

Water Levels, during construction when withdrawing water from Ellis Pond for the purpose of dust abatement.

14. WASTEWATER DISPOSAL:

The applicant stated that the only potential generation of wastewater would be from the proposed Operations & Maintenance building from a staff of nine employees or less. This equates to approximately 135 gallons of wastewater per day. There will be no commercial or industrial wastewater generation associated with the proposed project.

The design of the wastewater system includes a septic tank with a standard stone bed septic system that meets the Subsurface Wastewater Disposal Rules. The septic disposal system will be built on suitable soils and will be sited on the Maintenance Facility Lot a minimum of 100 feet from the water supply well. The applicant submitted a disposal area plan, dated July 10, 2009 and a subsurface wastewater disposal system design (HHE-200 form) dated July 10, 2009, both prepared by a professional soil evaluator from Stantec Consulting.

The applicant also submitted the soil survey map and report discussed in Finding 10 and an analysis of potential impacts to off-site groundwater quality resulting from on-site wastewater disposal prepared by a certified geologist. This information was reviewed by DEA.

Based on DEA's comments, the Department finds that the proposed wastewater disposal system will be built on suitable soil types.

15. SOLID WASTE:

All trees located in the footprint of the proposed turbine pads and expanded roads will be harvested and sold for commercial use. Smaller woody vegetation will be mulched and used for moisture retention on the site.

The development of the site and construction of the turbines will generate approximately 97 cubic yards of construction debris. By letter, dated November 12, 2008, Archie's, Inc., a Department-licensed non-hazardous waste hauler, stated that the company is capable of and willing to transport construction waste before and after construction and during operation of the project. All construction and demolition debris generated will be disposed of at Waste Disposal Services of Maine's Crossroads facility, which is substantial compliance with the Solid Waste Management Regulations of the State of Maine. This facility is located in Norridgewock.

Solid waste produced during operation of the proposed project is estimated to be less than 100 pounds of waste per week. Once in operation, domestic waste will be disposed of in a dumpster which will be sited at the proposed Operations & Maintenance building. The applicant will contract with a licensed waste hauler to periodically empty the dumpster and transport waste to a licensed waste disposal facility.

The Department's Bureau of Remediation and Waste Management (BRWM) reviewed the applicant's proposal for solid waste disposal, and stated that the proposal is adequate provided that mulch depth of processed brush is no more than 2 to 4 inches, and the mulch is placed within 30 days of completing the brush process.

Based on the above information and BRWM's review, the Department finds that the applicant has made adequate provision for solid waste disposal provided that mulch depth of processed brush is no more than 2 to 4 inches, and the mulch is placed within 30 days of completing the brush process.

16. FLOODING:

The proposed project crosses headwaters of streams in the ridge and connector line areas.

The applicant consulted flood zone maps of the Town of Roxbury (Oxford County) to determine if the proposed project would cross a mapped flood zone. The maps indicate that no flood zones are crossed by the proposed project. The flood zone maps can be seen on Page 19-1 and 19-2 in the application.

Based upon information in the record, the Department finds that the proposed project is unlikely to cause or increase flooding or cause an unreasonable flood hazard to any structure.

17. WETLAND AND WATERBODY IMPACTS:

Freshwater Wetlands. The applicant identified a total of 266 freshwater wetlands areas within the project site. Of this total, 73 wetlands were identified within the ridgeline turbine corridor, 126 wetlands were identified within the access road corridor, and 67 wetlands were identified within the generator lead corridor. All of the wetlands located on the project site were identified as either forested, scrub-shrub, or emergent. A total of forty-eight of the 266 wetlands that were identified are classified as Wetlands of Special Significance (WOSS) in accordance with Chapter 310 § 4 of the Department's Wetlands and Waterbodies Protection rules. The proposed project will impact 30 of the 266 freshwater wetlands that were delineated. Of these 30 freshwater wetlands, seventeen will be impacted by permanent fill and 13 will be impacted by clearing activities.

In addition to the wetlands located on the project area, a total of 77 streams were also identified within the project area. The applicant identified a total of 8 streams within the ridgeline turbine corridor, 47 streams were identified within the access road corridor, and 22 streams were identified within the generator lead corridor.

In order to construct the proposed project, the applicant proposes to permanently fill 13,364 square feet of forested, scrub shrub, and emergent freshwater wetlands and to clear 30,172 square feet of wetland vegetation due to construction of the transmission

lines. Approximately 12% of the proposed wetland fill is a result of expanding Mine Notch Road.

Rivers, Streams and Brooks. In total, there are 11 of the 77 delineated streams are crossed by the proposed project. The access roads will cross four of these streams; all of these crossings will result from new road construction. These four streams include a small perennial stream and three intermittent streams. The generator lead crosses the remaining seven streams; however, no in-stream work is anticipated for these crossings. The applicant proposes to implement a vegetative management plan and impose a 100 foot riparian stream buffer width long all streams as described in Finding 11 to minimize impacts to fisheries. MDIFW reviewed the proposed project and commented that all in-stream work must be conducted between July 15 and September 30.

Chapter 310 interprets and elaborates on the NRPA criteria pertaining to wetlands. The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss of wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a wetland alteration permit must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

A. Avoidance. The applicant submitted an alternative analysis for the proposed project completed by Stantec Consulting and dated December 1, 2008 with the latest revision date being July 10, 2009. The applicant stated that the site of the proposed project was chosen because it best meets the project purpose of developing a commercial scale wind energy project in Maine that delivers renewable energy to customers in Maine and New England. The applicant conducted a wide reaching survey of potential wind power sites before selection of the project site. The applicant considered numerous factors in analyzing potential sites for development. These factors include wind quality, proximity to transmission infrastructure, general site topography and accessibility, land use compatibility, and overall environmental impacts. The applicant used a scoring matrix to weigh each of these factors, and evaluate each site. This scoring system can be seen in Appendix 1A-1 of the application. After consideration of the factors at each of the alternative sites, the applicant determined that proposed project site represents the least environmentally damaging alternative as compared to the other alternative sites that were considered. Overall, the applicant proposes to permanently fill 13,364 square feet of forested, scrub shrub, and emergent freshwater wetlands and to clear 30,172 square feet of wetland vegetation due to construction of the transmission lines.

The applicant considered the following alternative sites:

- The applicant considered development in coastal Maine. Although wind quality in this area was determined to be good to excellent, the applicant identified significant land use compatibility issues and a moderate to high amount of anticipated environmental impacts.
- The applicant considered development on a coastal island off Maine. Although wind quality in this area was determined to be good to excellent, the applicant

identified poor transmission infrastructure, poor topography and accessibility, significant land use compatibility issues, and a moderate to high amount of anticipated environmental impacts.

- The applicant considered development at 6 locations in the western mountains of the State. Although wind quality in this area was determined to be good, the applicant identified fair to poor transmission infrastructure, a range from fair to favorable, topography and accessibility, significant land use compatibility issues, and a moderate amount of anticipated environmental impacts.
- The applicant investigated a site in a central location of the State. The resulting score of the majority of the factors was fair. In addition, the applicant identified numerous existing land use conflicts and a moderate amount of environmental impacts.
- The applicant investigated a site in a western location of the State. Although wind quality in this area was determined to be good, the applicant identified a fair transmission infrastructure, fair to poor topography and accessibility, several conflicting land use compatibility issues, and a moderate amount of anticipated environmental impacts.

The applicant made several design changes to avoid wetland impacts throughout the project site. The original design anticipated access being provided by Mine Notch Road and then splitting the access road to the ridge into two distinct segments. This access design required seven stream crossings, required cutting over two miles of new road, and it would pass immediately adjacent to a complex of high functioning vernal pools. The applicant has taken measures to space turbines such that impacts to large areas of wetlands are avoided.

B. Minimal Alteration. The amount of wetland and waterbodies to be altered must be kept to the minimum amount necessary for meeting the overall purpose of the project. The applicant took precautions to avoid crossing flat areas of wetlands with roads. In the areas where wetland impacts could not be avoided, the applicant minimized wetland impacts by using various techniques. Some techniques used to minimize impacts included narrowing road shoulders where possible and modifying cut and fill slopes on both roads and turbine pads. The applicant maximized buffers to allow larger riparian areas between roads and turbine pads and the wetland areas. The applicant also designed roads through some areas to ensure that they crossed at the most narrow point and would have minimal effect on the larger area's function.

Wetland impacts were considered during the design of the proposed project in areas associated with turbine development. Specifically, the applicant minimized impacts to wetlands in the location of turbine pads 1, 2, 3, 4, and 5, all of which were shifted to reduce impacts to Wetland R68 and Vernal Pool 18CF. The original design considered impacting over 25 percent of the vernal pool critical terrestrial habitat. The project design for the crane path was shifted in order to move the crane path to the west side of the turbine pads, which reduced habitat fragmentation since the western side of the ridge is actively harvested for timber and already disturbed. The design shift also moved

turbines 1, 2, 3, and 4 to the north and turbine 5 to the south in order to reduce the amount of impacts to wetlands.

C. Compensation. In accordance with Chapter 310 5(C)(6)(a)(ii), compensation is not required for impacts associated with the proposed project, because the applicant is proposing to permanently alter less than 15,000 square feet of freshwater wetland.

The Department finds that the applicant has avoided and minimized wetland and waterbody impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project provided that the applicant implements the vegetative management plan contained in the application and all in-stream work be conducted from July 15 – September 30.

18. AIR QUALITY:

The applicant stated that construction activities may cause temporary effects on air quality in the form of exhaust from construction vehicles and dust from unpaved roads. However, effects will be minimal due to the location of the proposed project in a rural setting and the limited duration of construction in any one place. Routine maintenance of the transmission line will create will not create significant emissions from maintenance vehicles and will be similar to emissions currently produced by maintenance of other existing transmission lines.

Dust is likely to be a form of air emission associated with the proposed project. Dust created by construction equipment is anticipated along existing logging roads, although the level of dust created will be similar to existing ongoing logging operations in the proposed project area. No treatment is generally applied except where safety and visibility may be problematic. However, the applicant proposes to treat some areas with calcium chloride, water, or other approved dust control agent where dust may be a nuisance to neighbors. Treatment will be on an as-needed basis as ordered by the resident engineer or timber land owner. Other areas such as construction entrances to public roads will have crushed stone pads that will limit dust and mud tracking. Dust is not anticipated to be an issue along the transmission right-of-way.

The Department finds that no significant source of air emissions has been identified with the exception of fugitive dust emissions described above.

19. ODORS:

The applicant stated that the clearing and construction phase of the proposed project will not create significant odors; however, limited, short term odors may be generated from harvesting or construction equipment.

Clearing activity will be conducted with standard forestry equipment under controlled conditions. If burning of vegetation is anticipated, burning will be accomplished in

compliance with local and state open burning requirements. Any brush burning will be supervised by a construction supervisor and environmental inspector.

No significant sources of odors have been identified.

20. ALTERATION OF CLIMATE/WATER VAPOR:

The proposed project does not involve any significant sources of water vapor emissions.

21. ACCESS TO SUNLIGHT:

The proposed project will not significantly affect any adjacent properties access to sunlight.

22. SHADOW FLICKER:

According to 38 M.R.S. § 481 et seq., an applicant must demonstrate that the proposed wind energy development has been designed to avoid unreasonable adverse shadow flicker effects. Shadow flicker caused by wind turbines is defined as alternating changes in light intensity caused by the moving blade casting shadows on the ground and stationary objects. Shadow flicker is not the sun seen through a rotating wind turbine rotor nor what an individual might view moving through the shadows of a wind farm. No shadow flicker will be cast when the sun is obscured by clouds or fog or when the turbine is not rotating. The spatial relationships between a wind turbine and receptor, as well as wind direction are key factors related to shadow flicker duration. At distances of greater than 1,000 feet between wind turbines and receptors, shadow flicker usually only occurs at sunrise or sunset when the cast shadows are sufficiently long. For situations where the rotor plane is in-line with the sun and receptor (as seen from the receptor), the cast shadows will be very narrow (blade thickness), of low intensity, and will move quickly past the stationary receptor. When the rotor plane is perpendicular to the sun-receptor "view line", the cast shadow of the blades will move within a circle equal to the turbine rotor diameter.

The applicant submitted a shadow flicker analysis, prepared by EAPC Wind Energy Services, LLC, dated November 6, 2008 with the latest revision date being May 3, 2009. This analysis can be seen in the application in Appendix 26-1. The applicant utilized WindPRO, a wind modeling software program, to model expected shadow flicker effects on adjacent properties from all 22 of the proposed turbine locations. The applicant assumed a worst case scenario prediction by assuming that the sun is shining every day and that all receptors face the turbine directly. Further, the analysis does not take vegetative screening into account between a turbine and a receptor.

The Department generally recommends that an applicant conduct a shadow flicker model out to a distance of 1,000 feet or greater from a residential structure. The applicant ran the shadow flicker model out to a distance at 1,000 meters (3,280 feet) from each turbine. This number is over three times the distance recommended by the Department. The

analysis was conducted at this distance because there are no residential structures at a distance less than 2,345 feet from the nearest proposed turbine location.

Maine currently has no numerical regulatory limits on exposure to shadow flicker; however, the industry commonly uses 30 hours per year as a limit to reduce nuisance complaints. The analysis identified four receptor sites in the vicinity near the proposed project site. The four receptor sites were field-verified as residential dwellings. Results of the modeled receptors are as follows:

Receptor #	Distance to Nearest Turbine	Anticipated Shadow Flicker Hours
463	1000 meters	0
465	891 meters	0
467	954 meters	0
468	715 meters	0

Interested parties stated that many autistic children are prone to photosynthetic seizures. Interested parties expressed concern that the proposed project would have a potential negative health effect on autistic children as caused by shadow flicker when reflected off Roxbury Pond. Other interested parties expressed concern regarding the potential health effect to the general public as shadows are cast over Roxbury Pond.

The applicant researched the interested parties' concerns with the National Academy of Sciences and the Epilepsy Foundation. According to a publication issued by the National Academy of Sciences, entitled "Environmental Impacts of Wind-Energy Projects" (2007): "Flicker frequency due to a turbine is on the order of the rotor frequency (i.e., 0.6-1.0 Hz), which is harmless to humans." According to the Epilepsy Foundation, "only frequencies above 10 Hz are likely to cause epileptic seizures. (As a reference, frequencies of strobe lights used in discotheques are higher than 3 Hz but lower than 10 Hz.)." Based upon this information and results of the shadow flicker analysis, the applicant concluded that the proposed project avoids unreasonable shadow flicker effects.

The Department finds that the shadow flicker modeling conducted by the applicant is credible and that no shadow flicker effects are anticipated to occur at any given receptor site. The applicant did not submit an analysis of wind direction and wind speed at each turbine, average cloud cover, obstacles, or the available average sunshine hours for the region at different times of the year due to the fact that there are no receptor sites less than 2,345 feet from the nearest turbine location. However, it is reasonable to conclude that based upon the results of the shadow flicker modeling, shadow flicker effects at each of the receptor locations will not be increased by these factors when considering the distance of the receptor sites from the nearest turbine location.

Based upon the proposed project's location and design and results of the shadow flicker analysis, the Department finds that the proposed project will not unreasonably cause shadow flicker to occur over all adjacent properties.

23. PUBLIC SAFETY:

The proposed project will use Siemens 2.3 MW SWT-2.3-93 wind turbine generators. The turbines have been certified by Det Norske Veritas, a risk management company, to withstand Class IIA wind gusts, as defined by the International Electrotechnical Commission Standard 61400-1 "Wind Turbine Generator Systems-Part 1: Safety Requirements." The Standard considers an extreme wind speed at hub height of 42.5 meters per second. The applicant submitted evidence that the Siemens SWT-2.3-93 wind turbine meets acceptable safety standards in the form of Statements of Compliance (Type Certificate and Management System Certificate) issued by Det Norske Veritas dated January 11, 2007 and May 20, 2009.

The Department recognizes that locating wind turbines a safe distance away from any occupied structures, public road or other public use area is of utmost importance. In establishing a recommended safety setback, the Department considered industry standards for wind energy production in climates similar to Maine, as well as the guidelines recommended by certifying agencies such as Det Norske Veritas. Based on these sources, the Department recommends that all wind turbines be setback from the property line, occupied structures or public areas, at a minimum of 1.5 times the maximum blade height of the wind turbine. The maximum height of the Siemens SWT-2.3-93 is 415 feet from the ground to the tip of the fully extended turbine blade. Based on the Department minimum setback specifications, the setback distance to the nearest property line is 622.5 feet.

Twenty of the 22 proposed turbine locations are located more than 622.5 feet from the property boundary of the Record Hill Wind Project. There are two parcels within 1.5 times the maximum blade height of the turbines; neither parcel is presently used for residential purposes. The nearest turbine to the property boundary of one of the parcels is 175 feet away; the nearest turbine to the property boundary of the other parcel is 400 to 450 feet away. The applicant submitted a waiver from both of the affected property owners, dated November 20, 2008 and December 19, 2008.

The Department finds that the applicant has provided documentation in the form of standards of compliance by the manufacturer that the wind generation equipment has been designed to conform to applicable industry safety standards and has demonstrated that the proposed development has been sited such that it will not present an unreasonable safety hazard to adjacent properties or adjacent property uses. The Department further finds that the applicant submitted sufficient evidence which demonstrates that the proposed project has been sited with appropriate safety related setbacks from adjacent properties and existing uses.

24. DECOMMISSIONING PLAN:

The Siemens SWT-2.3-93 wind turbine generators are designed and certified by independent agencies for a minimum expected operational life of 20 years. In order to facilitate and ensure appropriate removal of the wind generation equipment when it reaches the end of its useful life, the Department requires an applicant to demonstrate, in

the form of a decommissioning plan, the means and methods by which decommissioning will be accomplished. The applicant submitted a decommissioning plan as Section 29 of the application. The decommissioning plan includes a description of the trigger for implementing the decommissioning plan, a description of work required, an estimate of decommissioning costs, and a demonstration of financial assurance.

1.) Description of trigger for implementation of decommissioning. The applicant states that the wind generation facility will be decommissioned when and if it ceases to generate electricity for a continuous period of twelve months. In the case of mitigating circumstances such as force majeure event, the applicant may submit to the Department for review and approval, reasonable evidence that the project has not been abandoned and should not be decommissioned.

2.) Description of work. The description of work contained in Section 29 of the application was developed by Reed and Reed, Inc., outlines how the turbines and other components of the proposed project will be dismantled using standard best management practices. Pursuant to Department guidelines, subsurface components will be removed to a minimum of 24 inches below grade, facilities will be removed and salvaged, and disturbed areas will be re-seeded. At the time of decommissioning, the owner must submit a plan for continued beneficial use of any wind energy development component left on-site to the Department for review and approval.

3.) Cost estimates for decommissioning. The applicant stated that decommissioning costs are estimated at $37,646 per turbine and $59,500 for removal of the proposed Operations & Maintenance Building. The total cost of decommissioning, minus salvage value, is estimated to be $828,215. A detailed breakdown of decommissioning costs is in Appendix 29-1 of the application.

4.) Financial assurance. The applicant will ensure that financial assurance for decommissioning costs will be fully established at least five years prior to expected end of useful economic life of the project as follows. On or prior to December 31 of each calendar year for years 11-14 of the project's operation, 20% of the total estimated decommissioning cost will be reserved in the form of cash or a letter of credit to the Decommissioning Fund. On or prior to December 31 of year 15 of the project's operation, the estimated cost of decommissioning, minus salvage value, will be reassessed and an amount equal to the balance of such updated estimated cost of decommissioning, less salvage value and less the amounts reserved in years 11-14, will be reserved for decommissioning and site restoration. The applicant states that financial assurance will be kept in place until such time as the decommissioning work has been completed, provided that to the extent available as liquid funds, the financial assurance may be used to offset the costs of the decommissioning. The applicant shall structure the financial assurance such that the Department will have third-party authority to access and utilize the decommissioning funds for the specific purpose of accomplishing decommissioning and site restoration as described in the application. The trigger for the Department's third party rights shall be the dissolution of the

project's owner or if the project ceases to generate electricity for a continuous period of twelve months.

Interested parties stated that the applicant should be required to fully fund a bankruptcy remote fund adequate to fully decommission the project without reducing the fund for any salvage value and that the fund shall be fully funded upon the commencement of operation. Further, interested parties state that the DEP should solicit its own independent estimate of the cost of decommissioning this project

The Department considered the concerns raised by interested parties. The applicant provided an estimate and provisions for the total cost of decommissioning less salvage value of the equipment. The Department finds that the applicant has made adequate provisions for demonstrating a decommissioning plan and a means to execute the plan provided that the applicant submit demonstration of financial assurance no later than December 31 of year 11 of operation of the proposed project to the Department for review and approval.

25. TANGIBLE BENEFITS:

The applicant states that the Record Hill Wind Project will provide numerous tangible benefits to the State of Maine and to the host community of Roxbury. The applicant contends that, at the state level, the proposed project will offer a renewable energy source that will help stabilize and reduce electricity rates. The proposed project will help the state to meet its commitments under the Regional Greenhouse Gas Initiative (RGGI) and help retail power suppliers meet their commitments under the renewable Portfolio Standard. The applicant contends that the host communities will benefit through energy assistance, property tax benefits, and employment opportunities.

1.) Energy Assistance. The applicant agrees to pay the first 500 kilowatt hours of the electricity generation charges of every current residence in the Town of Roxbury for each month over the next 20 years or the life of the proposed project, whichever comes first. The applicant's purpose of this offer is to form a direct link between the existence of the proposed project and each resident's positive experience of living in the town. CMP, which holds the exclusive franchise for delivering electricity in Roxbury, has agreed to cooperate with the proposed project to provide this service with minimal extra billing or administrative procedures. Assuming that there were about 220 year-round residences and about 180 seasonal residences in Roxbury at the time of the offer (September 1, 2008), and that the cost of the electricity generation charge on CMP bills was about $0.10 per kilowatt hour, the applicant estimates that this tangible benefit is worth about $600 annually to each year-round residence and about $200,000 annually to all residents collectively.

2.) Property Tax Benefits. The applicant submitted two separate estimates of local property tax implication from the proposed project. One estimate was completed in 2007 by the applicant; the second estimate was completed in 2009 by the Maine Revenue Service. Depending upon the municipality's local assessment percentage of full

valuation, the proposed project is expected to be assessed at about $86-100 million. The applicant stated that because Roxbury's total assessed property value at this current time is approximately $33 million, the proposed project is expected to pay 75 percent of all taxes in the town and result in an approximately 60 to 65 percent reduction in property taxes. The applicant stated that its calculation was based on 2007 valuations, education costs based on membership in the local school administrative district and its formula for distributing costs among member towns, 2007 town budget levels, 2007 county taxes, and other factors. Property tax reductions were project to occur after factoring in adjustments to county taxes, state education subsidy, and municipal revenue sharing that will occur as a result of the new assessment. The applicant's estimated average annual property taxes on the proposed project are over $700,000 per year over the first ten years of the life of the proposed project. The applicant also submitted examples of property tax savings for a variety of assessed residences. One example is of the following: A residence in Roxbury that is currently assessed at $120,000 pays $2,305 in property tax. In a typical year after the proposed project begins operation, the applicant stated that this tax is anticipated to drop to $775, which amounts to a savings to the property owner of $1,530 per year.

The applicant submitted an independent estimate of the proposed project's tax impacts on the Town of Roxbury's budget and property taxes, which was prepared by the Maine Revenue Service for the municipality. This calculation used the new school unit's formula rather than the pre-existing school administrative district's formula to calculate education costs and included an 85% valuation of properties in Roxbury. The Maine Revenue Service's study of property tax implications of the proposed project generally conforms to the applicant's assessment, assuming the local municipal budget does not change.

3.) Employment Opportunities. The applicant contends that the proposed project will have a significant impact on employment in the state. At this time, almost all of the consultants and contractors currently working on the proposed project are based in Maine and employ Maine residents. The applicant stated that during construction, there will be job opportunities for activities such as tree clearing and excavation. In addition, local businesses such as motels, restaurants, gas stations, and pharmacies may potentially see increases in activity. After construction is finished, the operation of the project is anticipated to require employment of three to five full-time position equivalents. Jobs such as those involved in road maintenance and plowing will also be made available. The applicant stated that the proposed project will hire locally whenever possible. The value of the employment contracts between the applicant and Maine-based businesses may exceed $28 million and include over 75% of the construction, engineering, and consulting costs of the proposed project. The applicant submitted a plan, entitled "Tangible Benefits: Project Development Contractors", which denotes all of the companies and their location of operations in the State that are currently contracted by the applicant to provide assistance with the proposed project.

Interested parties stated that the energy assistance offer is contrary to the intent of the wind law and Maine laws calling for reduced fossil fuel use, energy efficiency and

conservation. Interested parties contend that by providing free electricity, the applicant is encouraging more consumption, rather than less. This will increase demand for electricity, resulting in more fossil fuel consumption and upward pressure on the price.

The Department reviewed the concerns expressed by interested parties. Based upon consideration of all of the benefits proposed by the applicant, information in the record, and interested parties' comments, the Department finds that the applicant has demonstrated that the proposed project will provide significant tangible benefits to the host community and surrounding area pursuant to 35-A § 3454.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life provided that the applicant submits a finalized post-construction avian, bat and raptor (including eagles) monitoring protocol to the Department for review and approval prior to the start of operation of the Record Hill Wind Project, as described in Finding 7 and all in-stream work is conducted between July 15 and September 30.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S.A. Section 480-P.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. Sections 481 et seq.:

A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards provided that prior to the start of operation, the applicant submits evidence for review and approval that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State, or evidence of another form of financial assurance determined by the Department pursuant to Chapter 373(1), as described in Finding #3.

B. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities provided that the applicant implements the sound compliance assessment plan and submits to the Department for review and approval, if necessary, a revised assessment plan that demonstrates that the project will be in compliance at all the protected locations surrounding the development as referenced in Finding 5.

C. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil provided that the applicant submits a pre-blast survey to the Department for review and approval, prior to any blasting occurring on the project site, and if a rock crusher is required to be utilized on site, the applicant must insure that the crusher is licensed by the Department's Bureau of Air Quality and is being operated in accordance with that license.

D. The proposed development meets the standards for stormwater management in Section 420-D and the standard for erosion and sedimentation control in Section 420-C provided that the applicant adhere to the required protocol for inspections of the ditch turnouts, level lip spreaders, and grassed underdrained soil filters as outlined in Finding 11, and provided that the applicant retain the services of a third party inspector in accordance with the Special Condition for Third Party Inspection Program.

E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services provided that the applicant must submit a final SPCC plan for construction of the facility to the Department for review and approval prior to the start of construction and a final SPCC plan for the operation of the facility for review and approval prior to the start of operation, provided that the applicant adhere to 06-096 Chapter 587 (6) of the Department’s rules, In-stream Flows and Lake and Pond Water Levels, during

construction when withdrawing water from a local lake source for the purpose of dust abatement, and provided that mulch depth of processed brush is no more than 2 to 4 inches and the mulch is placed within 30 days of completing the brush process.

G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

H. The activity will not unreasonably cause shadow flicker effects to occur over all adjacent properties.

I. The activity will not present an unreasonable safety hazard to adjacent properties or adjacent property uses.

J. The activity will provide significant tangible benefits to the host community and surrounding area.

THEREFORE, the Department APPROVES the application of RECORD HILL WIND, LLC to construct 55-megawatt wind energy development project, also known as the Record Hill Wind Project, in the Town of Roxbury, Maine, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. Prior to the start of operation, the applicant shall submit final evidence for review and approval that it has been granted a line of credit or loan by a financial institution authorized to do business in this State or evidence of another form of financial assistance determined by the Department to be adequate pursuant to Chapter 373(1) of the Department's Rules.

5. The applicant shall implement the sound level compliance assessment plan referenced in Finding 5 and submit the results to the Department for review and approval, within one calendar year of the start of operation of the Record Hill Wind Project.

6. If sound compliance measurements completed in accordance with Special Condition #5 above determine that the Record Hill Wind Project is not in compliance at all protected

locations, within 60 days of a determination of non-compliance by the Department, the applicant shall submit a revised assessment plan that demonstrates that the project will be in compliance at all protected locations. This assessment plan must include, among other strategies, consideration and analysis of how turbine shutdown scenario would cause the facility to operate on compliance with the terms of this permit.

7. Prior to the start of operation of the Record Hill Wind Project, the applicant shall submit a finalized avian, bat and raptor monitoring protocol developed in consultation with MDIFW, to the Department for review and approval. The monitoring plan shall include, among other things, a survey of Bald Eagle activity associated with Ellis Pond and the ridgeline habitats along the Record Hill Wind Project.

8. Prior to the start of operation of the Record Hill Wind Project, the applicant shall record a deed restriction for all stormwater treatment buffers with the Registry of Deeds for the subject parcel. The deed restriction shall have attached to it a plot plan for the parcel, drawn to scale, that specifies the location of all stormwater buffers on the parcel. The applicant shall submit a copy of the recorded deed restriction including the plot plan(s) to the Department within 90 days of its recording.

9. Prior to the start of construction, the applicant shall temporarily mark or flag the limits of all areas proposed to be cleared on the ground.

10. Prior to construction, the applicant shall permanently mark on the ground all buffer areas that are designated to provide stormwater treatment pursuant to the Chapter 500 Stormwater Management Rules. Methods of marking the ground shall include, but are not limited to, a combination of field flagging and clearly marked signage.

11. Prior to any blasting on the project site, the applicant shall submit a pre-blast survey to the Department for review and approval. All blasting must be conducted in compliance with the provisions set forth by 38 M.R.S.A. § 490-Z (14), and the applicant must follow all applicable limits on ground vibration at inhabitable structures not owned or controlled by the applicant in conformance with the U.S Bureau of Mines Report of Investigations 8507.

12. If a rock crusher is required to be utilized on site, the applicant must insure that the crusher is licensed by the Department's Bureau of Air Quality and is being operated in accordance with that license.

13. Prior to the start of construction, the applicant shall conduct a pre-construction meeting to discuss the construction schedule and the erosion and sediment control plan with the appropriate parties. This meeting shall be attended by the applicant’s representative, Department staff, the design engineer, the contractor, and the third-party inspector.

14. The applicant shall retain the services of a third party inspector in accordance with the Special Condition for Third Party Inspection Program as described in Finding 11.

15. The applicant shall adhere to the required protocol for inspections of the ditch turnouts, level lip spreaders, and grassed underdrained soil filters as referenced in Finding 11.

16. Prior to the start of construction, the applicant shall submit a final SPCC plan for construction of the facility to the Department for review and approval. Prior to the start of operation, the applicant shall submit a final SPCC plan for operation of the facility to the Department for review and approval. The applicant shall adhere to the procedures outlined in Finding 12.

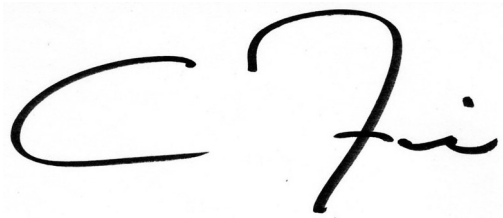
17. During construction, the applicant shall adhere to 06-096 Chapter 587 (6) of the Department's Rules, In-stream Flows and Lake and Pond Water Levels, when withdrawing water from the local lake source for the purpose of dust abatement.

18. The applicant shall conduct all in-stream work between July 15 and September 30 of any calendar year.

19. No later than December 31 of year 11 of operation of the Record Hill Wind Project, the applicant shall submit to the Department for review and approval, evidence that the final decommissioning financial assurance mechanism has been established. The financial assurance instrument shall be designed to allow the Department access to the decommissioning funds, if necessary, to implement the decommissioning process.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DEPARTMENT OF ENVIRONMENTAL PROTECTION



This permit has been digitally signed by Andrew C. Fisk on behalf of Commissioner David P. Littell. It is digitally signed pursuant to authority under 10 M. R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date 2009.08.20 14:08:03 -04'00'

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

bc/ats#69186&69187/l24441an&bn

Department of Environmental Protection

SITE LOCATION OF DEVELOPMENT (SITE)
STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL.

1. **This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited, without prior approval by the Board of Environmental Protection, and the applicant shall include deed restrictions to this effect.**

2. **The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.**

3. **The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.**

4. **Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.**

5. **Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.**

6. **If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.**

7. **If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.**

8. **A copy of this approval must be included in or attached to all contract bid specifications for the development.**

9. **Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.**

(2/81)/Revised November 1, 1979

DEPLW 0429

NATURAL RESOURCE PROTECTION ACT (NRPA) STANDARD CONDITIONS

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. **Approval of Variations From Plans.** The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. **Compliance With All Applicable Laws.** The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. **Erosion Control.** The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. **Compliance With Conditions.** Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. **Initiation of Activity Within Two Years.** If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years form the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.

F. **Reexamination After Five Years.** If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.

G. **No Construction Equipment Below High Water.** No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

H. **Permit Included In Contract Bids.** A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

I. **Permit Shown To Contractor.** Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION, AUGUSTA, MAINE 04333

Erosion Control for Homeowners

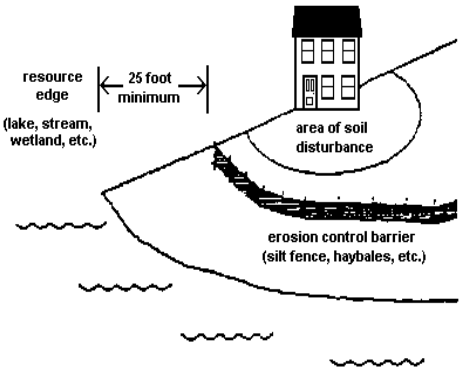
Before Construction

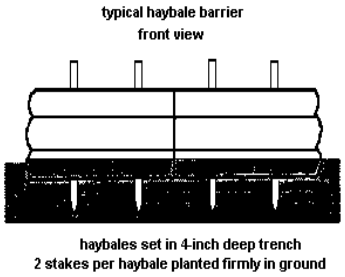
1. If you have hired a contractor, make sure you discuss your permit-by-rule with them. Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is, and where it is located. Most people can identify the edge of a lake or river. However, the edges of wetlands are often not so obvious. Your contractor may be the person actually pushing dirt around, but you are both responsible for complying with the permit-by-rule.

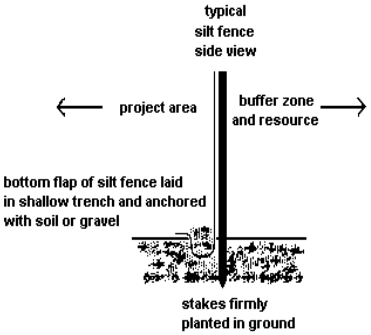
2. Call around to find where erosion control materials are available. Chances are your contractor has these materials already on hand. You probably will need silt fence, hay bales, wooden stakes, grass seed (or conservation mix), and perhaps filter fabric. Places to check for these items include farm & feed supply stores, garden & lawn suppliers, and landscaping companies. It is not always easy to find hay or straw during late winter and early spring. It also may be more expensive during those times of year. Plan ahead -- buy a supply early and keep it under a tarp.

3. Before any soil is disturbed, make sure an erosion control barrier has been installed. The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement. The barrier should be placed as close as possible to the soil-disturbance activity.

4. If a contractor is installing the erosion control barrier, double check it as a precaution. Erosion control barriers should be installed "on the contour", meaning at the same level or elevation across the land slope, whenever possible. This keeps stormwater from flowing to the lowest point along the barrier where it can build up and overflow or destroy the barrier.







During Construction

1. Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops hitting the bare ground that makes the soil begin to move downslope with the runoff water, and cause erosion. More than 90% of erosion is prevented by keeping the soil covered.

2. Inspect your erosion control barriers frequently. This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended. You or your contractor then need to figure out what can be done to prevent more soil from getting past the barrier.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

Rev. 8/02

STORMWATER MANAGEMENT LAW STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S.A. § 420-D(8) and is subject to penalties under 38 M.R.S.A. § 349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Initiation of project within two years. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference.

(6) Reexamination after five years. If the project is not completed within five years from the date of the granting of approval, the department may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances or requirements which may have occurred during the five-year period.

(7) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the developer, and the owner and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

(8) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the department.

(9) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
(b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.
(c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained

November 16, 2005

Special Condition
for
Third Party Inspection Program

THIRD-PARTY INSPECTION PROGRAM

1.0 THE PURPOSE OF THE THIRD-PARTY INSPECTION

As a condition of this permit, the Maine Department of Environmental Protection (MDEP) requires the permit applicant to retain the services of a third-party inspector to monitor compliance with MDEP permit conditions during construction. The objectives of this condition are as follows:

1) to ensure that all construction and stabilization activities comply with the permit conditions and the MDEP-approved drawings and specifications,

2) to ensure that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations, and

3) to ensure communication between the contractor and MDEP regarding any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan.

This document establishes the inspection program and outlines the responsibilities of the permit applicant, the MDEP, and the inspector.

2.0 SELECTING THE INSPECTOR

At least 30 days prior to starting any construction activity on the site, the applicant will submit the names of at least two inspector candidates to the MDEP. Each candidate must meet the minimum qualifications listed under section 3.0. The candidates may not be employees, partners, or contracted consultants involved with the permitting of the project or otherwise employed by the same company or agency except that the MDEP may accept subcontractors who worked for the project's primary consultant on some aspect of the project such as, but not limited to, completing wetland delineations, identifying significant wildlife habitats, or conducting geotechnical investigations, but who were not directly employed by the applicant, as Third Party inspectors on a case by case basis. The MDEP will have 15 days from receiving the names to select one of the candidates as the inspector or to reject both candidates. If the MDEP rejects both candidates, then the MDEP shall state the particular reasons for the rejections. In this case, the applicant may either dispute the rejection to the Director of the Bureau of Land and Water Quality or start the selection process over by nominating two, new candidates.

3.0 THE INSPECTOR'S QUALIFICATIONS

Each inspector candidate nominated by the applicant shall have the following minimum qualifications:

1) a degree in an environmental science or civil engineering, or other demonstrated expertise,

2) a practical knowledge of erosion control practices and stormwater hydrology,

3) experience in management or supervision on large construction projects,

4) the ability to understand and articulate permit conditions to contractors concerning erosion control or stormwater management,

5) the ability to clearly document activities being inspected,

6) appropriate facilities and, if necessary, support staff to carry out the duties and responsibilities set forth in section 6.0 in a timely manner, and

7) no ownership or financial interest in the development other than that created by being retained as the third-

party inspector.

4.0 INITIATING THE INSPECTOR'S SERVICES

The applicant will not formally and finally engage for service any inspector under this permit condition prior to MDEP approval or waiver by omission under section 2.0. No clearing, grubbing, grading, filling, stockpiling, or other construction activity will take place on the development site until the applicant retains the MDEP-approved inspector for service.

5.0 TERMINATING THE INSPECTOR'S SERVICES

The applicant will not terminate the services of the MDEP-approved inspector at any time between commencing construction and completing final site stabilization without first getting written approval to do so from the MDEP.

6.0 THE INSPECTOR'S DUTIES AND RESPONSIBILITIES

The inspector's work shall consist of the duties and responsibilities outlined below.

1) Prior to construction, the inspector will become thoroughly familiar with the terms and conditions of the state-issued site permit, natural resources protection permit, or both.

2) Prior to construction, the inspector will become thoroughly familiar with the proposed construction schedule, including the timing for installing and removing erosion controls, the timing for constructing and stabilizing any basins or ponds, and the deadlines for completing stabilization of disturbed soils.

3) Prior to construction, the inspector will become thoroughly familiar with the project plans and specifications, including those for building detention basins, those for installing the erosion control measures to be used on the site, and those for temporarily or permanently stabilizing disturbed soils in a timely manner.

4) During construction, the inspector will monitor the contractor's installation and maintenance of the erosion control measures called for in the state permit(s) and any additional measures the inspector believes are necessary to prevent sediment discharge to off-site properties or natural resources. This direction will be based on the approved erosion control plan, field conditions at the time of construction, and the natural resources potentially impacted by construction activities.

5) During construction, the inspector will monitor the contractor's construction of the stormwater system, including the construction and stabilization of ditches, culverts, detention basins, water quality treatment measures, and storm sewers.

6) During construction, the inspector will monitor the contractor's installation of any stream or wetland crossings.

7) During construction, the inspector will monitor the contractor's final stabilization of the project site.

8) During construction, the inspector will keep logs recording any rain storms at the site, the contractor's activities on the site, discussions with the contractor(s), and possible violations of the permit conditions.

9) During construction, the inspector will inspect the project site at least once a week and before and after any significant rain event. The inspector will photograph all protected natural resources both before and after construction and will photograph all areas under construction. All photographs will be identified with, at a minimum the date the photo was taken, the location and the name of the individual taking the photograph. *Note: the frequency of these inspections as contained in this condition may be varied to best address particular project needs.*

10) During construction, the inspector will prepare and submit weekly *(or other frequency)* inspection reports to

the MDEP.

11) During construction, the inspector will notify the designated person at the MDEP immediately of any sediment-laden discharges to a protected natural resource or other significant issues such as the improper construction of a stormwater control structure or the use of construction plans not approved by the MDEP.

7.0 INSPECTION REPORTS

The inspector will submit weekly written reports *(or at another designated frequency)*, including photographs of areas that are under construction, on a form provided by the Department to the designated person at the MDEP. Each report will be due at the MDEP by the Friday *(or other designated day)* following the inspection week (Monday through Sunday).

The weekly report will summarize construction activities and events on the site for the previous week as outlined below.

1) The report will state the name of the development, its permit number(s), and the start and end dates for the inspection week (Monday through Sunday).

2) The report will state the date(s) and time(s) when the inspector was on the site making inspections.

3) The report will state the date(s) and approximate duration(s) of any rainfall events on the site for the week.

4) The report will identify and describe any erosion problems that resulted in sediment leaving the property or sediment being discharged into a wetland, brook, stream, river, lake, or public storm sewer system. The report will describe the contractor's actions to repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area.

5) The report will list the buildings, roads, parking lots, detention basins, stream crossings or other features open to construction for the week, including those features or areas actively worked and those left unworked (dormant).

6) For each area open to construction, the report will list the date of initial soil disturbance for the area.

7) For each area open to construction, the report will note which areas were actively worked that week and which were left dormant for the week. For those areas actively worked, the report will briefly state the work performed in the area that week and the progress toward final stabilization of the area -- e.g. "grubbing in progress", " grubbing complete", "rough grading in progress", "rough grading complete", "finish grading in progress", "finish grading complete", "permanent seeding completed", "area fully stable and temporary erosion controls removed", etc.

8) For each area open to construction, the report will list the erosion and sedimentation control measures installed, maintained, or removed during the week.

9) For each erosion control measure in-place, the report will note the condition of the measure and any maintenance performed to bring it to standard.

Third Party Inspection Form

This report is prepared by a Third Party Inspector to meet the requirements of the Third Party Inspector Condition attached as a Special Condition to the Department Order that was issued for the project identified below. The information in this report/form is not intended to serve as a determination of whether the project is in compliance with the Department permit or other applicable Department laws and rules. Only Department staff may make that determination.

TO: *PM, Maine DEP (@maine.gov)*	FROM:
PROJECT NAME/ LOCATION:	DEP #:
DATE OF INSPECTION:	DATE OF REPORT:
WEATHER:	CONDITIONS:

SITE CHARACTERISTICS:

# ACRES OPEN:	# ACRES ACTIVE:	# ACRES INACTIVE:
LOCATION OF OPEN LAND:	LOCATION OF ACTIVE LAND:	LOCATION OF INACTIVE LAND:
OPEN SINCE:	OPEN SINCE:	OPEN SINCE:

PROGRESS OF WORK:

INSPECTION OF:	**Satisfactory**	**Minor Deviation** (corrective action required)	**Unsatisfactory** (include photos)
STORMWATER CONTROL (VEGETATIVE & STRUCTURAL BMP'S)			
EROSION & SEDIMENTATION CONTROL (TEMPORARY & PERMANENT BMP'S)			
OTHER: (PERMIT CONDITIONS, ENGINEERING DESIGN, ETC.)			

COMMENTS/CORRECTIVE ACTIONS TAKEN (attach additional sheets as necessary):

Photos (must be labeled with date, photographer and location):

Cc:		
Original and all copies were sent by email only.		