

Wind Energy Development (WED) Ordinance
for the
Town of Fort Fairfield, Maine



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1. TITLE

This Ordinance shall be known as, and may be cited as, the “Wind Energy Development (WED) Ordinance for the Town of Fort Fairfield”.

2. PURPOSE

The purpose of this Ordinance is to provide for all aspects of the planning, construction, operation, repowering, and decommissioning of a WED in the Town of Fort Fairfield, subject to conditions that will protect the public health, safety, and general well-being.

3. AUTHORITY

This Ordinance is adopted pursuant to the enabling provisions of Article VIII, Part 2, Section 1 of the Maine constitution (Municipal Home Rule), the provisions of Title 30-A M.R.S.A. Section 3001 (Home Rule), and the provisions of the Planning and Land Use Regulation Act, Title 30-A M.R.S.A. Section 4312, etc. seq. (Comprehensive Planning and Land Use Regulation, or “Growth Management Act”).

4. JURISDICTION

The provisions of this Ordinance shall govern all WED within the boundaries of the Town of Fort Fairfield, here after known as the “Town”.

5. CONFLICT WITH OTHER ORDINANCES

Whenever a provision of this Ordinance conflicts with, or is inconsistent with, another provision of this Ordinance or any other Town Ordinance, State of Maine, or Federal statute or regulation, the provision more restrictive to the WED Applicant/Owner/Operator shall control, except when a provision of State or Federal law expressly preempts local authority on the subject.

6. VALIDITY AND SEVERABILITY

Should any section, or part of a section, or any provision of this Ordinance be declared by the courts to be unconstitutional or invalid, such declarations shall not affect the validity of this Ordinance as a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

7. REPEAL OF PRIOR ORDINANCES

There is no prior “Wind Energy Development Ordinance for the Town of Fort Fairfield” to be repealed effective with the date of this Ordinance.

8. EFFECTIVE DATE

This Ordinance shall take effect and be in force from the date of its adoption.

9. AVAILABILITY

A certified copy of this ordinance shall be filed with the Town Clerk and shall be accessible to any member of the public. Copies shall be made available to the public at reasonable cost at the expense of the person making the request. Notice of availability of this ordinance shall be posted.

10. SCHEDULE OF FEES, CHARGES, AND EXPENSES

Fees and sureties are required to ensure that costs and expenses to the Town are born by the Applicant/Owner/Operator as outlined in Appendix A.

11. CLASSIFICATION OF WIND ENERGY DEVELOPMENTS

All WEDs shall be classified IN ACCORDANCE WITH the Turbine Classification Chart in Appendix D.

12. DEFINITIONS – See APPENDIX E

13. ADMINISTRATION

a. Review and Approval Authority

- i. The Town of Fort Fairfield Planning Board or the Code Enforcement Officer as deemed appropriate is authorized to review all WED applications, and may approve, disapprove, or approve with conditions IN ACCORDANCE WITH this Ordinance.
- ii. The Maine Department of Environmental Protection (DEP) may be required to review WED applications. The Planning Board shall consider pertinent findings in the DEP certification when making its determination.
- iii. Permission for municipal-owned property use is outside the Ordinance scope and must follow the process outlined in the Town of Fort Fairfield Charter, Adopted 3-15-1976, Article II, § C-14.A (5) [Amended 11-1982].

b. Installation Permit

- i. WEDs with single phase turbines less than one hundred fifty (150) feet in height and 100 kW name plate capacity are not subject to the process and standards of this ordinance but are subject to the process and standards of the Fort Fairfield Zoning Ordinance .
- ii. . No WED shall be constructed or located within the Town of Fort Fairfield without a permit issued in accordance with this Ordinance.

- iii. Application for a permit shall be submitted to the Town CEO.
- iv. The Town Clerk shall forward permit applications, within ten (10) days of receipt, and notice of hearings and public meetings, fourteen (14) days in advance, to the neighboring municipalities.

The permit shall be coordinated to the fullest extent possible across municipal boundaries, while at the same time maintaining each individual municipality's right to individual home rule.

- v. When applying for a new or amended permit, the application for an operational license or amended operational license shall be submitted to the CEO in conjunction with the permit application and the separate fee specified in Appendix A.
- vi. A permit modification under this Ordinance shall be required for any physical modification to an existing WED that:
 - 1. Materially alters the location or;
 - 2. Increases the development area or;
 - 3. Increases any turbine height or;
 - 4. Increases the level of sound emissions of any turbine or;
 - 5. Increases aggregate capacity and/or number of turbines.
- vii. Like-kind replacements, routine maintenance, and repairs shall not require a permit modification.
- viii. No turbine uprate may take place without prior Planning Board approval.
- ix. Turbine uprates shall be reviewed by the Planning Board and may require a permit modification.
- x. The Planning Board will aggregate, to the fullest and most practical extent possible, all turbines held under common or related ownership into a single WED.
- xi. With the exception of projects owned by the Town, separate corporate legal structures under common or joint ownership, or under common or joint control shall be deemed to be a single WED for purposes of permit and licensing notwithstanding separate corporate legal ownership.
- xii. Receipt of a Permit under this Ordinance does not relieve the Applicant/Owner/Operator from the responsibility to obtain any other such

permits or approvals as required under the “Town of Fort Fairfield Zoning Ordinance” or pursuant to other State or Federal jurisdiction.

c. Operational License

- i. An operational license, hereafter referred to as license(s), issued IN ACCORDANCE WITH this Ordinance, is required for all WED operations.
- ii. Application for a license shall be submitted to the CEO.
- iii. A license shall be valid until altered, expanded, or transferred.
- iv. When applying for a license resulting from an ownership or operation transfer, or a license reinstatement or modification, the applicant shall submit an application, an existing permit copy, and the fee specified in Appendix A.
- v. The granting of a license is conditional upon the following criteria:
 1. Demonstration by the applicant of compliance with this Ordinance’s standards.
 2. For an initial license, the WED must successfully pass a structural and operational integrity inspection conducted by a Maine-licensed professional engineer approved by the Planning Board and contracted IN ACCORDANCE WITH Section 14.ii.60.
 - a. The inspection shall be conducted after WED construction is complete but before operations begin.
 - b. Inspection completion is demonstrated by the engineer’s inspection report submission to the Planning Board.
 - i. When an inspection report specifies that repairs, maintenance, or changes to safety procedures are necessary, the Applicant/Owner/Operator shall provide the Planning Board with:
 1. Proof that identified repairs have been completed
 2. A schedule for all necessary maintenance
 3. Updated safety procedures documentation
- vi. A license shall automatically terminate upon WED ownership or operation transfer
 1. The proposed new Owner/Operator shall obtain a new license.

2. A new license shall be in place prior to the WED ownership or operation transfer.
3. The application for the initial license or a new license in the case of ownership or operation transfer shall include the following:
 - a. The Applicant's:
 - i. Name
 - ii. Address
 - iii. Phone number
 - b. If different, the Owner/Operator's:
 - i. Name
 - ii. Address
 - iii. Phone number
 - c. An emergency directory for the Applicant/Owner/Operator sufficient to allow the Town to contact the Applicant/Owner/Operator at any time.
 - d. Evidence of the applicant's technical and financial ability to operate the WED IN ACCORDANCE WITH this Ordinance, the permit, and the license.
 - e. For any WED parcel that is not owned by the applicant, a copy of an agreement(s) between the owner of the WED parcel and the applicant.
 - f. An updated Safety Plan.
 - g. An updated Fire Prevention/Protection Plan.
 - h. An updated Hazardous Materials/Wastes Plan.
 - i. An updated Emergency Shutdown Plan.
 - j. An updated Decommissioning and Site Restoration Plan.
 - k. Updated Liability Insurance information IN ACCORDANCE WITH the requirements of Section 18.j.
 - l. A signed statement from the applicant that the applicant agrees to assume full responsibility for complying with the provisions of this Ordinance and the permit, including agreeing to continue or complete any duties and obligations of the former license holder under this Ordinance or former license, minimally including the requirement for post-construction sound measurements, turbine inspections, and submission to inspections.
- vii. A license shall automatically terminate upon any amendment to a permit.

- viii. Failure to comply with the provisions of this Ordinance may result in license suspension or revocation.
- ix. A license is automatically terminated if the WED, or twenty-five percent (25%) of the individual turbines, has reached the end of useful life as determined by the Town Council considering the recommendation made by the Planning Board.

In making its recommendation, the Planning Board shall consider evidence submitted by the Applicant/Owner/Operator that the WED is operationally and financially sound and that the failure to generate electricity is a business decision based on market conditions.

- x. License receipt under this Ordinance does not relieve the Applicant/Owner/Operator from the responsibility to obtain any other such Licenses or approvals as required under the “Town of Fort Fairfield Zoning Ordinance” or pursuant to other State or Federal jurisdiction.

d. Reporting Requirements

The Applicant/Owner/Operator shall minimally:

- i. Provide all safety inspection reports to the Code Enforcement Officer annually at the time of license renewal.
- ii. Provide all liability insurance certificates as required by Section 18.I.
- iii. Report all emergencies and extraordinary events as required by Section 18.f.iii.
- iv. Notify the Town, in writing, of all planned turbine uprates NLT sixty (60) days before such uprates are scheduled to take place.
- v. Notify the Town, in writing, of a pending Applicant/Owner/Operator change NLT sixty (60) days before the effective change is scheduled to take place.

14. APPLICATION SUBMISSION REQUIREMENTS

a. WED Submission Standards

All application(s) information, excepting specified corporate proprietary information, becomes part of the public record. Information submitted by the

applicant must be continuously updated throughout the application process as changes are made or new information becomes available.

b. Permit Applications

- i. A permit application shall consist of:
 1. Application signed by:
 - a. A person with right, title and interest in the subject property or;
 - b. A person having written authorization from a person with right, title and interest in the subject property.
 - c. The signature shall be dated and the signatory shall certify that the information in the application is complete and correct and that the proposed facility will be constructed and operated IN ACCORDANCE WITH the standards of this ordinance and all approval and permit conditions, if any.
 2. Application fees shall be assessed and paid upon submission of the application.
 3. The application shall include all additional documentation necessary to satisfy the applicable requirements of this Ordinance.
- ii. The Applicant shall submit its application for a permit to the CEO.
- iii. The CEO shall note on the application the date on which it was received.

c. Changes to a Pending Application

- i. The applicant shall promptly notify the CEO of any changes the applicant proposes to make to information contained in the application.
- ii. If changes are proposed to a pending application after a public hearing has been held, the Planning Board may consider those changes and continue with the review and approval process without a renewed public hearing if it determines that the changes do not materially alter the application.
- iii. If the Planning Board determines that the proposed changes to a pending application after a public hearing has been held do materially alter the application, it shall schedule and conduct another public hearing within thirty (30) days of that determination.

In making its determination, the Planning Board shall consider whether the proposed changes involve potential adverse effects different than, or in addition to, those addressed in the initial application.

d. Permit Application Procedures

- i. The applicant shall schedule a pre-application meeting with the CEO before submitting an application.
- ii. At the pre-application meeting, the CEO will explain:
 1. Ordinance provisions.
 2. Application requirements.
 3. Application submission requirements.
- iii. At the pre-application meeting the applicant shall provide:
 1. Photos of the proposed site.
 2. Written descriptions of the proposed facility and the proposed site, including its location and tax map lot number(s).
- iv. A permit application shall be eligible for consideration at a regularly-scheduled meeting of the Planning Board only if the applicant submits it at least fourteen (14) days prior to the meeting.
- v. Within thirty (30) days after receipt of the application by the CEO, the Planning Board shall notify the applicant in writing either that the application is:
 1. Complete, or
 2. Incomplete, and
 3. The specific additional material needed to complete the application.

The Planning Board may waive any submission requirement if it issues a written finding that, due to special circumstances of the application, adherence to that requirement is not necessary to determine compliance with the standards of this Ordinance.

- vi. The Planning Board shall hold a public hearing for an application within sixty days after determining that the application is complete.
- vii. Within thirty (30) days after the Public Hearing the Planning Board shall issue a written order:

1. Denying the proposed WED, or
2. Granting the proposed WED approval, or
3. Granting the proposed WED approval, with conditions.

In making its decision, the Planning Board shall make findings on whether the proposed WED meets the applicable standards in this Ordinance.

- viii. With the agreement of the applicant, the Planning Board may extend the procedural time frames of this section.

e. Notice of Meetings

- i. Fourteen (14) days prior to any meeting at which an application for a WED is to be considered, the Planning Board shall send notice by First-Class Mail to the applicant and all owners of property abutting the property on which the WED is proposed to be located.
- ii. The meeting notice shall state:
 1. Meeting date.
 2. Meeting time.
 3. Meeting location.
 4. The proposed WED location.

f. Public Hearings

- i. The Planning Board shall provide notice of the public hearing:
 1. Date.
 2. Time.
 3. Location.
 4. The proposed WED location.
 5. A brief application description.
- ii. The public hearing agenda shall be:
 1. Published in a local newspaper at least seven (7) days before the date of the hearing, and
 2. Displayed in three (3) places of general public access.
 3. Mailed by First-Class Mail to the applicant and to participating landowners and non-participating abutting landowners of the WED, at least fourteen (14) days before the public hearing.

- iii. The Planning Board shall maintain a list of property owners to whom notice is mailed.

Failure of any of these property owners to receive a notice shall not invalidate the public hearing, nor shall it require the Planning Board to schedule another hearing.

g. Professional Services

- i. In reviewing the application for compliance with this Ordinance, the Planning Board may retain professional services, including but not limited to those of an attorney or consultant, to verify information presented by the applicant.
- ii. The retained attorney or consultant shall provide the Planning Board with an estimate of the cost of such review.
- iii. The Owner/Operator shall ensure that the Professional Fees Escrow established IN ACCORDANCE WITH Appendix A, item 5 contains adequate funds to cover such cost.
- iv. The Town shall pay the attorney or consultant from the escrow account.

h. Permit Expiration

- i. A Permit shall expire:
 - 1. Two (2) years after the approval date unless a substantial construction start has occurred, and
 - 2. Three (3) years after the approval date unless WED construction has been completed.
- ii. If a permit expires, the applicant shall implement pertinent provisions of the approved Decommissioning and Site Restoration Plan.
- iii. Upon the applicant's written request, the Planning Board may extend either or both expiration time limits by one (1) year.

i. Access

- i. The CEO shall have access to the WED site at all times to review the work progress and shall have the authority to review all records and documents directly related to the facility design, construction and operation.

- ii. All motor vehicle access points to the WED or any individual turbine from public ways shall be gated and locked.

j. Permit Application Requirements

- i. The Applicant shall include a written application, which shall include:
 1. Applicant's name, address, and contact information
 2. Legal Applicant/Owner/Operator name, address, and contact information
 3. Name, address, and contact information of all property owners within one (1) mile of any proposed WED turbine
 4. Name, address, and contact information of any consultant retained by the Applicant/Owner/Operator
 5. Name, address, and contact information of any attorney retained by the Applicant/Owner/Operator
 6. WED legal structure description including a corporate organizational chart, ownership and equity structure, and all investors
 7. A copy of a deed, easement, purchase option or other comparable documentation demonstrating that the applicant has right, title or interest in the proposed WED property
 8. A copy of any deed or purchase agreement for land owned, or under option, by the Applicant/Owner/Operator
 9. A copy of all participating landowner agreements and easement agreements
 10. Location and dimensions of existing or proposed easements
 11. A copy of existing covenants or deed restrictions
 12. Receipt showing application fees payment
 13. Documentation showing escrow account establishment for third party professional services
 14. The current WED business plan
 15. All collected and available relevant wind data for the WED.
 16. Written evidence that the utility or other entity that will purchase or transmit the WED electrical output has been notified of the intent to connect an electric generator to the electricity grid, if such connection is proposed
 17. Certificates of design compliance obtained by the equipment manufacturers from Underwriters Laboratories, Det Norske Veritas, or other similar certifying organizations

18. An affirmation, signed and dated by the applicant, that the information provided in the application is correct and that the proposed WED, if approved and built, shall be constructed and operated IN ACCORDANCE WITH the standards of this ordinance and all conditions of approval, if any
19. Proposed WED description that includes:
 - a. Total number of turbines
 - b. The project aggregate generating capacity
 - c. Associated facilities description
 - d. Each turbine:
 - i. Nameplate capacity
 - ii. Height
 - iii. Manufacturer specifications including but not limited to:
 1. Make
 2. Model
 3. Maximum generating capacity
 4. Sound emission levels
 5. Over speed control types
20. Normal and emergency shutdown procedures description.
21. Operation and maintenance procedures written summary.
22. Maintenance plan for:
 - a. Access roads
 - b. Erosion and sedimentation controls
23. Storm water management plan stamped by a Maine-licensed professional engineer
24. Project location map showing:
 - a. The address, tax map number, zoning and owner(s) of the proposed WED site and all contiguous parcels under total or partial control of the applicant or participating landowners.
 - b. The tax map number, zoning, current use, owner(s) and addresses of owner(s) of parcels that abut the proposed WED site or abut parcels of participating landowners that are contiguous with the proposed WED site
 - c. Each turbine location
 - d. Location of associated facilities
 - e. Public ways
 - f. Municipal boundaries
 - g. Proximity to all scenic or special resource features in the Town

- h. Major geographical features
25. Detailed site plan showing:
- a. Graphic scale and north arrow
 - b. Each turbine location
 - c. Location of associated facilities
 - d. The following features located within 1.5 times the required setback:
 - i. Property boundaries
 - ii. Required setbacks
 - iii. Topographic contour lines (maximum twenty (20) foot interval)
 - iv. Size, shape, and location of existing and proposed buildings (identify use) on the site including building dimensions and setback from WED boundaries
 - v. Public ways
 - vi. Driveways
 - vii. Right-of-ways
 - viii. All public utility lines both overhead and buried
 - ix. Scenic or special resources
 - x. Retained tree cover including variety and average height
 - xi. Proposed tree plantings including variety, and planting and maturity height
 - xii. Wetlands
 - xiii. Streams
 - xiv. Water bodies
 - xv. Areas proposed to be cleared of vegetation or re-graded
 - xvi. Areas proposed to be significantly excavated or blasted
26. Name, address, contact information, registration number, and seal of land surveyor, architect, engineer, and/or similar professional(s) who prepared the site plan
27. Subject property standard boundary survey stamped by a Maine-licensed surveyor

The Planning Board may waive this requirement if it determines that the applicant has provided information sufficient to identify property boundaries to the extent necessary

28. Financial Performance Standard

- a. The applicant must demonstrate that the WED is financially viable
 - b. The Applicant/Owner/Operator must demonstrate the financial ability to complete the project
 - c. Proof of financing
29. Reference list of all previous WEDs with which the Owner/operator has been affiliated
30. Proof of compliance with all required setbacks
31. Pre-construction noise study results per Appendix B
32. A detailed noise prediction model for worst-case noise scenarios based on wind speed and wind direction for each turbine
- a. The study shall be projected onto a contour map for a minimum of two (2) miles from each turbine
 - b. Worst-case scenarios for each property line within two miles, measured horizontally from the project boundary, shall be reported in table form
 - c. The model will address the varied terrain of the area.
 - d. Noise predictions will include both single source and line source origination
 - e. All underlying assumptions and algorithms in the model will be documented
33. As part of the review process, the applicant will, per Maine Technical Assistance Bulletin #4, Noise, dtd May 2000 provide written demonstration that the noise standards in this Ordinance will be met
34. Sound level analysis IN ACCORDANCE WITH Appendix B
35. A shadow flicker and blade reflection model for the proposed WED based on WindPro or other modeling software approved by the Department of Environmental Protection;
- a. The model shall provide a worst-case scenario seasonal representation for each occupied building within one mile of any turbine
 - b. The model shall calculate maximum hours of shadow flicker and blade reflection in table form for each occupied building
 - c. A worst-case scenario shall also be constructed for impacts on vehicle traffic
36. All executed mitigation waiver agreements concerning turbine setbacks, noise limits at non-participating property lines, low frequency noise levels, and shadow flicker/blade reflection

37. Foundation and anchoring system drawings that are stamped by a Maine-licensed structural engineer
38. Written demonstration that the WED is consistent with the Fort Fairfield Site Plan Review Ordinance
39. Documentation showing compliance with Section 17.a, Natural Resource Protection, both during construction and post construction
40. Documentation showing compliance with Section 17.d, Erosion Control
41. Documentation showing compliance with Section 17.b, Groundwater Protection
42. Documentation showing compliance with Section 19.d, WED Lighting
43. Documentation showing compliance with Section 15.b, Meteorological Evaluation Tower (MET)
44. Written evidence that the Environmental Coordinator of the Maine Department of Inland Fisheries and Wildlife, and the Maine Natural Areas Program have both been notified of the pending application and the location and turbine height of all proposed turbines
45. A Location of Development permit from the Maine Department of Environmental Protection (DEP) pursuant to Title 35-A M.R.S.A. §3451, Title 35-A M.R.S.A. § 3456 and Title 38 M.R.S.A § 482 is required unless the WED:
 - a. Does not sell or convert electricity for offsite use including net metering; and,
 - b. Does not qualify as a structure with a total land area in excess of three (3) acres for the entire WED.
46. Visual impact assessment, if required, pursuant to Section 17.e, Effect on Scenic Resources.
47. Photographs of existing conditions of each proposed turbine and associated facility site
48. Sight line, photographic, and elevation information shall be provided from:
 - a. Each occupied building within the setback
 - b. Any scenic or special resource location and other locations as the Planning Board deems necessary
49. A sight line representation shall be drawn that shows the lowest point to the turbine visible from each location
 - a. Each sight line shall be depicted in profile, drawn at one-inch equals forty (40) feet

- b. The profiles shall show all existing intervening trees and physical structures
- 50. A current four-inch by six-inch color photograph of the proposed site of the turbine(s) taken from viewpoints corresponding to each of the site line representations
- 51. Each existing current-condition photograph shall have the proposed turbines accurately scaled and superimposed on it to accurately simulate the turbine when built
- 52. Elevations of the tops of any structures on the subject property relative to the elevation of the turbine(s)
- 53. The height and elevation, relative to the turbine(s), of trees, both existing and proposed, that are to provide visual buffering

In the case of trees to be planted, the proposed height at the time of planting as well as the projected mature height is to be provided.

- 54. If screening is proposed, the proposed screening device, such as trees, shrubs or fencing, shall be depicted on the drawing along with the sight line as altered by the screening
- 55. Demonstrate compliance with Section 18.b, Over Speed Controls and Brakes
- 56. Written description of emergency and normal shut down operations.
- 57. Demonstrate compliance with Section 19.e, Turbine Visibility
- 58. Demonstrate compliance with Section 19.d, WED Lighting
Submit required permits from the Federal Aviation Administration
- 59. Demonstrate compliance with Section 19.c, Visual Appearance
- 60. Contract with Maine-licensed professional engineer selected as required in Section 13.c.v.2 to conduct post construction structural and operational inspection and written agreement by applicant to submit proof of successful inspection as a precondition to the issuance of and operational license
- 61. Proof of Liability Insurance IN ACCORDANCE WITH Section 18.l
- 62. Work breakdown-style time-line showing all construction aspects
- 63. Photographs and detailed drawings of each turbine, including foundation design. Details must be provided of all significant excavation and blasting
- 64. Demonstrate compliance with Section 18.d, Transmission Lines.
- 65. A geological report from a registered geotechnical engineer demonstrating that the soils can support the turbines and the underlying ground is geologically stable under all local climate conditions

The report shall include a slope stability analysis and any underlying fault zones.

66. A written summary of all routine operation and maintenance procedures for the WED.
67. Demonstrate compliance with Section 18.g, Blasting
68. Demonstrate compliance with Section 18.h, Hazardous Materials/Waste Plan
69. Demonstrate compliance with Section 18.j, Fire Prevention/Protection Plan
70. A Safety Plan
71. A Fire Prevention/Protection Plan
72. A Hazardous Materials/Wastes Plan
73. An Emergency Shutdown Plan
74. A Public Ways and Property Use Plan
75. A Decommissioning and Site Restoration Plan
76. A communication/electromagnetic interference study prepared by a registered professional engineer showing that the proposed WED will comply with Section 20, Communications and Electromagnetic Interference.

The Applicant/Owner/Operator will sign an affidavit stating that the Applicant/Owner/Operator shall be responsible for the full cost of remediation

77. An affidavit agreeing to comply with all provisions in Section 13.d, Reporting Requirements
78. An affidavit agreeing to comply with all provisions in Section 18, Safety Standards
79. Applicant shall deliver a letter by certified mail to the owner of any property that the applicant proposes to be restricted by the permit. The letter will state that the applicant has filed an application, list future development that will be restricted, and to what extent it will be restricted, on abutting properties by virtue of the permit being granted. Examples of restrictions include, but are not limited to, building occupied buildings within the setback area without a mitigation waiver, building structures (i.e. turbines or cell towers that the WED would interfere with), zones in which future telecommunication installations can expect interference from the WED.

80. Proof that the applicant has notified the following agencies via certified mail and received any necessary permits or permissions for the project:
 - a. Federal Aviation Administration
 - b. Federal Communications Commission
 - c. U.S. Department of Defense facilities located within fifty miles from the proposed WED
 - d. U.S. Department of Homeland Security
81. Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Planning Board to ensure compliance with this Ordinance.
82. Signed affidavit from the Applicant/Owner/Operator that applicant has read the “Wind Energy Development (WED) Ordinance for the Town of Fort Fairfield” and agrees to abide by its provisions, as may be amended from time to time.

15. METEOROLOGICAL EVALUATION TOWER (MET)

a. Temporary MET requirements are not part of this WED Ordinance

b. Permanent MET

MET's that are part of the WED's associated facilities shall;

- i. Be constructed using best industry practices
- ii. Not exceed the tallest turbine in height
- iii. Comply with all FCC/FAA marking and lighting requirements

For purposes of this WED ordinance, FCC/FAA voluntary/recommended marking and lighting guidelines are mandatory.

16. SETBACKS, NOISE, SHADOW FLICKER AND BLADE REFLECTION STANDARDS

a. Setback Requirements

A WED shall comply with the following setback requirements, which shall apply in addition to the construction requirements found elsewhere in this ordinance. If more than one setback requirement applies, the greater setback distance shall be met.

- i. Turbine Setback

Turbines shall be set back a horizontal distance of one (1) mile as measured from the center of the turbine base to the closest non-participating property line.

ii. Safety Setback

Turbines shall be set back a horizontal distance of seventeen hundred (1700) feet from the center of the turbine base measured to a public way, a public facility and overhead power lines.

iii. Occupied Facility Setback

Turbines shall be set back a horizontal distance of one and a half times the turbine height as measured from the center of the turbine base to the closest point of an occupied facility.

b. Noise

i. Noise Limits at Non-participating Property Lines

1. Noise studies and testing shall be completed IN ACCORDANCE WITH Appendix B.
2. No turbine shall be located so as to cause an exceedance of the pre-construction/operation background sound levels by more than five (5) dBA or dBC.
 - a. The background sound levels shall be the L90 sound levels sound descriptor (both A and C weighed) measured during a pre-construction noise study during the quietest time of evening or night. Measurements shall be for ten (10) minutes or more.
 - b. L90 results are valid when L10 results are no more than fifteen (15) dB above L90 for the same time period.
3. Noise sensitive sites are to be selected based on the turbines predicted sound emissions (in dBA, dBC and 1/3 octaves to blade passage frequency), which are to be provided by the Applicant/Owner/Operator.

ii. Audible noise levels

1. Audible noise levels (dBA) due to wind turbine operation shall not exceed the pre-construction ambient noise level by more than five (5) dBA as measured at any property line.
2. Property owners may waive this noise restriction with a written mitigation waiver.

- iii. Low frequency noise levels
 - 1. Low frequency noise levels (dBC) due to wind turbine operation as measured inside an occupied building or at any property line shall not exceed:
 - a. Twenty (20) dBC above the pre-development ambient sound level (measured as dBA)
 - b. A maximum of fifty (50) dBC
 - 2. Property owners may waive this noise restriction with a written mitigation waiver.

- iv. Violations and Enforcement
 - 1. Sound Regulations Compliance
 - a. A WED shall be considered in violation of the Operational License unless the Applicant demonstrates that the project complies with all sound level limits using the procedures specified in this ordinance.
 - 2. Serious Noise Violation
 - a. A serious noise violation is defined as three (3) verified noise complaints attributed to the operation of a turbine within a period of one (1) month or less with a measurable noise level greater than ten (10) dBA above pre-construction ambient noise levels or fifty (50) dBC inside or at an Occupied Building.
 - b. For serious violations the Applicant/Owner/Operator shall respond within five (5) days of the complaint.
 - c. Testing, if necessary, will commence within ten (10) business days of the complaint.
 - d. Testing will be conducted for a minimum of a one (1) month period according to the measurement standards and procedures in Appendix B.
 - e. The Applicant/Owner/Operator is responsible for mitigating the problem within ten (10) days from a final determination of any cause attributed to the operation of the turbine.
 - 3. Failure to mitigate the verified noise problem will result in the turbine being shut down IN ACCORDANCE WITH Section 18.k
 - 4. For noise violations/conditions determined not to be a serious violation pursuant to Section 16.b.iv.2.

- a. The CEO shall provide written notice to the Applicant/Owner/Operator of the alleged violation of this ordinance or permit.
- b. Testing will be conducted according to the measurement standards and procedures set forth in Appendix B for an appropriate period of time.
- c. The Owner/Operator is responsible for mitigating the noise problem within thirty (30) days from a final determination of any cause attributed to the operation of the WED.
- d. Mitigation involving significant construction or physical modification may have up to ninety (90) days to be completed or the turbine shall be shut down until the CEO authorizes restart.

c. Shadow Flicker and Blade Reflection

- i. WEDs shall be designed and sited so that shadow flicker and/or blade reflection will not fall on a sensitive receptor
- ii. Exceptions to this standard may be made based on the following condition only if the flicker or reflection does not exceed ten (10) hours per year for any given sensitive receptor
- iii. Property owners may waive the shadow flicker and blade reflection restriction with a written mitigation waiver
- iv. Violations and Enforcement
 1. A serious shadow flicker or blade reflection violation is defined as:
 - a. Three (3) days of significant nuisance shadow flicker or blade reflection, in any one month falling on a sensitive receptor that, if annualized, will be estimated to be more than ten (10) hours per year, or
 - b. Any complaint of shadow flicker or blade reflection from vehicles

The predictive annualized calculation shall assume clear weather, but take into account seasonal tracking of the sun.

2. For serious violations the Applicant/Owner/Operator will respond within five (5) days of the complaint

- a. The Applicant/Owner/Operator is responsible for mitigating the problem within ten (10) days from a final determination of any cause attributed to the operation of the WED
- b. Failure to mitigate the problem will result in the WED being declared unsafe and emergency shutdown procedures will be implemented per the emergency shutdown plan
3. Shadow flicker and blade reflection not determined to be a serious violation pursuant to Section 16.c.iv.1, shall be managed per the following:
 - a. The Applicant/Owner/Operator is responsible for mitigating the problem within thirty (30) days from a final determination of any cause attributed to the operation of the WED
 - b. Mitigation involving significant construction or physical modification may have up to ninety (90) days to be completed

Field verification and modeling, if necessary, will be paid for by the Applicant/Owner/Operator and hired independently by the Town.

d. Mitigation Waivers

Non-participating landowners may modify or waive certain specified protections in this Ordinance using a written, legally enforceable Mitigation Waiver negotiated between the Applicant/Owner/Operator and the non-participating landowner. The mitigation waiver must be recorded in the Register of Deeds office appropriate for the affected property. The deed must advise all subsequent owners of the burdened property.

- i. The requirements permitted in mitigation waivers are:
 1. Turbine setbacks
 2. Noise limits at non-participating property lines
 3. Low frequency noise levels
 4. Shadow flicker and blade reflection
- ii. The property subject to the mitigation waiver thereby becomes a participating parcel.
- iii. No mitigation waivers on other requirements set forth in this Ordinance are permitted.
- iv. Mitigation waiver must contain a separate paragraph for each specific requirement being modified or waived. Each paragraph must specify:

1. The requirement as set forth in this ordinance
 2. The modified requirement to which the affected property owner is now agreeing.
- v. The property owner shall provide a notarized, complete copy of such filing and recording to the Planning Board within thirty (30) days of signing the waiver. Until the Planning Board receives such a copy, the mitigation waiver shall have no legal force under this ordinance. The applicant shall include, as part of the WED application, a complete list of all parcels subject to a mitigation waiver including the names and mailing addresses of the landowners.

17. NATURAL RESOURCE STANDARDS

a. Natural Resource Protection

- i. A WED shall have no adverse effect on environmentally sensitive areas, minimally including wetlands, steep slopes, watersheds, floodplains, significant wildlife habitats, essential wildlife habitats, raptor habitat, fisheries, habitat for rare or endangered plants and animals, unique natural communities and ecosystems, as well as have no impact on the proposed site's geological stability, and sand and gravel aquifers shall be maintained and preserved to the maximum extent.
- ii. The Applicant/Owner/Operator shall demonstrate appropriate measures for protecting these resources, including both during construction and post construction, such determination to be made at the sole discretion of the Planning Board.
- iii. The applicant must comply with the United States Department of the Interior, Fish and Wildlife Service, "Guidelines for Building and Operating Wind Energy Facilities in Maine Compatible with Federal Fish and Wildlife Regulations" developed by the Maine Field Office, U.S. Fish and Wildlife Service dated November, 2009.

b. Groundwater Protection

- i. The WED shall not adversely affect the quality or quantity of groundwater.
- ii. The Applicant/Owner/Operator shall have to demonstrate to the Planning Board's satisfaction that there are no unusual risks to the groundwater, including underground rivers, created by the project.

- iii. The Planning Board may require as a condition of permit approval, that spill prevention and control measures be installed, and that all activities involving potentially permeable pollutants, including at delivery and transfer points, be conducted under cover and over an impervious surface surrounded by dikes.
- iv. If a turbine foundation is proposed in a bedrock area, a baseline of all wells, springs and certified public water sources within a two mile radius of the foundation shall be established.
- v. If degradation or contamination occurs, permanent remedies shall be the responsibility of the Applicant/Owner/Operator.

c. Artificial Habitat

- i. To the extent practicable, the destruction of natural habitat for raptors or raptor prey shall be minimized.
- ii. In making its determination under this subsection the Planning Board shall consider comments and recommendations, if any, provided by the Maine Department of Inland Fisheries and Wildlife.

d. Erosion Control

- i. The WED shall be designed, constructed and maintained IN ACCORDANCE WITH best available erosion and sediment control methods.
- ii. The Applicant/Owner/Operator shall prepare a Soil Erosion, Sediment Control, and Storm Water Runoff Control Plan utilizing the “Maine Erosion Control Handbook for Construction: Best Management Practices”, June 2015 (as modified from time to time).
- iii. The Plan shall minimally:
 - 1. Identify plans for grading, construction and drainage of roads and turbine pads.
 - 2. Provide necessary soil information.
 - 3. Describe methods that are to be used to minimize potential adverse impacts on streams and wetlands.
 - 4. Detail design features to maintain downstream water quality.

5. Provide a comprehensive re-vegetation plan that uses native plant species to maintain and ensure adequate erosion control and slope stability and to restore the site after temporary project activities.
 6. Describe measures to be used to minimize the area of surface disturbance.
 7. Describe over-winter practices to be utilized during the period October 15 to April 15.
 8. Describe measures to:
 - a. Contain excavated material.
 - b. Protect exposed soil.
 - c. Stabilize restored material.
 - d. Remove silt fences or barriers when the area is stabilized.
 9. Identify methods for excavated material disposal or storage.
- iv. Whenever sedimentation is caused by stripping vegetation or grading, it shall be the Applicant/Owner/Operator responsibility to remove it from all adjoining surfaces, drainage systems and watercourses and to repair any damage at the Applicant/Owner/Operator's expense as quickly as possible.

e. Effect on Scenic Resources

- i. Except as otherwise provided in this subsection, if a WED is proposed for a location in, or is visible from, a scenic resource or locally-designated passive recreation area the Applicant shall provide the Planning Board with a visual impact assessment that addresses the evaluation criteria in this section.
- ii. There is a rebuttable presumption that a visual impact assessment is not required for those portions of a WED that are located more than three (3) miles, measured horizontally, from a scenic resource or locally-designated passive recreation area.

The Planning Board may require a visual impact assessment for portions of the WED located more than three (3) miles and up to eight (8) miles from a scenic resource or locally-designated passive recreation area if it finds that a visual impact assessment is needed to determine if there is

the potential for significant adverse effects on the scenic resource or locally-designated passive recreation area.

Any interested person must submit information intended to rebut the presumption to the Planning Board within thirty (30) days of acceptance of the application as complete.

The Planning Board shall determine if the presumption is rebutted based on a preponderance of evidence in the record.

- iii. The Planning Board shall determine, based on consideration of the evaluation criteria below, whether the WED significantly compromises views from or of a designated scenic resource or locally-designated passive recreation area such that the proposed facility has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of that scenic resource or locally-designated passive recreation area.
- iv. In making its determination whether an Applicant/Owner/Operator for a WED located more than three (3) miles from a scenic resource or locally-designated passive recreation area must provide a visual impact assessment in accordance the Fort Fairfield Zoning Ordinance, the Planning Board shall consider:
 1. The significance of the potentially affected scenic resource or locally-designated passive recreation area.
 2. The existing character of the surrounding area.
 3. The expectations of the typical viewer.
 4. The WED's purpose and the context of the proposed activity.
 5. The extent, nature, and duration of potentially affected public uses of the scenic vista or area and the potential effect on the public's continued use and enjoyment of the scenic vista or area, and
 6. The scope and scale of the potential effect of views of the WED on the scenic vista or area, including but not limited to issues related to:
 - a. The number and extent of turbines visible from the scenic vista or area.
 - b. The distance from the scenic vista or area ,and
 - c. The effect of prominent features of the WED Project on the landscape.

A finding by the Planning Board that the WED is a highly visible feature in the landscape is not a solely sufficient basis for determination that it has an unreasonable adverse effect on the scenic character and existing uses related to scenic character of a scenic vista or area.

In making its determination the Planning Board shall consider insignificant the effects of portions of a WED located more than eight (8) miles, measured horizontally, from a scenic vista or area.

f. Relationship to DEP Certification and Permitting

- i. If the DEP has issued a Site Location of Development Act Permit for a WED there is a rebuttable presumption that the development meets the requirements of environmentally sensitive areas, and wildlife protection.
- ii. If a DEP Site Location of Development Permit is required, the permit must be issued before the application is deemed complete and the Planning Board may take the recommendations under advisement.

18. SAFETY STANDARDS

a. Turbine Inspections

- i. Turbines shall be inspected after construction is completed but before becoming operational for structural and operational integrity by a Maine-licensed professional engineer acceptable to the Planning Board.
- ii. Following the initial post-construction inspection the turbines shall be inspected thereafter, minimally annually, for structural and operational integrity by a Maine-licensed professional engineer acceptable to the Planning Board.
- iii. The Applicant/Owner/Operator shall submit a copy of all turbine inspection reports to the CEO.
- iv. If such report(s) recommends that repairs or maintenance are to be conducted, the Applicant/Owner/Operator shall provide the CEO a written schedule for the repairs or maintenance.
- v. Failure to complete the repairs or maintenance IN ACCORDANCE WITH the provided written schedule shall be deemed a violation of this Ordinance.

b. Over Speed Controls and Brakes

- i. Each turbine shall be equipped with a redundant braking system that includes both aerodynamic over speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes.
- ii. Mechanical brakes shall operate in fail-safe mode.
- iii. Stall regulation shall not be considered a sufficient braking system for over speed protection.

c. Electrical Components and Interconnections

All WED electrical components shall conform to relevant and applicable municipal, State, and national codes.

d. Transmission Lines

- i. The Applicant/Owner/Operator must:
 - 1. In conjunction with the Maine Public Utility Commission (PUC), prepare a written report documenting all anticipated changes, modifications or upgrades to the public utility grid within the Town due to the WED.
 - a. The written report must:
 - i. Include necessary approvals from the PUC, proof of leases or required right of ways for transmission lines, and any alternatives to the final plan considered.
 - ii. Document the residual capacity remaining in the local utility grid that is available for use by other local electrical generating projects.
 - 2. In conjunction with the permit application process submit:
 - a. A map showing all transmission lines and rights-of-way that will need to be built or upgraded to accommodate the WED.
 - b. Copies of signed letters of intent to grant easements, long-term leases or other property rights from involved landowners and any governmental unit responsible for access, approval or construction of electric transmission and distribution lines, whether part of the WED or part of the local electrical distribution grid.
 - c. An affidavit stating that no property will need to be taken by eminent domain to facilitate transmission lines necessary to support the project.

e. Blade Clearance

The minimum distance between the ground and all blades of a turbine shall be fifty (50) feet as measured at the lowest arc of the blades.

f. Local Emergency Services

- i. The Applicant/Owner/Operator shall provide a copy of the operation and maintenance procedures written summary and site plan to local emergency service providers, including paid or volunteer fire department(s).

- ii. Fire Prevention/Protection

The Applicant/Owner/Operator shall comply with the fire prevention/protection plan.

- iii. Emergencies

1. The Applicant/Owner/Operator shall comply with the Emergency Shutdown Plan.
2. The Applicant/Owner/Operator shall immediately report to the Fort Fairfield Emergency Management (EMA) Director, Director of Public Safety, Fire Chief, Police Chief and CEO all extraordinary and/or emergency events.
3. The Applicant/Owner/Operator shall respond to any signal interference by the WED with Town, Aroostook County, or other Emergency Communications within twenty-four (24) hours, and eliminate such interference within forty-eight (48) hours.

g. Blasting

- i. The Applicant/Owner/Operator shall not undertake any blasting in connection with the construction of the WED unless the Applicant/Owner/Operator has notified the Town and submitted a Blasting Plan consistent with applicable laws and regulations.

The plan must be reviewed and approved by the Planning Board before any blasting may take place.

- ii. No blasting shall be undertaken without forty-eight (48) hour notification to all residents within a two (2) mile radius, measured horizontally, from the blasting area.

- iii. All blasting operations will cover the blasting site with blasting mats to prevent debris from falling outside the WED boundaries.

h. Hazardous Materials/Wastes Plan

- i. The Owner/Operator shall be responsible for compliance with all ordinances, and State and Federal regulations and laws applicable to the generation, storage, cleanup, and disposal of hazardous materials/wastes generated during any phase of the project's life.
- ii. The Applicant/Owner/Operator shall prepare a hazardous materials/waste plan that shall minimally:
 - 1. Demonstrate the Applicant's ability and intent to meet such compliance as sited herein
 - 2. Document all hazardous materials/wastes that will potentially be used/generated on the WED
 - 3. Document how all hazardous materials/wastes will be transported, handled, stored, cleaned up if spilled, and disposed of during the WED life-cycle

i. Safety Plan

- i. The Applicant/Owner/Operator shall be responsible for compliance with all safety ordinances, and State and Federal regulations and laws applicable to turbine and WED safety during the WED's life.
- ii. The Applicant/Owner/Operator shall prepare a safety plan that shall minimally:
 - 1. Demonstrate the Applicant/Owner/Operator's ability and intent to meet such compliance as sited herein
 - 2. Document compliance with the following design safety certification, access, and warnings requirements:
 - a. Design Safety Certification

Each turbine and the WED design shall:

- i. Conform to applicable industry standards, including those of the American National Standards Institute (ANSI)
- ii. Comply with at least one (1) of the standards promulgated by the Underwriters Laboratories, Det

Norske Veritas - Germanischer Lloyd (DNV GL) or other similar certifying organizations appropriate for the turbine's size and classification.

b. Access

- i. All ground-mounted electrical and control equipment and all access doors to a turbine shall be labeled and secured to prevent unauthorized access.
- ii. A turbine shall not be climbable up to a minimum of twenty-five (25) feet above ground surface.

c. Warnings

A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

3. Document:

- a. All actions to be taken to prevent unsafe conditions
- b. Actions to be taken in the case of extraordinary events
- c. Who is responsible for implementing the safety plan
- d. Names and contact information for people to contact
- e. Follow-up report requirements

j. Fire Prevention/Protection Plan

The Applicant/Owner/Operator shall prepare a fire prevention/protection plan that shall minimally:

1. Address all activities at the WED from construction start through the power generation termination and the final removal and restoration of the site.
2. Describe a response plan to address all identified potential fire, rescue and hazardous materials/wastes scenarios.
3. Demonstrate that the WED complies with the following control and prevention measures:
 - a. Use of fireproof or fire resistant building materials and buffers or fire retardant landscaping within the WED.
 - b. Incorporation of a self-contained fire protection system to address nacelle fires including redundant fire quenching systems in the nacelle.

- c. Identified firebreak areas cleared of vegetation and maintained as a fire/fuel break as long as a turbine is in operation.
- d. Provision for any additional firefighting or rescue personnel, services, training, materials, or vehicles as may be required to address any emergency related to the WED that is beyond the current capabilities and duties of the local fire department.

The Applicant/Owner/Operator shall assume responsibility for all associated incremental costs.

k. Emergency Shutdown Plan

The Applicant/Owner/Operator shall prepare an Emergency Shutdown Plan that shall minimally:

1. Describe the circumstances under which an emergency shutdown may be required to protect public safety including the following:
 - a. Any emergency or extraordinary event.
 - b. A turbine is found to present an imminent physical threat of danger to life or significant threat of damage to property
 - c. The CEO is authorized to direct a shutdown in the event of any emergency or extraordinary event.
2. Describe all procedures that the municipality and Applicant/Owner/Operator shall follow in the event an emergency shutdown is required.
3. Describe all other emergency shutdown circumstances, procedures, and actions including:
 - a. Any shutdown resulting from an emergency or extraordinary event shall continue in effect until the CEO determines that it is safe to resume operations and approves the resumption of WED operations, either in part or in full.
 - b. The Town shall have the right to access all turbines to verify conditions and/or repair progress with reasonable notice to the WED Applicant/Owner/Operator.
 - c. Upon an occurrence of a tower collapse, turbine failure, property damage or contamination, fires, thrown blade or hub, collector or feeder line failure, injured WED worker or private person, the Applicant/Owner/Operator shall immediately notify the Town of the occurrence and in no

case more than twelve (12) hours after the event, and proposed remedial action.

I. Liability Insurance

- i. The Applicant/Owner/Operator shall maintain a current general liability policy for the WED that covers bodily injury and property damage in the amount of ten million dollars (\$10,000,000) or such amount commensurate with the WED scope and scale, the amount and form of such liability policy to be acceptable to the Planning Board.
- ii. The Applicant/Owner/Operator or its designee shall provide certificates of insurance and each annual renewal certificate to the CEO.

19. CONSTRUCTION AND STRUCTURE STANDARDS

a. Structure Type

- i. Towers shall be monopoles with no guy wires. METs are excepted.

This requirement may be waived if the Applicant/Owner/Operator demonstrates to the satisfaction of the Planning Board that there is no practicable alternative.
- ii. To minimize bird fatalities, turbines shall be equipped with bird sensing radar, and the turbine blades will be feathered.
- iii. Bird flight diverters must be installed on any guy wires that are permitted.

b. Building-Mounted Turbines

Building-mounted turbines are not permitted.

c. Visual Appearance

- i. A turbine shall be a non-obtrusive color such as white, off-white or gray, or as may otherwise be required by another governmental agency with jurisdiction over the WED.
- ii. Buildings and related structures design shall, to the extent possible, use materials, colors, textures, screening and landscaping that will blend the site to the natural setting and existing environment.

- iii. A turbine shall not be lighted artificially, except to the extent consistent with FAA recommendations or other applicable authority that regulates air safety, or as is otherwise required by another governmental agency with jurisdiction over the WED.
- iv. Turbines shall not be used to support signs and shall not display advertising except for reasonable and incidental identification of the turbine manufacturer, facility owner and operator, emergency contact information, and for any appropriate warnings.

d. WED Lighting

- i. The WED shall be designed to minimize the amount of nighttime light pollution.
- ii. The Applicant/Owner/Operator shall provide a plan showing lighting on and around all turbines and associated facilities.
- iii. Turbines shall be illuminated to Federal Aviation Administration (FAA) minimal standards using only red rather than white lights, if possible.
- iv. The minimum number of turbines will be illuminated, per FAA rules.
- v. Lighting shall be shielded from ground view to FAA maximum standards.
- vi. The WED FAA-approved lighting system shall be equipped with an Audio Visual Warning System (AVWS) to activate the system within FAA and Federal Communications Commission (FCC) requirements.

The reviewing authority may waive this requirement should the applicant show cause, acceptable to the reviewing authority, why an AVWS is not required to reduce light pollution or places undue expense requirements on the applicant/developer.

Reference: While not designated for mandatory use, the Vesta Obstacle Collision and Avoidance System, and the DeTech HARRIER Visual Warning System are such AVWS examples.

e. Turbine Visibility

- i. To the extent that doing so does not inhibit adequate access to the wind resource, each turbine shall be located to maximize the effectiveness of existing vegetation, structures and topographic features in screening

views of the turbine from occupied buildings on non-participating landowners and scenic resources.

- ii. When existing features do not screen a turbine's view from residences and scenic resources, screening may be required, where feasible and effective, through the planting of trees and/or shrubs.

In order to maximize the screening effect and minimize wind turbulence near the turbine, plantings should be situated as near as possible to the point from which the turbine is being viewed. Such plantings should be of native varieties.

f. Public Ways Use

- i. The Applicant/Owner/Operator shall prepare a public ways and property use plan that shall minimally:
 1. Provide a map showing all public ways and property to be used or affected in connection with the WED throughout the WED's life cycle.
 2. Provide a document describing how and when public ways and property will be used or affected throughout the WED's life cycle.
 3. Provide load(s) type, weight, and length to be conveyed on all public ways including vehicle(s) type and length to be used to convey such load(s) throughout the WED's life cycle.
 4. Provide a public ways use risk assessment throughout the WED's life cycle, minimally including;
 - a. Adequacy of turning radii.
 - b. Ability to sustain loads without damage.
 - c. The need to modify or remove (temporarily or permanently) signs, trees, utilities, or other existing objects.
 - d. Any reasonably foreseeable damage to public ways or property.
 - e. Any reasonably foreseeable costs that the Town may incur in connection with public property use, minimally including costs relating to traffic control, public safety, or damage to public ways or other public property.
 - f. A traffic control and safety plan relating to public ways use in connection with WED construction, repair, and decommissioning.

- ii. The Applicant/Owner/Operator shall provide all additional relevant information that the Planning Board may request relating to public ways use or other effects on public property that may occur throughout the WED's life cycle.
- iii. The Planning Board shall evaluate the public ways use risk assessment utilizing, at its discretion, a third-party Maine-licensed professional engineer chosen by the Planning Board with any costs to be solely borne by the Applicant/Owner/Operator.
- iv. The Planning Board may document public ways condition and public property to be used in connection with the WED construction in such manner as it deems appropriate, minimally including before and after photographs or videos of the roadways.
- v. The Planning Board may require changes to the public ways use risk assessment that it deems to be appropriate to protect public safety and property, and to address anticipated costs to the Town associated with WED construction.
- vi. If the Applicant requires the temporary closure of any public way, the Planning Board may require the Applicant/Owner/Operator to enter into an agreement relating to the public way use.
- vii. The Applicant/Owner/Operator shall be responsible for paying for damage to any public way.
- viii. If the risk assessment anticipates damage to any public way, the Planning Board may require the Applicant/Owner/Operator to provide a surety in an amount that the Planning Board determines appropriate to secure any obligation under the agreement, minimally including any obligation relating to alterations or modifications to public ways made in connection with the Applicant/Owner/Operator's activities.
- ix. A qualified third-party engineer, approved by the Planning Board and paid for by the Applicant/Owner/Operator, shall document public ways conditions prior to construction onset.
- x. A qualified third-party engineer, approved by the Planning Board and paid for by the Applicant/Owner/Operator, shall document public ways conditions thirty (30) days after construction completion, and thirty (30) days after decommissioning is complete, or at a time mutually agreed

upon, on a by-case-basis, by the Applicant/Owner/Operator and the Town Road Commissioner

- xi. The Applicant/Owner/Operator shall post a bond, IN ACCORDANCE WITH Appendix A, to ensure prompt public ways damage repair
- xii. Any public way damage caused by the Applicant/Owner/Operator or its contractors shall be repaired at the Applicant/Owner/Operator expense within a timeframe and on a timeline mutually agreed upon, on a by-case-basis, by the Applicant/Owner/Operator and the Town Road Commissioner

20. COMMUNICATIONS AND ELECTROMAGNETIC INTERFERENCE

- a. A WED shall be sited and operated so as to not interfere with emergency services radio two-way communications and/or paging, television, telephone (cellular and digital), microwave, satellite (dish), navigational, internet or radio reception or similar signals.
- b. The Applicant shall provide a statement from the Federal Communications Commission (FCC) that a proposed WED will not cause any disruption of communications as cited herein
- c. The WED Applicant/Owner/Operator shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems, minimally including relocation or removal of a turbine(s), and any and all related transmission lines, transformers, and other components related to the interference.
- d. The WED Applicant/Owner/Operator shall respond within one (1) calendar day to any request for communications interference investigation by any emergency services agency.
- e. Testing will commence within two (2) calendar days of the request.
- f. The Applicant/Owner/Operator is responsible for mitigation within two (2) calendar days from the determination of interference attributed to the operation of the turbine.
- g. The WED Applicant/Owner/Operator shall respond in writing within five (5) business days to any request for communications interference investigation by a property owner or resident within a three (3) mile radius, measured horizontally, of the WED.

- i. Testing will commence within five (5) business days of the request.
- ii. The Applicant/Owner/Operator is responsible for mitigation within ten (10) business days from the determination of interference attributed to the operation of the turbine.

21. DECOMMISSIONING AND SITE RESTORATION

The Applicant/Owner/Operator shall prepare a decommissioning and site restoration plan IN ACCORDANCE WITH Appendix C.

22. PUBLIC INQUIRIES, COMPLAINTS, VIOLATIONS, AND ENFORCEMENT

a. General Ordinance/Permit Violations

It shall be unlawful for any person:

- i. To violate this Ordinance, or
- ii. Fail to comply with this Ordinance, or
- iii. Take any action that is contrary to the terms of this Ordinance, or
- iv. To violate or fail to comply with any permit issued under this Ordinance, or
- v. To cause another to violate or fail to comply with or take any action that is contrary to the terms of this Ordinance or any permit under this Ordinance.

b. Complaint Process

- i. The Town, legal residents or landowners may file complaints.
- ii. A complaint shall initially be made to the Town's telephone complaint or FAX number.
- iii. A telephone complaint shall be followed up in writing to the CEO, within five (5) business days following the telephone complaint. Compliance with this requirement shall be the correspondence's postmark.
- iv. Complaints involving WED sound, vibrations, or other disturbances possibly related to sound pressure require the event's written description to include date, time and subjective/objective intensity.

This descriptive information may be supplied in an initial FAX complaint.

- v. The CEO shall provide complaint copies to the Applicant/Owner/Operator, within three (3) business days.
- vi. After a telephone/FAX complaint in conjunction with the required written complaint, or a FAX complaint receipt containing required descriptive information, the CEO shall, within twenty (20) business days, and in the order complaints are received:
 - 1. Contact the complainant and the Applicant/Owner/Operator.
 - 2. Visit the alleged violation site.
 - 3. Conduct other investigation the CEO deems appropriate.
 - 4. Within ten (10) business days after any final investigation is complete, submit a written report to the Town Council.

The CEO's report shall include his findings of fact and reasons for those findings with a recommendation to the Town Council as to the complaint's merit.

- vii. Should the Town Council decide a complaint is without merit, does not involve sound pressure, or has been corrected, the complaint will be closed.
- viii. Should the Town Council decide a complaint has merit, involves sound pressure, and has not been corrected within ten (10) days after any final investigation is complete, the following will ensue:
 - 1. Within ten (10) business days the CEO shall request from the WED, appropriate summary reports of all WED sound meter/MET data collected during the complaint date(s) and time(s) and for one (1) month prior and one (1) subsequent to the complaint.
 - 2. The CEO will review relevant monthly exceedance reports involving the WED.
 - 3. The CEO may request all sound meter/MET data collected during the dates and times under inspection.
 - 4. The summary reports findings and other data revealing evidence for a significant exceedance(s) related to sound pressure, as determined by the CEO, who may hire a qualified independent acoustical consultant of the Town Council's choice, will be sent to:
 - a. The Applicant/Owner/Operator, with receipt evidence sent to the Town Council.

- b. The complainant, with receipt evidence sent to the Town Council.
- ix. The Applicant/Owner/Operator shall, within fifteen (15) business days of receipt of the CEO's findings, submit a written response to the CEO with an explanation and a mitigation plan.
- x. Failure to respond to the CEO within twenty (20) business days of receipt of the CEO's findings and to delineate and implement a correction acceptable to the CEO and the Town Council, the Town Council will initiate one of the following protective orders which shall remain in effect until the Town Council determines it would not disturb or harm the public health, safety or welfare to alter or terminate them:
 - 1. Limitation of the time, speed, manner, and/or circumstances, in which the entire WED or one (1) or more turbines may operate.
 - 2. Shutdown of the entire WED or one (1) or more of the turbines.
 - 3. Imposition of other conditions the Town Council considers necessary.
- xi. Should a complaint related to sound pressure continue after appropriate corrections have been made by the Applicant/Owner/Operator, and which have been agreed upon by the Town Council, with expert advice, the CEO shall visit the site for further information.
- xii. Should the continuing complaint be found to have merit, the CEO will continue the investigation and a qualified independent acoustical consultant will be hired by the Town Council to begin appropriate sound level measurements as deemed reasonable and IN ACCORDANCE WITH the requirements of this ordinance.
- xiii. Should the complaint be deemed to have merit, but concerns issues other than sound, vibrations, or other disturbances possibly related to sound pressure, the CEO shall hire appropriate, independent, qualified experts to address the matter and conduct any needed tests or investigations.
- xiv. The general procedure for resolving sound, vibrations, or other disturbances possibly related to sound pressure issues will likewise apply.

c. Emergencies

- i. The Applicant/Owner/Operator shall immediately report to the Town Emergency Management (EMA) Director, Public Safety Director, Fire Chief, Police Chief and CEO all extraordinary and/or emergency events.
- ii. The Applicant/Owner/Operator shall shut down the entire WED or one (1) or more turbines in the event of any emergency or extraordinary event.
- iii. The CEO is authorized to direct the entire WED or one (1) or more turbines shutdown in the event of any emergency or extraordinary event.
- iv. Any shutdown resulting from an emergency or extraordinary event shall continue in effect until the CEO determines that it is safe to resume operations and approves WED operations resumption, either in part or in full.
- v. The WED Applicant/Owner/Operator shall respond within one (1) calendar day to any request for communications interference investigation by any emergency services agency.
- vi. Testing will commence within two (2) calendar days of the request.
- vii. The Applicant/Owner/Operator is responsible for mitigation within two (2) calendar days from the determination of interference attributed to the operation of the turbine.

d. Enforcement

- i. It shall be the CEO's, or other person (appointed by the Town Council) charged with municipal laws enforcement, duty to enforce the provisions of this ordinance.
- ii. In addition to the provisions set forth above, should the CEO find that this Ordinance's provisions are being violated, he/she shall notify in writing, if necessary by certified mail return receipt requested, the person responsible for such violation indicating the nature of the violation, and ordering the action necessary to correct it.
- iii. In addition to penalties provided herein, the Town may bring an action in the Superior Court or District Court to enjoin violators of this ordinance, for collection of penalties, for injunctive relief, and for such other relief as may be provided by law.

e. Penalties

- i. Any person, minimally including an Applicant/Owner/Operator, an Applicant/Owner/Operator's agent, or contractor who orders or conducts any activity in violation of this ordinance shall be penalized IN ACCORDANCE WITH Title 30-A M.R.S.A. § 4452, as may be amended from time to time.
- ii. For enforcement purposes, a separate offense shall be deemed to be committed on each day during which a violation occurs or continues to occur. Such noncompliance shall include failure by the violator to eliminate, by the end of a reasonable period of time established by the CEO or Town Council, the causes of any complaints found by the Planning Board to have merit.

f. Appeals

Any person aggrieved by a CEO or the Planning Board decision under this Ordinance may appeal the decision to the Board of Appeals, as provided by Section 9 of the "Zoning Ordinance for the Town of Fort Fairfield".

g. Records of Complaints

- i. The Town shall maintain a permanent record of:
 1. All complaints
 2. CEO investigations
 3. Reports by consultants and outcomes
- ii. The Applicant/Owner/Operator shall designate a representative and method to receive complaints by:
 1. Telephone
 2. Mail
 3. Email
 4. The World Wide Web, i.e., the Internet
 5. Other digital communications
- iii. The Applicant/Owner/Operator shall designate a representative and method to make an initial response to non-emergency complaints throughout the WED operational life.

1. The Applicant/Owner/Operator or its designee shall maintain a phone number and identify a responsible person for the public to contact with inquiries and complaints throughout the life of the WED. This contact information will be kept on record at the Town Office.
2. The Applicant/Owner/Operator or its designee shall make reasonable efforts to respond to the public's inquiries and complaints, shall maintain a permanent record of all complaints, investigations and outcomes, and shall provide written copies of all complaints and the company's resolution or response to Code Enforcement upon request.

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APPENDIX A - WIND ENERGY DEVELOPMENT FEES

Fees and sureties are required to ensure that costs and expenses to the Town of Fort Fairfield for all phases of the development are born by the Applicant/Owner/Operator.

1. The permit application fee for a WED is \$5000 plus \$1000 per turbine.
2. The application fee for an operational license is \$1000.
3. The annual fee for an operational license is \$250.
4. The application fee for a MET tower is \$1000.
5. A professional fees escrow of one half of one percent (0.5%) of the estimated cost of the project shall be established at the time of application with a minimum balance of \$10,000 maintained at all times.
6. The professional fees escrow funds third-party professionals throughout the life of the WED as provided in this Ordinance.
7. The Planning Board and the Applicant/Owner/Operator shall enter into a professional fees escrow agreement that specifies the procedure for replenishing and distributing escrow funds throughout the WED life.
8. A decommissioning performance bond in an amount equal to the net decommissioning costs shall be posted and approved by the Town before any work begins on the WED (See Appendix C).
9. A public way damage bond shall be posted and approved by the Town prior to any construction if the risk assessment performed by an independent engineering firm approved by the Planning Board anticipates damage to any public way.
10. The public way damage bond shall be in an amount that the Town determines appropriate to secure any Applicant/Owner/Operator obligation minimally including any obligation relating to repairs, alterations or modification to public ways made in accordance with the Applicant/Owner/Operator's activities.

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APPENDIX B - NOISE MEASUREMENT STANDARDS AND PROCEDURES

1. A qualified independent acoustical consultant, hereafter called acoustical consultant, who is a Full Member of the Institute of Noise Control Engineering (INCE) shall conduct all noise studies and testing.
2. The acoustical consultant shall be hired by the Town of Fort Fairfield and report to the Planning Board.
3. The Applicant/Owner/Operator shall pay for all studies and testing.
4. The acoustical consultant shall have no ties to wind developers or related conflicts of interest.
5. The WED Applicant/Owner/Operator shall provide all technical information and development data required by the acoustical consultant before, during, and/or after any acoustical studies required by this ordinance and for acoustical measurements.
6. Sound level meters and calibration equipment shall comply with the latest version of the American National Standards Institute "American Standard Specifications for General Purpose Sound Level Meters" (ANSI Standard S1.4) and shall have been calibrated at a recognized laboratory within one month prior to the initiation of the study.
7. Except as specifically noted otherwise, measurements shall be conducted in compliance with ANSI Standard S12.18-1994 "Outdoor Measurements of Sound Pressure".
8. Along with information about the make, model, and name plate capacity of all turbines potentially used in the proposed WED, the Applicant/Owner/Operator will also supply their sound power levels (Lw) for each 1/3 octave band from 6.3 Hz to 10k hz.
9. A sound propagation model shall be prepared predicting the sound levels immitted into the community computed using at minimum 1/1 octave band sound power levels to compute the L_{Ceq} and L_{Aeq} levels to generate L_{Aeq} and L_{Ceq} contours in 5 dB increments overlaying an aerial view and property survey map from the WED property out to a distance to include all property lines within two (2) miles measured horizontally from the WED boundary.
10. Prior to permit application approval, a pre-construction ambient noise level study shall be conducted at each property line within two (2) miles measured horizontally from the WED boundary.

11. The tests shall be conducted using both an A-weighting scale (dBA) and low frequency C- weighting scale (dBC).
12. Predictions shall be made at all property lines within and outward for two (2) miles measured horizontally from the WED boundary for the wind speed, direction and operating mode that would result in the worst case WED nighttime sound emissions.
13. Tests shall be reflective of seasonal changes to vegetation and atmospheric conditions. At a minimum, one (1) set of tests shall be performed during each of the following months: February, May August, November.
14. All measuring points shall be located in consultation with the property owners and such that no significant obstruction blocks noise and vibration to the site.
15. Outdoor noise level measurements must be taken at five (5) feet above the ground and at least fifteen (15) feet from any reflective surface.
16. Duration of measurements shall be a minimum of ten (10) continuous minutes for each criterion at each location.
17. Measurements must be made when the wind levels are less than 4.5 mph and with appropriate wind screening for the recording device.
18. When conducting pre-construction noise prediction analysis, the Applicant/Owner/Operator shall make specific reference to:
 - a. The unique aspects of the hillside contours and terrain of the area and its effect on noise predictability and
 - b. Line source noise predictions (emanating from a line of turbines) in addition to the traditional single point source predictions.
19. Measurements shall be obtained during representative weather conditions when the turbine noise is most noticeable, including periods of temperature inversion most commonly occurring at night.
20. Measurements shall be taken at each of the following three (3) time periods:
 - a. Daytime (10 a.m. – 2p.m.)
 - b. Evening (7p.m. -11 p.m.)
 - c. Nighttime (12 midnight – 4 a.m.)

21. Each measurement shall be replicated during the same time period over three different days within the same season for a total of nine (9) measurements per location per season (e.g., three (3) daytime measurements in February, three (3) evening measurements in February, and three (3) night time measurements in February). The lowest of the three (3) measurements per time period, per season, shall be used to determine the pre-construction ambient noise for that time period and season.

22. For each measurement the following minimum criteria will be recorded:
 - a. Lmax, Leq, L10 and L90 in dBA
 - b. Lmax, Leq, L10 and L90 in dBC
 - c. A narrative description of any intermittent noises registered during each measurement
 - d. Wind speed and direction at time of measurement
 - e. Description of weather conditions at time of measurement
 - f. Description of topography and contours relative to proposed or actual turbines

23. A comparison of the expected sound levels from the proposed WED with the sound level limits of this regulation shall be submitted. Per Maine TA Bulletin #4, a written report comparing the expected sound levels with the pre-development ambient sound levels will help determine compliance with the standard.

24. A 5 dBA and/or a 5 dBC penalty shall be applied for short duration repetitive noise or repetitive impulse noise.

25. A 5 dBA penalty shall be applied for tonal noise.

26. For sites being measured with existing turbines two (2) sets of measurements are required:
 - a. One (1) set with the turbine(s) off
 - b. One (1) set with the turbine(s) running.

27. For noise complaints after the turbines are operational, the measurement points, season, time, and duration of measurements shall be selected in consultation with the affected property owner. If requested by the property owner, continuous measurements may be taken for longer periods of time to capture intermittent nuisance noise patterns.
28. Within twelve (12) months of the date when the project is fully operational, and within four (4) weeks of the anniversary date of the pre-construction background noise measurements, the Owner/Operator shall repeat the existing sound environment measurements taken before the project approval.
29. Post-construction sound level measurements shall be taken both with all turbines running and with all turbines off.
30. Post-construction measurements will be reported to the Town of Fort Fairfield (available for public review) using the same format as used for the pre-construction sound studies.
31. Post- construction noise studies shall be conducted by an acoustical consultant chosen and hired by the Town of Fort Fairfield. Costs of these studies are to be paid by the Licensee.
32. Any noise level falling between two (2) whole decibels shall be deemed the higher of the two.
33. When testing for WED noise compliance, all measurements at the test location must be the pre-turbine background noise measurement location nearest to the occupied structure of the complainant in line with the turbine and nearer to the turbine. The time of day for the testing and the WED operating conditions plus wind speed and direction must replicate the conditions that generated the complaint. Procedures of ANSI S12.9-Part 3 apply. The effect of instrumentation limits for wind and other factors must be recognized and followed.

APPENDIX C - DECOMMISSIONING AND SITE RESTORATION PLAN

The Applicant/Owner/Operator shall prepare a Decommissioning and Site Restoration Plan that shall minimally include/satisfy the following:

1. An independent and certified professional engineer shall be retained to estimate the total decommissioning cost without regard to equipment salvage value (“decommissioning costs”), and the decommissioning cost less the equipment salvage value (“net decommissioning costs”).
2. Estimates described in Section 1 shall be submitted to the Town after the first year operation and every other year thereafter.
3. The Applicant/Owner/Operator shall post a decommissioning performance bond in an amount equal to net decommissioning cost. The bond amount will be adjusted annually to account for changes in net decommissioning costs.
4. The decommissioning performance bond shall be obtained and maintained with a bonding company chosen by the Applicant/Owner/Operator and participating landowners provided that the bonding company is approved by the Town and is authorized to conduct such business in the State of Maine.
5. At no point shall decommissioning funds be less than one hundred percent (100%) of net decommissioning costs.
6. The Town may consider accepting a one hundred percent (100%) cash escrow account as an alternative to a decommissioning performance bond. In that event, the Applicant/Owner/Operator and Town will enter into a detailed escrow agreement satisfactory to both parties.
7. No work can begin on the WED before the decommissioning performance bond is issued and approved or a cash escrow agreement is signed and funded.
8. The Applicant/Owner/Operator shall, at its expense, complete a turbine or WED decommissioning within:
 - a. Twelve (12) months after the turbine(s) or WED’s end of useful life, or;
 - b. As specified in the materials provided at the time of application.
9. Upon written request from the Applicant/Owner/Operator, minimally including relevant supporting documentation, the Planning Board may grant a twelve (12) month decommissioning requirement extension based on current business/market conditions.

10. A decommissioning requirement extension must be reviewed on an annual basis with the Applicant/Owner/Operator submitting a new written request and providing updated relevant supporting documentation NLT thirty (30) days prior to an in-place decommissioning requirement extension expiration.
11. During a decommissioning requirement extension, all relevant operation and maintenance procedures must be performed to maintain the turbine/WED structural, operational, and safety integrity.
12. Turbines and foundations shall be removed to a depth of thirty-six (36) inches.
13. All associated facilities shall be removed unless, at the end of the turbine or WED's useful life, the Applicant/Operator/Owner provides written evidence of plans for continued beneficial use of these components, and this evidence is approved by the Planning Board.
14. Disturbed earth shall be graded and re-seeded unless the participating landowner of the affected land requests otherwise in writing.
15. If the Applicant/Owner/Operator fails to complete decommissioning within the period prescribed herein, the participating landowner shall have an additional six (6) months to complete decommissioning.
16. If neither the Applicant/Owner/Operator, nor the participating landowner completes decommissioning within the periods prescribed herein, the turbine or WED shall be deemed to be in violation of this Ordinance and the Town may take such measures as necessary, including court action, to ensure the completion of decommissioning.
17. The entry into and submission of evidence of a participating landowner agreement to the Town shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors and assigns that the Town may take such action as necessary to implement the Decommissioning and Site Restoration Plan.
18. The decommissioning performance bond may be terminated when the Applicant/Owner/Operator has demonstrated and the Town concurs that the decommissioning has been satisfactorily completed. If a cash escrow account is used, such account may be terminated and funds distributed at the completion of the decommissioning IN ACCORDANCE WITH the escrow agreement terms.

APPENDIX D - TURBINE CLASSIFICATION CHART

Turbine Classification	Aggregate Capacity	Turbine Height	Max # of Turbines	DEP Site Location Permit Required	Local Review and Approval
1	≤ 10 kW	≤ 100'	1	No	Code Enforcement
2	>10 kW & ≤ 100kW	≤ 150'	1	No	Planning Board
3	>100kW & < 1MW	< 300'	3	Yes ¹	Planning Board
4	≥ 1MW	≥ 300'	NA	Yes ¹	Planning Board

¹ A Location of Development permit from the Maine Department of Environmental Protection (DEP) pursuant to Title 35-A M.R.S.A. §3451, Title 35-A M.R.S.A. § 3456 and Title 38 M.R.S.A § 482 is normally required unless the Turbine: 1) does not sell or convert electricity for offsite use including net metering; and, 2) does not qualify as a Structure with a total land area in excess of three (3) acres for the entire Wind Energy Development.

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APPENDIX E - DEFINITIONS

Abutter – One who owns land adjoining the WED.

Aerodynamic Sound – A noise that is caused by the flow of air over and past the blades of a Turbine

Aggrieved Person – An owner of land whose property is directly or indirectly affected by the granting or denial of a permit under this Ordinance; a person whose land abuts land for which a permit has been granted; or any other person or group of persons who have suffered particularized injury as a result of the granting or denial of such a permit.

Ambient Sound – All sound present in a given environment, being a composite of sounds from many sources, does not include short duration repetitive sound but are not to be considered part of the long term ambient sound.

Anemometer – A wind speed measuring device.

ANSI – American National Standards Institute.

Applicant - The legal entity, including individuals or business entities successors or assigns, seeking to secure a permit or license under this Ordinance.

Approval Notice Date – The date that the installation permit is approved by the Planning Board.

Associated Facilities – All WED components, other than its electricity generating components, that are necessary to the WED proper operation and maintenance, minimally including buildings, access roads, generator lead lines and substations, and permanent METs.

A-Weighted Sound Level (dBA) - One measure of the overall sound level. This measure is designed to reflect the response of the human ear, which does not respond equally to all frequencies. Lower frequency sounds are given less weight than those in the mid-range of human perception.

Background Sound Level (dBA and dBC) - The sound level present ninety percent (90%) of the time during a period of observation that is representative of the quiet time for the soundscape under evaluation and with duration of ten (10) continuous minutes

Base Flood – The flood having a one percent (1%) chance of being equaled or exceeded in any given year, alternately referred to as the one hundred (100) year flood

Blade Passage Frequency – The frequency at which the blades of a turbine pass a particular point during each revolution (e.g. lowest point or highest point in rotation) in terms of events per second. A three (3) bladed turbine rotating at 28 rpm would have a BPF of 1.4 Hz. [E.g. (3 blades times 28rpm)/60 seconds per minute = 1.4 Hz BPF].

Blade Reflection – The intermittent reflection of the sun off the turbine blades surfaces

BPF – See blade passage frequency

Building – Any structure having a roof supported by columns or walls for the housing or enclosure of persons or property

Code Enforcement Officer – Pursuant to Title 30-A M.R.S.A. § 4451 a person employed by the Town to enforce all enabling State laws and local ordinance

Comprehensive Plan – A document or interrelated documents adopted by the Town legislative body, containing an inventory and analysis of existing conditions, a compilation of goals for the development of the community, an expression of policies for achieving these goals, and a strategy for implementation of the policies

Constructed – Includes built, erected, altered, reconstructed, moved upon, or any physical operations on the premises which are required for construction. Excavation, fill, paving, drainage, and the like, shall be considered as part of construction

C-Weighted Sound Level (dBC) – Is similar to the A-weighted sound level (dBA), but it does not de-emphasize low frequencies to the extent that A-weighting does. For sounds with a significant low-frequency component, (see “Infrasound”, below), dBC is a more accurate measure of the energy of the sound waves than dBA.

db- See decibel (db)

dBA – See A-Weighed sound level

dBC – See C-Weighted sound level

Decibel (dB) – A logarithmic unit which describes the ratio between the measured sound level and a reference level or threshold level of zero (0) decibels

Decommissioning – The process of removing the WED and restoring the site to the standards described in the Applicant/Owner/Operator’s original Maine DEP “Application” and “Land Use Permit”, or to the State’s standards in effect at the time of decommissioning, or to the

decommissioning and site restoration plan whichever is more restrictive to the Applicant/Owner/Operator.

DEP - Department of Environmental Protection – (DEP).

DEP Certification - Certification issued by the DEP pursuant to Title 35 M.R.S.A - § 3456 for a WED.

Development – Any man-made changes to improved or unimproved real estate, minimally including buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations

Driveway – A vehicular access-way less than five hundred (500) feet in length serving two (2) lots or less

Easement – A right, such as a right-of-way, afforded to a person to make limited use of another's real property

Emergency - A proven condition or situation caused by the WED/turbine(s) that presents an imminent physical threat of danger to life or significant threat to property.

Emergency Services – Minimally including, fire, law enforcement, ambulance (ground and airborne).

Emission – Sound energy that is emitted by a noise source.

End of useful life - No electricity is generated for a continuous period of twelve (12) months.

Enforcing Authority – The Code Enforcement Officer.

Essential Wildlife Habitat - Areas identified by the Commissioner, Maine Department of Inland Fisheries and Wildlife, IN ACCORDANCE WITH the provisions of Title 12 M.R.S.A., Chapter 925, Subchapter 3, and any Department of Inland Fisheries and Wildlife rules implementing that subchapter.

Extraordinary event – Minimally includes a tower collapse, turbine failure, property damage or contamination, fires, thrown blade or hub, collector or feeder line failure, injured WED worker or private person.

Fence – Any artificially constructed barrier of any material, or combination thereof, erected to enclose or screen land areas. To further distinguish fence types:

1. A boundary fence encloses a property parcel

2. A privacy fence blocks part or all of the property from the neighbors view. Privacy fences may be solid or taller than other fence types.

Filling – Depositing or dumping any matter on or into the ground or water

Floodplain – The lands adjacent to a body of water which have been or may be covered by the base flood

Foundation – The base/pad upon which the turbine is set/anchored.

Frequency -Is the number of times that a period function or vibration occurs or repeats itself in a specified time, often one (1) second, i.e. cycles per second typically measured in Hertz.

Hazardous Materials/Waste – Waste substance or materials, in any physical state, designated as hazardous by the DEP Board under Title 38, M.R.S.A., Section 1303-A. The fact that a hazardous material/waste or part or a constituent may have value or other use or may be sold or exchanged does not exclude it from this definition

Hertz – Frequency expressed in cycles per second.

Historic Site – Any site, structure, district or archaeological site that has been officially included on the National Register of Historic Places and/or on the Maine Historic Resource Inventory, or which is established by qualified testimony as being of historic significance.

Hospital – An institution minimally providing overnight health services, primarily for in-patients, and medical or surgical care for the sick or injured, including as an integral part of the institution such related facilities as laboratories, out-patient department, training facilities, central services facilities, and staff offices

Hz – See Hertz.

Ice Throw – Accumulated ice buildup on the blades of a turbine that is thrown during blades spinning or rotation

IEC- International Electro Technical Commission

Infrasound – Sound with energy in the frequency range 0-20 Hz

Installation Permit – The permit approved by the Planning Board and issued to install a WED

kW – Kilowatt.

L – Sound level.

L10 – Sound level exceeded for ten percent (10%) of the measurement period.

L90 – See background sound level.

Leq – Equivalent continuous sound level.

LAeq - Equivalent continuous sound level (A-Weighted).

Land Survey – The practice of determining land boundaries, area, location and elevation.

Land Surveying – Any service or work involving the application of special knowledge of the rules of evidence and boundary laws, principles of mathematics and the related physical and applied sciences for measuring and locating lines, angles, elevations and natural and man-made features in the air, on the surface of the earth, within underground workings and on the beds of bodies of water. This service or work is for the purposes of determining areas and volumes, for the monumenting of property boundaries and for the platting and layout of lands and subdivisions of land, including topography, alignment and grades of streets and for the preparation and perpetuation of maps, record plats, field note records and property descriptions that represent these surveys. (Reference Title 32 M.R.S.A. Chapter 141)

Land Surveyor – One who engages in land surveying

LCeq - Equivalent continuous sound level (C-Weighted).

LFN – Low frequency noise

Locally-Designated Passive Recreation Area - Any site or area designated by the Town for passive recreation that is open and maintained for public use and which:

1. Has fixed boundaries
2. Is owned in fee simple by the Town or is accessible by virtue of public easement
3. Is identified and described in a local Comprehensive Plan, and
4. Has been identified and designated at least nine months prior to the submission of the Applicant's WED permit application.

Low Frequency Noise – Sound with energy in the frequency 20-200 Hz range

LW – See sound power

Measurement Point – Location where sound measurements are taken

Mechanical Noise – Sound produced as a byproduct of the operation of the mechanical components of a WED such as the gearbox, generator, transformers, and friction or impact between moveable surfaces

MET - Meteorological Evaluation Tower

Meteorological Evaluation Tower - Tower used to install equipment for the measurement and collection of wind data

Mitigation Waiver - A legally enforceable, written agreement between the Applicant/Owner/Operator and a non-participating landowner in which the landowner waives a certain setback, noise, or shadow flicker and blade reflection protections afforded in this Ordinance.

MP – Measurement Point.

Municipal Reviewing Authority - The Town Planning Board.

MW – Megawatts.

Nacelle - The frame and housing at the top of the tower that encloses all generating components, including the generating gearbox, drive train, and brake assembly.

Nameplate Capacity – The individual turbine electrical power rating as certified by the manufacturer and the National Renewable Energy laboratory and normally expressed in watts, kilowatts (kW), or megawatts (MW).

Native – Indigenous to the local forests

NLT – No-later-than

Noise – Any undesirable sound

Non-Participating Landowner - Any landowner, other than a participating landowner, whose land is located within the Town

Non-Participating Parcel - A real estate parcel that is neither a project parcel nor a participating parcel.

Occupied Building – Minimally, a residence, school, hospital, house of worship, public library or other building that is occupied or in use as a primary residence or is customarily frequented by the public at the time when the permit application is submitted.

100 year flood – The flood having a one percent chance of being equaled or exceeded in any given year

Operational License – A license or a license renewal issued by the Planning Board to operate a WED IN ACCORDANCE WITH this Ordinance.

Ordinance – Any legislative action of the Town’s legislative body which has the force of law, minimally including any amendment or repeal of the ordinance.

Owner/Operator – The person or entity with legal WED ownership, including successors and assigns that has the authority and responsibility to operate the WED on a day-to- day basis. An Applicant/Owner/Operator must have the legal authority to represent and bind.

Participating Landowner - One or more persons that hold title in fee or a leasehold interest with sublease rights to property on which WED is proposed to be located pursuant to an agreement with the Applicant/Owner/Operator or an entity that has entered into an appropriate agreement with the Applicant/Owner/Operator allowing the Applicant/Owner/Operator to demonstrate the requisite right, title and interest in such property.

Participating Parcel – A real estate parcel that is not a project parcel, but whose owner has signed a mitigation waiver with the Applicant/Owner/Operator.

Permit – See installation permit.

Permitting Authority – CEO upon Planning Board approval.

Person - An individual, corporation, partnership, firm, organization or other legal entity.

Planning Board – The Planning Board, appointed by the Town Council of the Town of Fort Fairfield, Maine.

Project Boundary - The WED boundaries shown on the site plan.

Project Parcel - Any parcel(s) of real estate on which all or any part of a WED will be constructed, including property in which the Applicant/Owner/Operator has an ownership interest or other interest by lease, easement or right-of-way.

Property Line -The recognized and mapped property boundary line.

Public Utility – Any person, firm, corporation, municipal department, board, or commission authorized to furnish gas, steam, electricity, waste disposal, communication facilities, transportation, sanitary sewage disposal, or water to the public.

Public Way - Any way capable of carrying motor vehicles, or other forms of transportation minimally including, a State highway, municipal road, or other way dedicated to the public. Public way does not include roads privately constructed and maintained.

Qualified Independent Acoustical Consultant – A person with qualifications under this Ordinance for conducting baseline and other sound measurements, reviews and studies. Must process a full and current Board Certified Membership in the Institute of Noise Control Engineers (INCE).

Radio Two-way Communications – Minimally including base stations, mobile, and hand-held radios.

Repower – A WED that previously hosted installed and operational turbines which were decommissioned and replaced with turbines that are online and operational. Repowering is only associated with the replacement of the turbine, or the drivetrain core components replacement that change the rated capacity of the WED. Changes in power controls, electronics or software that alter a turbines rated capacity are captured as a “turbine uprate” and are not considered a repower.

Residence – A building or structure, including manufactured housing, maintained for permanent or seasonal residential occupancy providing living, cooking and sleeping facilities and having permanent indoor or outdoor sanitary facilities, excluding recreational vehicles, tents and watercraft.

Right-of-Way – A strip of land occupied or intended to be occupied by a street, crosswalk, railroad, electrical transmission line, oil or gas pipeline, water main, sanitary sewer main, storm water main, shade trees, or other auxiliary uses, either public or private, on which an irrevocable right-of-passage has been recorded for the use

River – A free-flowing body of water including its associated floodplain wetlands from that point at which it provides drainage for a watershed of twenty-five (25) square miles to its mouth

Road – A public or private thoroughfare used, or intended to be used, for passage or travel by motor vehicles, consisting of a bed of exposed mineral soil, gravel,, or other surfacing material constructed for or created by the repeated passage of motorized vehicles

Scenic Resource - Either a scenic resource of state or national significance, as defined in Title 35-A M.R.S.A § 3451(9) or a scenic resource of local significance located within the municipality and identified as such in a Comprehensive Plan, open space plan or scenic inventory adopted by the municipal legislative body.

Schools –

1. Public and Private – including Parochial School: An institution for education or instruction where any branch or branches knowledge is imparted and which satisfied wither of the following requirements:
 - a. The school is not operated for a profit or a gainful business; or
 - b. The school teaches courses of study which are sufficient to qualify attendance there as in compliance with State compulsory education requirements.
2. Commercial School – an institution which is commercial or profit-oriented. Examples thereof are dancing, music, riding, correspondence, aquatic schools, driving, or business.

Sensitive Receptor – Minimally includes places or structures intended for human habitation, whether inhabited or not, public parks, State and Federal wildlife areas, the manicured areas of recreational establishments designed for public use, golf courses, campgrounds, State or Federal licensed businesses, schools, daycare centers, elder care facilities, hospitals, places of seated assemblage, non-agricultural businesses and residences.

Setback – The horizontal distance from the center of a turbine base to any defined feature in this ordinance.

Shadow Flicker - Alternating changes in light intensity caused by the movement of turbine blades casting shadows on the ground or stationary object(s).

Short Duration Repetitive Sounds - A sequence of repetitive sounds which occur more than once within an hour, each clearly discernible as an event and causing an increase in the sound level of at least six (6) dBA on the fast meter response above the sound level observed immediately before and after the event, each typically less than ten (10) seconds in duration, and which are inherent to the process or operation of the development and are foreseeable.

Sight Line Representation - A profile drawing showing prominent features, minimally including topography, buildings, and trees, along and in relation to a line of sight extending from an observer's eye to the lowest point visible on a proposed tower.

Sign – A display surface, fabric or device containing organized and related elements (letters, pictures, products, or sculptures) composed to form a single unit, designed to convey information visually and which is exposed to the public view. In cases where matter is displayed in a random or unconnected manner without an organized relationship, each such component shall constitute a sign

Significant Wildlife Habitat - As defined in Title 38 M.R.S.A § 480-B (10).

Sound – A fluctuation of air pressure which is propagated as a wave through air.

Sound Power – The total sound energy radiated by a source per time unit.

Sound Pressure – The instantaneous difference between the actual pressure produced by a sound wave and the average or barometric pressure at a given point in space.

Sound Pressure Level – Twenty (20) times the logarithm, to the base 10, of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micronewtons per square meter. In equation form, sound pressure level in units of decibels is expressed as $SPL (dB) = 20 \log p/pr$.

SPL – Sound pressure level.

State – The State of Maine.

Stream – A free flowing body of water from the outlet of a great pond or confluence of two (2) perennial streams as depicted on the most recent edition of a United States Geological Survey 7.5 minute series topographical map. Or if not available, a 15-minute series topographical map, to the point where the body of water becomes a river, or flows to another waterbody or wetland within a Shoreland zone, or as depicted on the Official Fort Fairfield Zoning Map, or as further described in the applicable overlay district standards, whichever is applicable

Structure – Anything built, either temporarily or permanently, for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground, exclusive of fences.

Substantial Start - Any work beyond excavation, minimally including, the pouring of a slab or footings, the installation of piles, the construction of columns, or the placement of a tower on a foundation has begun.

Tonal Audibility – See tonal sound.

Tonal Sound – A sound for which the sound pressure is a simple sinusoidal function of the time, and characterized by its singleness of pitch.

Tonality – See tonal sound.

Tower - The free-standing structure on which a wind measuring or energy conversion system is mounted.

Turbine - A system for the conversion of wind energy into electricity which is comprised of a base tower, generator, nacelle, and blade assembly.

Turbine Height -The distance measured from the surface of the tower foundation to the highest point of any turbine blade measured at the highest blade arc.

Turbine Uprate - An increase in the original turbine rating, based on the turbine model characteristics, due to changes in the power curve for a specific individual turbine based on changes in software, blade(s) replacement, or other mechanical alterations.

Use – The manner in which land or a structure is arranged, designed, or intended, or is occupied

Vegetation – All live trees, shrubs, ground cover, and other plants including without limitation, trees both over and under four (4) inches in diameter, measured 4 ½ feet above ground level

Water Body – Any great pond, river, or stream

Watt – The measurement unit for sound power

WED - Wind Energy Development

WED Life-cycle – The time period from WED Application approval through decommissioning completion, including all public ways damage successful repair

Wind Energy Development - All the land, equipment that converts wind energy to electrical energy and support facilities minimally including the turbine, access roads, control facilities, permanent METs, maintenance facilities, and all power collection and transmission systems