

**State of Maine
Model
Wind Energy
Facility
Ordinance**



Why This Ordinance?

- Concerns about climate change and high energy costs have created a lot of interest in the development of wind energy.
- The development of wind energy offers significant environmental and economic benefits but, like any type of development, there is a potential for negative impacts.

Why This Ordinance? (cont.)

- Many municipalities are ill-prepared to review wind energy facilities because they have no development review ordinance or because the one they have is not well suited in some respects (e.g. height limitations)
- The State Planning Office (SPO) and the regional planning agencies have received many requests from towns for ordinance language towns they can use to review proposed wind energy facilities of all sizes.

Governor's Task Force on Wind Power
Development recommendation: SPO provide towns with a model local ordinance that will:

- Expedite well-sited wind energy development.
- Facilitate coordination of and consistency between state and local review through use of common terms, standards and findings, where appropriate.
- Recognize and provide specific approaches to address issues of local concern.

Model Ordinance Preparation

- The Kennebec Valley Council of Governments developed the initial drafts of the model ordinance after reviewing numerous ordinances and reports related to small and large wind energy facilities.
 - Drafts were reviewed by SPO and an advisory group comprised of representatives from various state agencies, MMA, large and small wind energy businesses, environmental groups and the Maine Legislature.
- The May 2009 draft was broadly circulated to all those having expressed interest in the Model Ordinance, including many municipal officials and private citizens.

Classification of Wind Energy Facilities

Type	Number of Turbines	Turbine Height	Aggregate Capacity	Site Location of Development Act Permit
1A	1	80' or less	Less than 100 kW	NA
1B	NA	More than 80'	Less than 100 kW	NA
2	NA	NA	100 kW or more	NA
3	NA	NA	100 kW or more	Yes

Review of Wind Energy Facilities

Type	Review, Permit and Certificate Requirements
1A	Local Wind Energy Facility Permit (CEO review) Local Building Permit (CEO review)
1B	Local Wind Energy Facility Permit (Municipal Reviewing Authority review) Local Building Permit (CEO review)
2	Local Wind Energy Facility Permit (Municipal Reviewing Authority review) Local Building Permit (CEO review) DEP Certificate (if power primarily used by person other than the generator)
3	Local Wind Energy Facility Permit (Municipal Reviewing Authority review) Local Building Permit (CEO review) DEP Site Location of Development Act Permit

Standards

- General Standards
- Type-Specific Standards

General Standards: Safety Setback

150% of Turbine Height from property boundaries and public or private ROWs

- Reduces threat from ice throw and (unlikely) tower failure
- Establishes de facto minimum lot size requirement (e.g. 80' = 1 Ac., 170'=5 Ac.)
 - NOT intended to address noise

General Standards: Natural Resource Protection

- No unreasonable adverse effect on rare, threatened, or endangered wildlife, significant wildlife habitat, rare, threatened or endangered plants and rare and exemplary plant communities.
- Reviewers shall consider written comments and/or recommendations of the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Areas Program (MNAP).

General Standards: Other

Building Code

Shall conform with relevant and applicable local and state building codes

Controls and Brakes

Must have both overspeed controls and mechanical brakes unless an alternative system is approved by local reviewers

Access

- Doors must be labeled and locked.
- Towers must not be climbable up to 15 feet above ground surface

General Standards: Other

Blade Clearance

- Minimum distance from blade tips to ground is 25 feet.

Signal Interference

- Avoid/mitigate loss of radio, telephone, TV, etc. signals to practicable extent

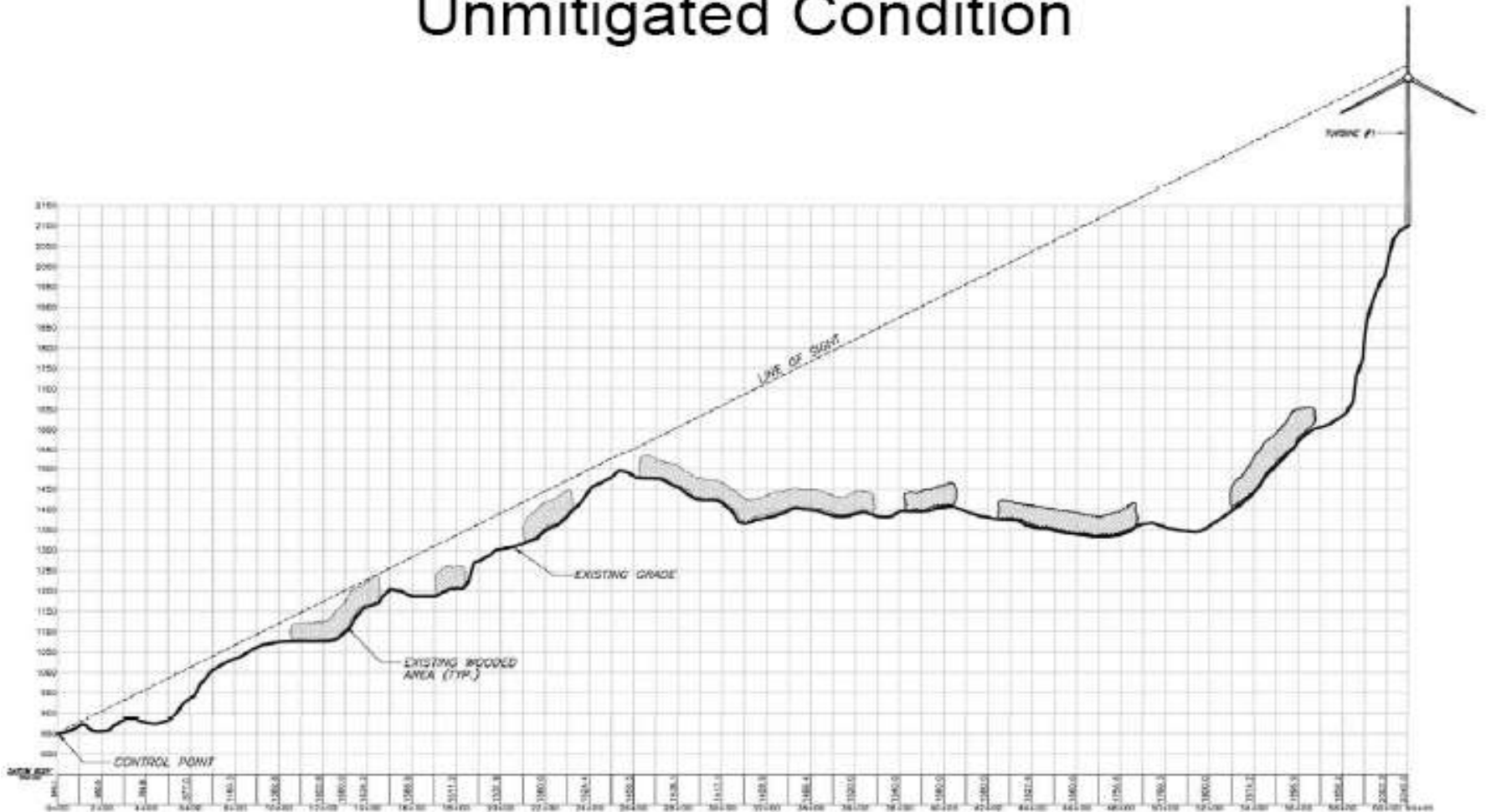
General Standards: Visual Appearance

- Shall be non-obtrusive color: white, off-white, or gray unless otherwise required by another governmental agency
- No artificial lights unless required by FAA or other governmental agency
- No signs or advertising except reasonable and incidental identification of turbine manufacturer, facility owner and operator and for warnings

Type 1B and Type 2 Standard Visibility

- Without inhibiting access to wind, locate the Wind Turbine to take advantage of vegetation, structures and topography to screen views of the Wind Turbine from Occupied Buildings and Scenic Resources.
- Additional screening may be required, where feasible and effective.

Unmitigated Condition



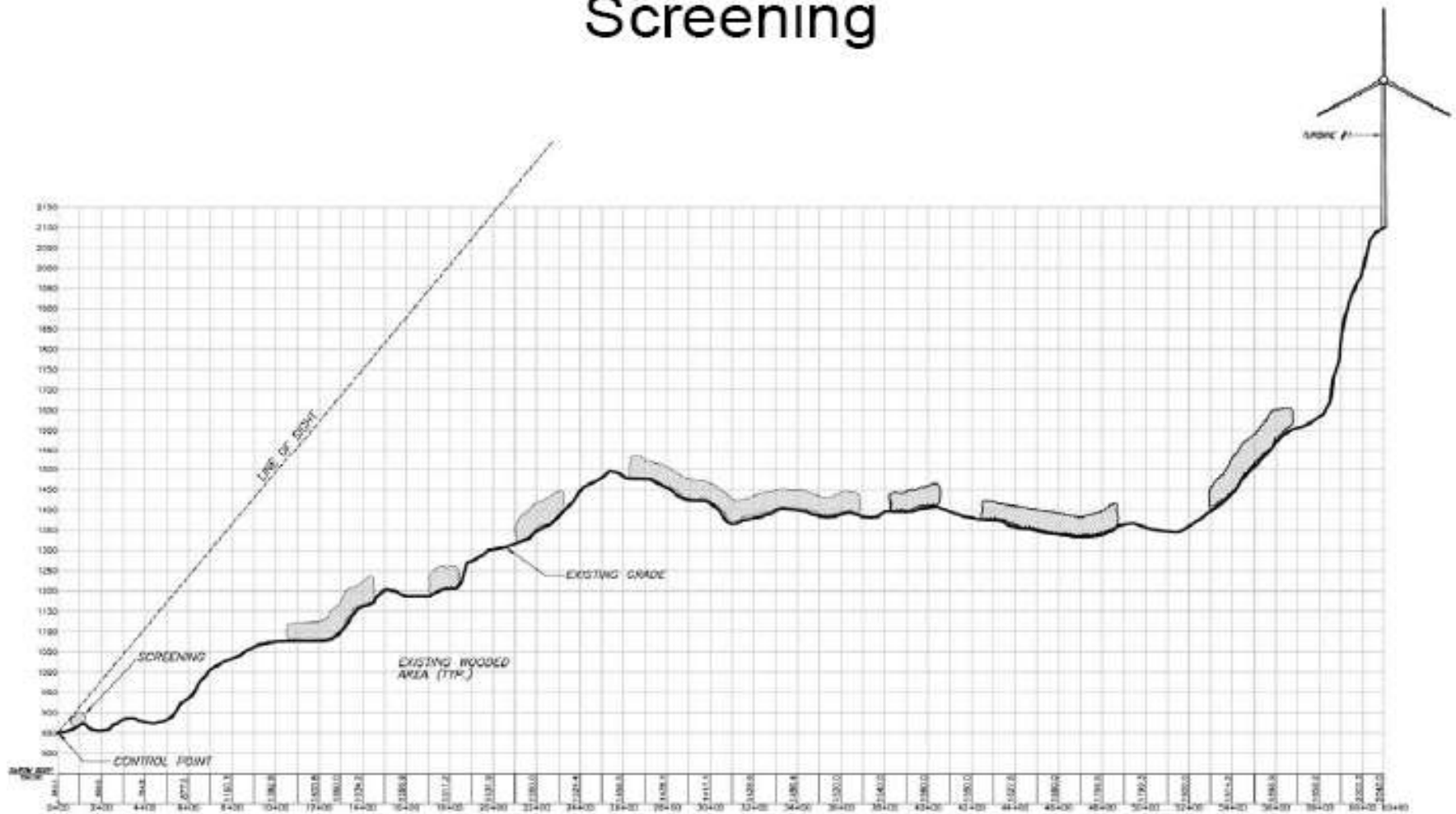
Line of Sight Profile 1
From Downtown Historic District to Turbine #1

PROPOSED WINDFARM

DECEMBER 2005

Note: Structures Appear Elongated Due to Exaggerated Vertical Scale

Screening



Line of Sight Profile 1
From Downtown Historic District to Turbine #1
PROPOSED WINDFARM DECEMBER 2005

Note: Structures Appear Elongated Due to Exaggerated Vertical Scale

Type 1A and 1B Standards: Control of Noise

- At a Protected Location with no living and sleeping quarters (e.g. house of worship, school, park, library):

55 dBA during the Protected Location's regular hours of operation

Type 1A and 1B Standards: Control of Noise

- At a Protected Location with living and sleeping quarters (e.g. single family dwelling, multi-family dwelling, nursing home, “planned residence”, some motels, some campgrounds):

1. Area(s) within 500 feet of living and sleeping quarters:

45 dBA between 7:00 p.m. and 7:00 a.m.

55 dBA between 7:00 a.m. and 7:00 p.m.

2. Area(s) more than 500 feet from living and sleeping quarters:

55dBA at all times.

Type 1A and 1B Standards: Control of Noise

At property boundaries that describe the outer limits of the facility site combined with any parcel(s) owned by a Participating Land-Owner that are contiguous with the facility site:

75 dBA at all times

(applies only if not a Protected Location)

Type 1A and 1B Standards: Control of Noise

To obtain a permit, Applicant must submit signed statement indicating that the facility is designed to meet the noise control standards and acknowledging the Applicant's obligation to take remedial action if the Codes Enforcement Officer finds the facility is not operating within the sound limits.

Type 1A and 1B Standards: Control of Noise

“Remedial Action” includes:

- a. modification or limitation of operations during certain hours or wind conditions;
- b. maintenance, repair, modification or replacement of equipment;
- c. relocation of the Wind Turbine(s); and,
- d. removal of the Wind Turbine(s) provided that the Codes Enforcement Officer may require removal of the Wind Turbine(s) only if the Codes Enforcement Officer determines that there is no practicable alternative.

Type 1A and 1B Standards: Control of Noise

- Applicant may opt for facility to be reviewed under noise control standards used for Types 2 and 3.

(allows the Municipal Review Authority greater flexibility, but requires the Applicant to submit a sound study prior to approval)

Type 2 and Type 3 Standards: Control of Noise

- Shall comply with sound-level limits in provisions of Appendix B.

(Appendix B standards closely follow the DEP Site Location Permit noise control rules, but are written to be administered by local authorities.)

Type 2 and Type 3 Standards: Shadow Flicker

- Type 2 and Type 3 Wind Energy Facilities shall be designed to avoid unreasonable adverse shadow flicker effect at any Occupied Building located on a Non-Participating Landowner's property.
- Shadow Flicker analysis must be based on modeling software approved by the DEP.

Type 2 and Type 3 Standards: Use of Public Roads

- Pre-construction and post-construction road conditions must be documented by town engineer, road commissioner, etc. at Applicant's expense.
- Road damage from project must be promptly repaired at Applicant's expense
 - Applicant must demonstrate sufficient financial resources and a financial guarantee may be required

Type 2 and Type 3 Standards: Effect on Scenic Resources

- Model Ordinance definition includes scenic resources of local significance identified in an adopted comprehensive plan, open space plan or scenic inventory.
 - The facility shall have no unreasonable adverse effect on the scenic character or existing uses related to the scenic character of a Scenic Resource.

Type 2 and Type 3 Standards: Effect on Scenic Resources

- A. The significance of the potentially affected Scenic Resource;
- B. The existing character of the surrounding area;
- C. The expectations of the typical viewer;
- D. Type 2 and 3 WEF's purpose and the context of the proposed activity;
- E. The extent, nature and duration of potentially affected public uses of the Scenic Resource and potential effect on the public's continued use and enjoyment of the Scenic resource;
- F. Scope and scale of potential effect of views including number, extent and distance of turbines visible from scenic resource and effect of development on the landscape.

Type 2 and 3 WEF Standard

Effect on Scenic Resources

A finding by the Municipal Reviewing Authority that the Wind Energy Facility is a highly visible feature in the landscape is not a solely sufficient basis for a determination that it has an unreasonable adverse effect

Type 2 and Type 3 Standards: Relationship to DEP Actions

- Some Type 2 Wind Energy Facilities require DEP certification that safety setback, noise control and shadow flicker standards are met.
- The Municipal Reviewing Authority may deem that a Type 2 Wind Energy Facility that has obtained DEP Certification meets the local ordinance standards for safety setback, noise control and shadow flicker.

Type 2 and Type 3 Standards: Relationship to DEP Actions

- Type 3 Wind Energy Facilities require DEP Site Location of Development Act permits.
- The Municipal Reviewing Authority may deem that a Type 3 Wind Energy Facility for which a DEP Site Location of Development Act permit has been issued meets the local ordinance standards for safety setback, noise control, shadow flicker, natural resource protection, decommissioning and, effect on scenic resources of state or national (but not local) significance.

For More Information

- Model Ordinance posted at:

[http://www.](http://www.maine.gov/spo/landuse/docs/ModelWindEnergyFacilityOrdinance.pdf)

[maine.gov/spo/landuse/docs/ModelWindEnergyFacilityOrdinance.pdf](http://www.maine.gov/spo/landuse/docs/ModelWindEnergyFacilityOrdinance.pdf)

- Draft companion guidebook posted at:

http://www.maine.gov/spo/landuse/docs/draft_windenergyfacilityorgguidebook_feb2010.pdf