

WIND ENERGY FACILITIES MODEL ORDINANCE

MIFFLIN COUNTY, PENNSYLVANIA

PURPOSE

This model ordinance was prepared by Mifflin County Planning and Development Department to assist Mifflin County municipalities in regulating wind energy facilities through a zoning ordinance or a subdivision and land development ordinance. The model was prepared by reviewing adopted and model wind facilities ordinances from several Pennsylvania counties and municipalities, most notably Cumberland County Wind Energy Facilities Model Ordinance and Antis Township, Blair County.

The Pennsylvania Municipalities Planning Code (MPC) provides local municipalities with the authority to establish provisions regulating the placement, construction, operation, and maintenance of energy projects including wind energy facilities through zoning ordinances and subdivision and land development ordinances. (MPC Sections 105, 301.a.4.1, and 707.4.viii.1)

A zoning ordinance enables a municipality to establish specific areas where wind energy facilities may be permitted. A subdivision and land development ordinance provides a municipality with control over set-backs, layout, design, etc., without control over location.

This model ordinance includes aspects of wind energy facilities that could be regulated. Language appropriate to a zoning ordinance is shown as the normal text. Language appropriate for a subdivision and land development ordinance is shown in [brackets] and would replace the preceding word or phrase.

Mifflin County municipalities should not adopt this ordinance without thorough review and modification. It is suggested municipalities review the model ordinance, modify its provisions and standards based on local needs, the current state of research on impacts and mitigation, and best practices across the state, and adopt a locally-tailored ordinance that can be administered and enforced.

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WIND ENERGY FACILITIES ORDINANCE

<MUNICIPALITY NAME>

Mifflin County, Pennsylvania

ORDINANCE NO. <#>

SECTION 1 - INTRODUCTION

WHEREAS, the Pennsylvania Municipalities Planning Code, act of July 31, 1968, as amended, 53 P.S. §§ 10101 et seq., enables a municipality through its zoning ordinance [subdivision and land development ordinance (SALDO)] to regulate the use [development] of property and to promote the conservation of energy through access to and use of renewable energy resources; and

WHEREAS, <MUNICIPALITY NAME> seeks to promote the general health, safety and welfare of the community by adopting and implementing an amendment to the Zoning Ordinance [SALDO] providing for access to and use of wind energy facilities; and

WHEREAS, the purpose of this Ordinance is to set forth requirements for wind energy facilities;

IT IS HEREBY ENACTED AND ORDAINED by the <BOARD/COUNCIL> of <MUNICIPALITY NAME>, Mifflin County, Pennsylvania, as follows.

SECTION 2 - DEFINITIONS

APPLICANT – person or entity filing an application under this Ordinance.

DOCUMENTED SCENIC VISTA – a viewpoint that provides expansive views of a highly valued landscape and is documented in publication by a municipal or county planning agency.

FACILITY OWNER – the entity or entities having a legal or equitable interest in the Wind Energy Facility, including the respective successors and assigns.

GROUND CLEARANCE – the minimum distance between the ground and any part of the wind turbine blade, as measured from the lowest point of the arc of the blades.

HUB HEIGHT – the distance measured from the surface of the tower foundation to the height of the wind turbine hub, to which the rotor blade is attached. Refer to Figure 1.

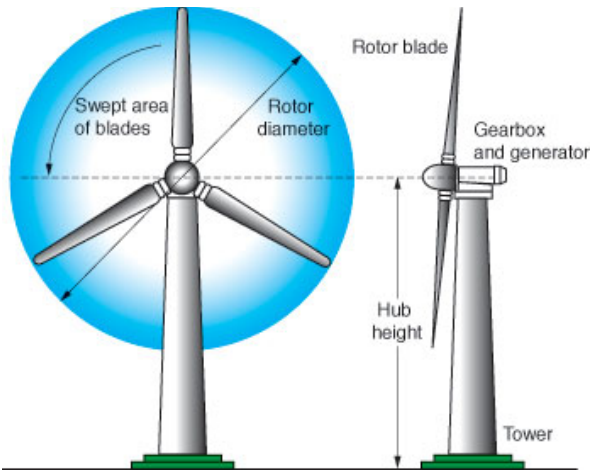


Figure 1.

Source: Lawrence Livermore National Laboratory.

METEOROLOGICAL TOWER – a tower used for the measurement of wind speed.

NACELLE – Casing located on top of the tower on a horizontal axis wind turbine that contains the gear box, low- and high-speed shafts, generator, controller, and brake. Refer to Figure 2.

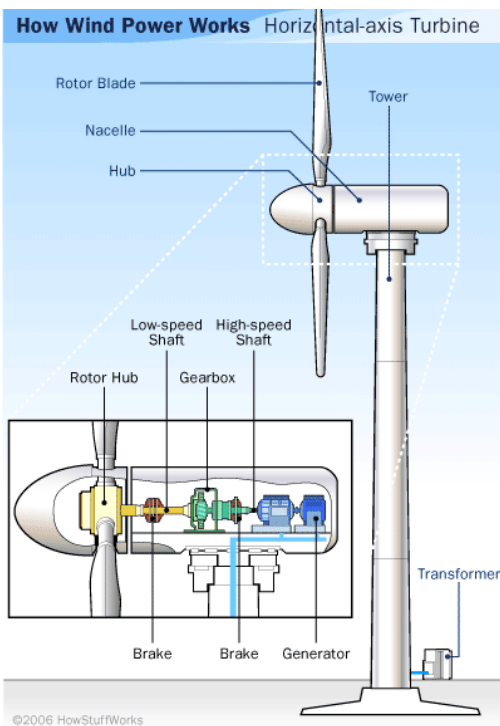


Figure 2.

Source: HowStuffWorks.

NON-PARTICIPATING LANDOWNER – any landowner except those on whose property all or a portion of a wind energy facility is located pursuant to an agreement with the facility owner or operator.

OCCUPIED BUILDING – a residence, school, hospital, church, public library, commercial building or other building used for public gathering at least six months of the year when the permit application is submitted.

OPERATOR – the entity responsible for the day-to-day operation and maintenance of the wind energy facility.

PARTICIPATING LANDOWNER – a landowner upon whose property all or a portion of a wind energy facility is located pursuant to an agreement with the facility owner or operator.

ROTOR – that portion of the wind turbine, i.e. blades and associated hub and shaft, which is intended to be moved or activated by the wind.

SHADOW FLICKER – alternating changes in light intensity caused by a moving wind rotor blade casting shadows on the ground and stationary objects

TOTAL HEIGHT – when referring to a wind turbine, the distance measured from the surface of the tower foundation to the highest point of a wind rotor blade when the blade is positioned at 90 degrees to the surface of the ground.

TOWER – the supporting structure of a wind turbine on which a rotor and accessory equipment are mounted. The basic types of towers include free standing (or monopole) or guyed lattice or tilt up (generally for smaller, residential towers). Refer to Figures 3 and 4.

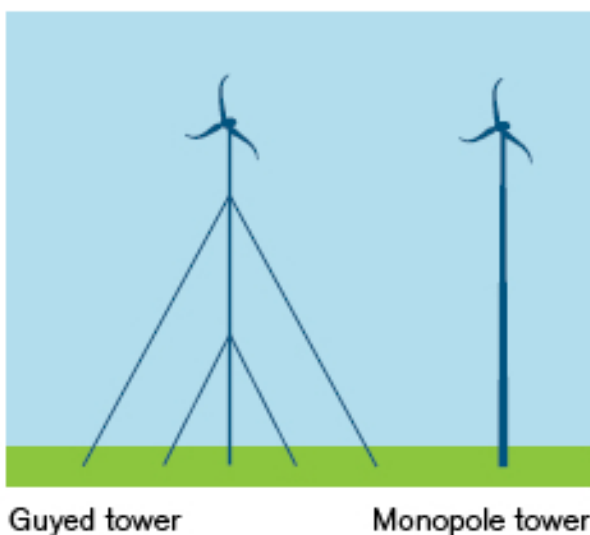


Figure 3.

Source: Southwest Building & Energy Technologies.

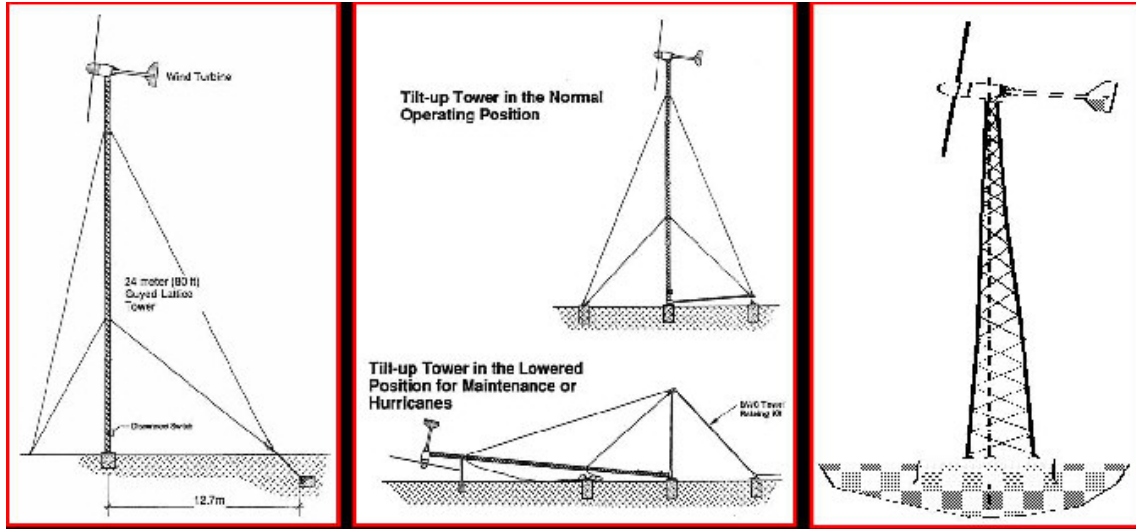


Figure 4.
Source: Four Winds Energy.

WIND ENERGY FACILITY – an electric generating facility consisting of one or more wind turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmissions lines and other appurtenant structures and facilities.

1. ACCESSORY WIND ENERGY FACILITY - a system designed as a secondary use on a lot, wherein the power generated is used primarily for on-site consumption.
2. PRINCIPAL WIND ENERGY FACILITY – a system designed as the primary use on a lot, wherein the power generated is used primarily for off-site consumption.

WIND TURBINE – a wind energy conversion system that converts wind energy into electricity through the use of a wind turbine generator, and includes the nacelle, gearbox, rotor, tower, and generator. Wind turbines are either horizontal axis or vertical axis. Refer to Figure 5.

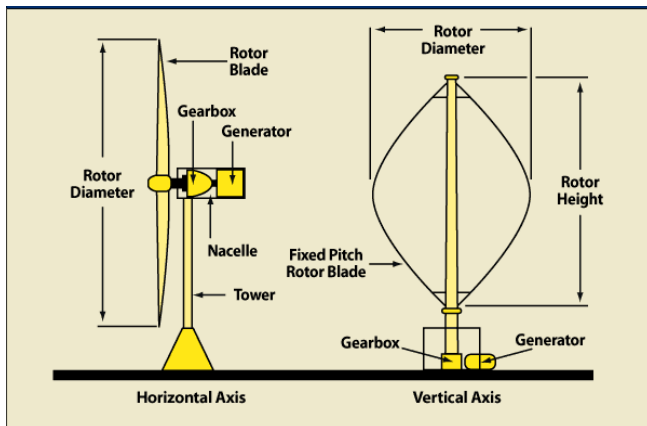


Figure 5.
Source: American Wind Energy Association.

SECTION 3 – ACCESSORY WIND ENERGY FACILITIES (AWEF)

A) Requirements

1. Zoning Ordinance: Accessory Wind Energy Facilities (AWEF) shall be permitted in all Zoning Districts as an accessory use. Applications for such uses shall be subject to the requirements set forth below, as well as all other applicable State or Federal Regulations.

[1. SALDO: No land development plan providing for the construction of Accessory Wind Energy Facilities (AWEF) shall be approved unless such plan has complied with the requirements of this ordinance.]

2. Permit Exemptions

i) AWEF constructed prior to the effective date of this Section shall not be required to meet the requirements of this Ordinance.

ii) With respect to an existing AWEF, any physical modification that materially alters the size, type and number of Wind Turbines or other equipment shall require approval under this Ordinance and meet the requirements of the Pennsylvania Uniform Construction Code, 34 Pa. Code Section 403.1-403.142 . Like kind replacements shall not require approval].

3. The layout, design, and installation of AWEF shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI), Underwriters Laboratories (UL), Det Norske Veritas, Germanischer Lloyd Wind Energies, the American Society of Testing and Materials (ASTM), or other pertinent certifying organizations and comply with the Pennsylvania Uniform Construction Code and all applicable building and electrical codes of <MUNICIPALITY NAME>. The manufacturer specifications shall be submitted as part of the application.

4. Number of AWEF permitted per lot

1) A lot may have any number of building mounted and ground mounted AWEF assuming all other requirements of this ordinance are satisfied.

5. Noise

i) The sound produced by the AWEF shall not exceed 45 dBA as measured at the property line of existing non-participating landowners during normal operations and weather conditions.

ii) Noise limits may be exceeded during short-term events such as installation, utility outages and/or severe wind storms.

iii) Intermittent noise will be present during construction of the AWEF. The applicant shall require all contractors to incorporate reasonable noise reduction

measures to mitigate the amount of noise generated during the construction phase.

iv) Methods for measuring and reporting acoustic emissions from AWEF shall be equal to or exceed the minimum standards for precision described in American Wind Energy Association (AWEA) Standard 2.1 - 1989 titled Procedures for the Measurement and Reporting of Acoustic Emissions from Wind Turbine Generation Systems Volume I: First Tier, as amended.

6. When an accessory building is necessary for storage cells or related mechanical equipment, the accessory building shall comply with the accessory building requirements of the zoning district [SALDO].
7. The facility owner of an AWEF shall provide <MUNICIPALITY NAME> written confirmation that the public utility company to which the AWEF will be connected has been informed of the customer's intent to install a grid connected system and approved of such connection. Off-grid AWEF shall be exempt from this requirement.
8. All on-site utility, transmission lines, and cables shall be placed underground.
9. The display of advertising is prohibited except for identification of the manufacturer of the system
10. AWEF shall not be lighted except for any lighting required to comply with Federal Aviation Administration (FAA) or Pennsylvania Department of Transportation Bureau of Aviation (BOA) regulations.
11. AWEF shall be painted a non-reflective, flat color such as white, off-white, or gray unless required to be colored differently from FAA or BOA regulations.
12. AWEF shall have an automatic braking, governing, or feathering system to prevent uncontrolled rotation, over speeding, and excessive pressure on the tower structure, rotor blades, and turbine components.
13. An AWEF shall not cause shadow flicker on any occupied building on a non-participating landowner's property.
14. No part of any AWEF shall be located within or above the required setbacks of any lot, extend over parking areas, access drives, driveways, or sidewalks.
15. The facility owner of the AWEF shall provide evidence that the facility owner's insurance policy has been endorsed to cover an appropriate level of damage or injury that might result from the installation and operation of the small wind energy system.
16. The facility owner of the AWEF shall ensure that the design and operation avoids disruption or loss of radio, telephone, television, cell, Internet or similar signals, and shall mitigate any harm caused thereby.

17. Decommissioning

- i) Each AWEF and related equipment shall be removed within twelve (12) months of the date when the use has been discontinued or abandoned by the facility owner and/or operator, or upon termination of the useful life of same.
- ii) The AWEF shall be presumed to be discontinued or abandoned if no electricity is generated by such AWEF for a period of twelve (12) continuous months.

18. Permit requirements

- i) Zoning/building permit applications [Applications] for AWEF shall be accompanied by standard drawings of the wind turbine structure and stamped engineered drawings of the tower, base, footings, and/or foundation as provided by the manufacturer. Permits shall show the location of the AWEF on the lot, lot lines, rights of way, adjoining occupied buildings, and above ground utility lines located on the lot. Permits must be kept on the premises where the AWEF is constructed.
- ii) The zoning/building permit [Application] shall be revoked if the AWEF, whether new or pre-existing, is moved or otherwise altered, either intentionally or by natural forces, in a manner which causes the AWEF not to be in conformity with this Ordinance.
- iii) For standard soil conditions (not including gravel, sand, or muck), foundations developed by the wind turbine manufacturer shall be acceptable for AWEF installations of 20kW or less and will not require project-specific soils studies. Applicants proposing projects involving substandard soil conditions or installations of AWEF greater than 20kW may be required by the Zoning Officer [Code Officer] to submit detailed soil studies.
- iv) The AWEF must be properly maintained and be kept free from all hazards, including but not limited to, faulty wiring, loose fastenings, being in an unsafe condition or detrimental to public health, safety or general welfare. In the event of a violation of any of the foregoing provisions, the Zoning Officer [Code Officer] shall give written notice specifying the violation to the facility owner of the AWEF to conform or to remove the AWEF.

B) Requirements for Ground Mounted AWEF

1. Ground mounted AWEF may be placed on lots of any size assuming they meet the height and setback restrictions found in this section.
2. Height for Ground Mounted AWEF

- i) AWEF height shall not be restricted assuming that the AWEF meets the setback requirements.
- ii) The minimum ground clearance for the AWEF shall be 15 feet.
- iii) Applicants shall file a Notice of Proposed Construction or Alteration with the Pennsylvania Department of Transportation Bureau of Aviation (BOA) and the Federal Aviation Administration (FAA) for any AWEF that is more than 200' in height.

3. Setbacks for Ground Mounted AWEF

- i) AWEF shall be set back from property lines, occupied buildings, above ground utility lines, railroads and/or road right-of-ways by a distance equal to no less than 1.1 times the total height.
- ii) AWEF shall be allowed closer to a property line than the prescribed setbacks if the abutting property owner(s) grants written permission in the form of a signed easement and the installation poses no interference with public utility lines, public roads and rail right-of-ways.

4. Number of Ground Mounted AWEF allowed per lot

- i) The number of ground mounted AWEF permitted on a lot shall be based upon lot size and follow the schedule below.

Lot Size	Maximum Number of Ground Mounted AWEF Per Lot
< 1 acre to 5 acres	1
5+ acres to 10 acres	2
10+ acres	3

5. Location

- i) Ground mounted AWEF are prohibited in front yards, unless the applicant demonstrates to the governing body (or zoning hearing board, in the case of special exception) that, due to wind access limitations, no location exists on the property other than the front yard where the AWEF can perform effectively

6. Safety and security

- i) The facility owner shall post electrical hazard warning signs on or near the AWEF.
- ii) Ground mounted AWEF shall not be climbable up to 15 feet above ground surface.

iii) Access doors to any AWEF electrical equipment shall be locked to prevent entry by unauthorized persons.

iv) All AWEF shall be surrounded by a minimum 6' high fence if the AWEF is not otherwise rendered not climbable up to 15 feet above the ground.

C) Requirements for Building Mounted AWEF

1. Building mounted AWEF may be located on any lot regardless of lot size.
2. Height regulations shall not apply to building mounted AWEF, provided the height does not exceed the limitations of the zoning district for which they are located [does not exceed the limitations in the ordinance] by more than fifteen (15) feet.
3. There is no limit on the number of building mounted AWEF assuming that the building is capable of supporting the load of the AWEF.
4. For building mounted systems, the applicant shall provide evidence that the plans comply with the Pennsylvania Uniform Construction Code and adopted building code of <MUNICIPALITY NAME> indicating the building is capable of holding the load imposed on the structure.

D) Permit Fee

1. Applicant will pay <MUNICIPALITY NAME> a permit fee of Three Hundred and 00/100 Dollars (\$300) for the AWEF. The permit fee shall be paid at the time the application is submitted. Fees shall not be returned where an application has been denied. The Borough/Township may modify this fee by resolution to keep the fee in line with the cost of administering the provisions of this Ordinance.

SECTION 4 – PRINCIPAL WIND ENERGY FACILITIES (PWEF)

A) Design and Installation

1. Zoning Ordinance: Principal Wind Energy Facilities (PWEF) shall be permitted by special exception/conditional use in the <NAME OF ZONING DISTRICTS> Zoning District(s). Applications for such uses shall be subject to the requirements set forth below, as well as all other applicable State or Federal Regulations.

[1. SALDO: No land development plan providing for the construction of Principal Wind Energy Facilities (PWEF) shall be approved unless such plan has complied with the requirements of this ordinance.]

2. Permit Requirement and Exemptions

i) PWEF constructed prior to the effective date of this Section shall not be required to meet the requirements of this Ordinance.

ii) With respect to an existing PWEF, any physical modification that materially alters the size, type and number of Wind Turbines or other equipment shall require conditional use/special exception approval under this Ordinance and meet the requirements of the UCC. Like kind replacements shall not require a permit modification.

3. The layout, design, and installation of PWEF shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI), Underwriters Laboratories (UL), Det Norske Veritas, Germanischer Lloyd Wind Energies, the American Society of Testing and Materials (ASTM), or other pertinent certifying organizations and comply with all applicable building and electrical codes of <MUNICIPALITY NAME>. The manufacturer specifications shall be submitted as part of the application.

4. Applicants shall submit land development and/or subdivision plans which shall be compliant with all land development/subdivision ordinance requirements of <MUNICIPALITY NAME>.

5. The applicant shall provide sufficient documentation showing that the PWEF will comply with all applicable requirements of the Federal Aviation Administration (FAA) and the Pennsylvania Department of Transportation's Bureau of Aviation (BOA).

6. The PWEF shall provide <MUNICIPALITY NAME> written confirmation that the public utility company to which the PWEF will be connected has been informed of the intent to install a grid connected system and approved of such connection.

7. All PWEF shall be equipped with a redundant braking system. This includes both aerodynamic over speed controls (including variable pitch, tip and other systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over speed protection.

8. Visual Appearance

i) All on-site utility, transmission lines, and cables shall be placed underground.

ii) PWEF shall be painted a non-reflective, flat color such as white, off-white, or gray unless required to be colored differently from FAA or BOA regulations.

iii) PWEF shall not be artificially lighted, except to the extent required by the FAA or other applicable authority. If lighting is required, the lighting alternatives and design chosen shall seek to minimize the disturbance to the surrounding views.

iv) The display of advertising is prohibited except for identification of the manufacturer of the system, facility owner and operator.

v) Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation, and maintenance of the PWEF.

vi) No PWEF shall be installed at any location that would substantially detract from or block the view of the major portion of a documented scenic vista, as viewed from any public road right-of-way or publicly-accessible parkland or open space within the Borough/Township.

vii) Accessory Buildings, Structures, Mechanical Equipment

(1) Accessory structures and equipment associated with PWEF shall be screened from any adjacent property that is residentially zoned or used for residential purposes. The screen shall consist of plant materials which provide a visual screen. In lieu of a planting screen, a decorative fence meeting requirements of the ordinance may be used.

(2) The design of accessory buildings and related structures shall, to the extent reasonable, use materials, colors, textures, screening and landscaping that will blend the structures into the existing environment.

9. Warnings and Safety Measures

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

ii) All access doors to PWEF including electrical equipment, outbuildings and all appurtenances thereto, shall be locked or fenced, as appropriate, to prevent entry by non-authorized personnel.

iii) Wind Turbines shall not be climbable up to 15 feet above ground surface and the climbing apparatus shall be fully contained and locked within the tower structure.

iv) A minimum six (6) foot high fence with a locking gate shall be placed around the PWEF. The fence may be located within the required setback.

v) Visible, reflective, colored objects, such as flags, reflectors or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of ten (10') feet from the ground.

vii) The applicant will provide a copy of the project summary and site plan to local emergency services.

viii) Facility owner and/or operator shall abide by all applicable local, state and federal fire code and emergency guidelines.

B) Requirements

1. Lot size

i) Zoning Ordinance: Lot size shall comply with the zoning district and be in conformance with the required setbacks set forth below.

[i) SALDO: A minimum lot size of five (5) acres shall be required. In addition, lot size shall be in conformance with the required setbacks set forth below.]

ii) Wind Turbines shall be separated from each other by a minimum of 1.1 times the total height of the highest wind turbine.

2. Setbacks

i) Wind Turbines shall be set back from the nearest property line a distance of not less than the normal setback requirements for the zoning district [of the SALDO] or 1.1 times its total height, whichever is greater. If the nearest property line abuts a non-participating parcel, the minimum setback shall be 1,000 feet.

ii) Wind Turbines shall be set back from a building on a non-participating landowner's property not less than 2,500 feet measured from the center of the wind turbine base to the nearest point on the foundation of the occupied building.

iii) Wind Turbines shall be set back from a building on a participating landowner's property not less than 1.1 times its total height measured from the center of the wind turbine base to the nearest point of foundation of the occupied building. Any operator-occupied building used in connection with the development is exempt from this distance limit. In the event that a lesser distance is desired, the Applicant shall request a waiver to this provision pursuant to the requirements of this Ordinance.

iv) Wind Turbines shall be set back from the nearest public road a distance of no less than 1,000 feet, determined at the nearest boundary of the right-of-way for such public road. Unless conclusive evidence exists to the contrary, the public road right-of-way is presumed to be 50 feet, centered on the roadway centerline.

v) Each Wind Turbine shall be set back from above-ground electric power lines, public telephone lines and television cable lines a distance of no less than 1,000 feet. No wind turbine or any part of the permanent structure will be constructed within 1,000 feet of a gas pipeline.

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- vi) Each Wind Turbine shall be set back from surface water supplies, e.g. reservoirs, a distance of no less than 1,000 feet.
 - vii) Each Wind Turbine shall be set back from any other Wind Turbine a distance of no less than 1.1 times its total height.
 - viii) Each Wind Turbine generator shall be set back a distance of no less than 1,000 feet from the outer edge of natural areas identified in the Mifflin County Natural Area Inventory as shown in the County GIS data set.
 - ix) Each wind turbine generator shall be set back a distance of no less than 2,500 feet from existing historic and cultural resource areas of <MUNICIPALITY NAME> (at the time of the building permit issuance):
 - (1) Historic structure or resource listed in the Pennsylvania Register of Historic Places, as determined by the Pennsylvania Historical and Museum Commission.
 - (2) A documented scenic vista, as viewed from any public road right-of-way or publicly-accessible parkland or open space within the Borough/Township.
 - (3) Lands protected by conservation easements.
 - x) Accessory buildings, structures, and related equipment to the PWEF shall comply with the building setback requirements of the zoning district [SALDO].

3. Variance for Setbacks

- i) Variance for setback requirements may be granted only upon review and approval of the Zoning Hearing Board.
- ii) Public notice must be provided per the requirements of the Zoning Ordinance
- iii) Any variance granted shall be recorded in the Recorder of Deeds Office for Mifflin County. The variance shall describe the properties benefited and burdened, and advise all subsequent purchasers of the burdened property that variance of setback shall run with the land and may forever burden the subject property.

[3. Waiver of Setbacks

- i) Property owners may waive the setback requirements for buildings on non-participating landowner's property and property lines by signing a waiver that sets forth the applicable setback provision(s) and the proposed changes.
- ii) The written waiver shall notify the property owner(s) of the setback required by this Ordinance, describe how the proposed PWEF is not in compliance, and

state that consent is granted for the Facility to not be setback as required by this Ordinance.

iii) Any such waiver shall be recorded in the Recorder of Deeds Office for Mifflin County. The waiver shall describe the properties benefited and burdened, and advise all subsequent purchasers of the burdened property that the waiver of setback shall run with the land and may forever burden the subject property.]

4. Height

i) There shall be no specific height limitation, so long as the total height meets sound and setback requirements, except as imposed by FAA regulations.

ii) The minimum Ground Clearance shall be thirty (30) feet.

5. No PWEF shall be located on a lot of record containing slopes equal to or exceeding 15% on 50% or more of the lot of record. This standard shall apply to each lot where a PWEF extends across multiple lots of record.

C) Operational Standards

1. Registration of Address

i) Prior to the construction of an access road to a site (well, windmill, communications tower or other rural industrial facility) the operator shall request a street address for the site from the Mifflin County GIS Office.

ii) The operator and a representative of the Mifflin County GIS Office will determine the GPS coordinates of the actual site and entrance road to the site. If there is more than one facility on a site, each facility will be assigned a unique identifier (i.e. Tower 1, 2, 3 or Well 1, 2, 3) and GPS location

iii) The operator (or Mifflin County GIS Office) shall register the following with the Public Safety Answering Point (911 Center) and Office of Public Safety.

(1) Site Identifier.

(2) Site Address.

(3) GPS Coordinates for the entrance and site(s)/facilities.

iv) When there is a change in the site address, the operator shall register the new address as provided in paragraph (iii).

v) When there is a change in entrance due to a change in site address or otherwise, the operator shall update the GPS coordinates with the Mifflin County GIS Office as provided in paragraph (3) and update the Public Safety Answering Point (911 Center) and Office of Public Safety.

vi) The following shall be retained at the site for reference when contacting emergency responders:

- (1) Site Identifier.
- (2) Site Address.
- (3) GPS Coordinates for the entrance and site(s)/facilities.

2. Signage

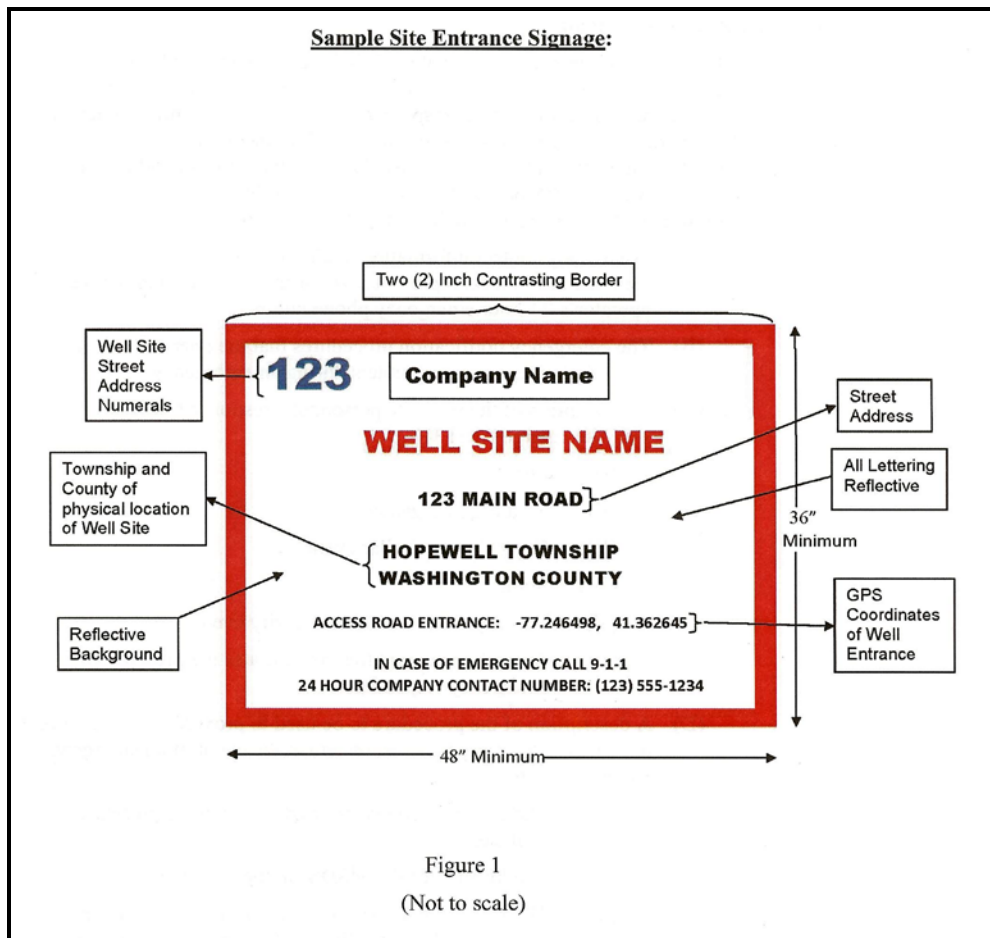
i) Prior to the construction of an access road, the operator of a rural site shall display a reflective sign at the entrance.

ii) The sign shall meet the following:

- (1) The sign shall be fabricated with approved retro-reflective sheeting material meeting ASTM 4956 Type III standards.
- (2) The sign shall have a white background with a two (2) inch red border and black numbers/letters. Signs for entrances on administrative roads may use other colors, provided that the signs use contrasting colors between the background and, the border, numbers and letters.
- (3) The sign shall be of sufficient size to accommodate the required information described in this section, but a minimum shall be thirty-six (36) inches in height and forty-eight (48) inches in width.
- (4) The sign shall follow the format in Figure 6, and shall contain the following:
 - a. The address for the site once it is assigned, displayed horizontally on the first line of the sign in text no smaller than four (4) inches in height.
 - b. The full address of the entrance, once assigned including the County and Municipality in which the entrance is located.
 - c. The Site/Facility operator's company name
 - d. The twenty-four hour contact telephone information for the operator of the site/facility.
 - e. The GPS coordinates for the entrance.
 - f. The site/facility identifier.
 - g. The wording "In case of an emergency, Call 9-1-1"

- (5) The sign shall be mounted independently of other signage.
- (6) The bottom of the sign shall be positioned a minimum of three (3) feet above the ground level.
- (7) The sign shall contain no other markings.
- (8) Signs as viewed from the applicable road, shall not be obstructed from view by vegetation, equipment, vehicles or other obstructions.

Figure 6.



3. Use of Public Roads

- i) The applicant shall identify all state and local public roads to be used within <MUNICIPALITY NAME> to transport equipment and parts for construction, operation or maintenance of the PWEF.
- ii) <MUNICIPALITY NAME> engineer, or a qualified third party engineer hired by the Borough/Township and paid for by the applicant, shall document public road conditions prior to construction of the PWEF. The engineer shall document

road conditions within thirty (30) days after construction of the permitted project is complete, or as soon thereafter as weather may allow.

iii) <MUNICIPALITY NAME> shall require applicant to secure a bond for the road(s) to be used within the Borough/Township in compliance with applicable regulations at an amount consistent therewith; or, if not provided by regulation, an amount set at the discretion of the governing body in consultation with <MUNICIPALITY NAME>'s engineer.

iv) Any road damage caused by the applicant, facility owner, operator, or contractors shall be promptly repaired (within 14 days) to <MUNICIPALITY NAME>'s satisfaction at the expense of the applicant and/or facility owner.

v) The applicant shall demonstrate that it has appropriate financial assurance to ensure the prompt repair of damaged public roads.

vi) Every effort should be made to use existing roads and logging roads. New deforestation and forest fragmentation should be kept to a minimum. Private entrance roads to PWEF must be maintained in a mud-free condition.

4. Noise

i) Audible sound from a PWEF shall not exceed 45 dBA, as measured at the property line of existing non-participating landowner's property.

ii) Noise limits may be exceeded during short-term events such as installation, utility outages and/or severe wind storms

iii) Methods for measuring and reporting acoustic emissions from PWEF shall be equal to or exceed the minimum standards for precision described in American Wind Energy Association (AWEA) Standard 2.1 - 1989 titled Procedures for the Measurement and Reporting of Acoustic Emissions from Wind Turbine Generation Systems Volume I: First Tier, as amended.

5. A Wind Turbine shall not cause vibrations through the ground which are perceptible beyond the property line of the parcel on which it is located.

6. Shadow Flicker.

i) Shadow flicker on any occupied building on a non-participating landowner's property shall be limited to one of the following:

1. No more than 30 minutes per day.
2. No more than 30 hours per year.

ii) A PWEF shall be designed in such a manner as to minimize shadow flicker on a roadway.

iii) The facility owner and operator shall conduct, at the applicant's expense, a modeling study demonstrating that shadow flicker shall not occur on any occupied building on a non-participating property.

7. Waiver of Noise and Shadow Flicker Provisions

i) Non-participating landowners may waive the noise and shadow flicker provisions of this Ordinance at the request of the participating landowners or PWEF owner by signing a waiver of their rights.

ii) The written waiver shall notify the non-participating landowner(s) of the sound or flicker limits in this Ordinance, describe the impact on the non-participating landowner(s), and state that the consent is granted for the PWEF to not comply with the sound or flicker limit in this Ordinance.

iii) Any such waiver shall be recorded in the Recorder of Deeds Office of Mifflin County. The waiver shall describe the properties benefited and burdened, and advise all subsequent purchasers of the burdened property that the waiver of sound or flicker limit shall run with the land and may forever burden the subject property.

8. Facility owner and/or operator shall ensure that the design and operation of any PWEF avoids disruption or loss of radio, telephone, television, cell, Internet or similar signals, and shall mitigate any harm caused thereby.

9. The applicant shall provide a proposed foundation design and analysis of soil conditions by a professional engineer.

10. Public Inquiries and Complaints

i) The facility owner and operator shall maintain a phone number and identify a responsible person for the public to contact with inquiries and complaints throughout the life of the project.

ii) The facility owner and operator shall make efforts to respond to the public's inquiries and complaints.

iii) The facility owner and operator shall keep a record of all such inquiries and complaints and shall submit a report thereof to <MUNICIPALITY NAME> on a quarterly basis stating the status of each inquiry or complaint, all action taken, and a timeline to resolve all outstanding issues..

11. Facility owner shall maintain the following insurance coverage:

i) Project shall maintain general liability insurance covering bodily injury and property damage with limits of at least \$1 million per occurrence and \$1 million

in the aggregate, with certificates provided to the <MUNICIPALITY NAME>/ county upon request.

ii) Worker's compensation coverage in an amount required by Pennsylvania law. Facility owner shall require subcontractors and others not protected under its insurance to obtain and maintain worker's compensation and employers' liability insurance; and

iii) Umbrella liability insurance with coverage to be in excess of the insurance required above. Limits of liability shall not be less than \$3,000,000 for each occurrence and \$3,000,000 in aggregate; and

iv) <MUNICIPALITY NAME> shall be identified as an additional insured on all insurance policies referenced herein. No policy of insurance shall be cancelled without first providing the Borough/Township with at least 30 days prior written notice of intent to cancel.

v) Certificates of insurance evidencing compliance with these requirements shall be provided to the <MUNICIPALITY NAME>. All policies other than workers compensation shall be written on an occurrence and not on a claims made basis.

vi) Coverage limits contained in this Section may be revisited by <MUNICIPALITY NAME> from time to time. The facility owner will be required to provide updated insurance certificates to document the amended adequate coverage limits.

12. Decommissioning

i) The facility owner or operator shall, at his expense, complete decommissioning of the PWEF and all related improvements within twelve (12) months of the date when the use of the particular PWEF has been discontinued or abandoned by the facility owner and/or operator, or upon termination of the useful life of same. The PWEF shall be presumed to be discontinued or abandoned if no electricity is generated by such PWEF for a continuous period of twelve (12) months.

ii) Decommissioning shall include removal of wind turbines, buildings, cabling, electrical components, roads, foundations to a depth of 36 inches, and any other associated facilities.

iii) Disturbed earth shall be graded, re-seeded and/or reforested to reclaim the site back to its predevelopment condition, based on the subdivision/land development plan or documented predevelopment condition, unless the landowner requests in writing that the access roads or other land surface areas not be restored.

iv) An independent and certified Professional Engineer shall be retained by the owner/operator at their expense to estimate the cost of decommissioning without regard to salvage value of the equipment. Said estimates shall be submitted to <MUNICIPALITY NAME> after the first year of operation and every fifth year thereafter.

v) The facility owner or operator shall post and maintain decommissioning funds in an amount (100% or 110%) of the identified decommissioning costs, as adjusted over time. The decommissioning funds shall be posted and maintained with a bonding company or Federal or Commonwealth chartered lending institution chosen by the facility owner or operator and participating land owner posting the financial security, provided that the bonding company or lending institution is authorized to conduct business within the Commonwealth and is approved by <MUNICIPALITY NAME>.

vi) Decommissioning funds may be in form of a performance bond, surety bond, letter of credit, corporate guarantee or other form of financial assurance as may be acceptable to the Borough/Township.

vii) If the facility owner or operator fails to complete decommissioning within the period prescribed by paragraph 12.(i) above, then the land owner shall have six (6) months to complete the decommissioning.

viii) If neither the facility owner or operator, nor the landowner complete decommissioning within the periods described by paragraphs 12.(i) and 12.(vii) above, then <MUNICIPALITY NAME> may take such measures as necessary to complete decommissioning. The entry into and submission of evidence of a participating land owner agreement to the Borough/Township shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors and assigns that the Borough/Township may take such action as necessary to implement the decommissioning plan.

ix) The escrow agent shall release the decommissioning funds when the facility owner or operator has demonstrated and <MUNICIPALITY NAME> concurs that decommissioning has been satisfactorily completed, or upon written approval of the Borough/Township in order to implement the decommissioning plan.

D) Application Requirements. A conditional use/special exception application for a PWEF shall include the following:

1. A narrative describing the proposed PWEF, including an overview of the project, the project location, the approximate generating capacity of the PWEF, the approximate number, representative types and height or range of heights of Wind Turbines to be

constructed including their generating capacity, dimensions and respective manufacturers, and a description of ancillary facilities.

2. An affidavit or similar evidence of agreement between the property owner and the facility owner or operator demonstrating that the facility owner or operator has the permission of the property owner to apply for necessary permits for construction and the operation of the PWEF and setting forth the applicant's and property owner's name, address and phone number.
3. Identification of the properties on which the proposed PWEF will be located, and the properties adjacent to where the PWEF will be located.
4. A site plan showing the planned location of each Wind Turbine, property lines, setback lines, access road and turnout locations, substation(s), electrical cabling from the PWEF to the substation(s), ancillary equipment, buildings, and structures, including permanent meteorological towers, associated transmission lines and layout of all structures within the geographical boundaries of any applicable setback.
5. A Decommissioning Plan sufficient to demonstrate compliance with Section C.10 above.
6. A wind resource study shall be submitted documenting wind resources at the site at the height of the proposed wind turbines. The study shall include but is not limited to data showing average wind speeds capable of generating electricity and the available capacity to transmit the electricity into the power grid.
7. A noise study in accordance with Section C.2 above.
8. A shadow flicker study in accordance with Section C.4 above.
9. Other relevant studies, reports, certifications and approvals as required by this Ordinance or as may be requested by the Borough/Township to ensure compliance with this Ordinance.
10. Throughout the permit process, the applicant shall promptly notify the Borough/Township of any changes to the information contained in the conditional use/special exception permit application. Changes to the pending application that do not materially alter the initial site plan may be adopted without a renewed public hearing.

E) Permit Fee, Review Procedures, and Issuance

1. Permit Fee - Applicant will pay <MUNICIPALITY NAME> a permit fee of One Thousand Five Hundred and 00/100 Dollars (\$1,500) per proposed megawatt for each wind turbine generator. The permit fee shall be paid at the time the application is submitted. Fees shall not be returned where an application has been denied. The Borough/Township may modify this fee by resolution to keep the fee in line with the cost of administering the provisions of this Ordinance.

2. Duration of Permit - A permit issued shall be valid for a period of thirty (30) years. Permits are non-renewable and any PWEF operator wishing to continue operation must reapply for a new permit under this ordinance. Any permit granted under this Ordinance is not assignable or transferable to any other person, firm or corporation, whether by operation of law or otherwise, without the express prior written consent of <MUNICIPALITY NAME>.

3. Notice of Application - The Applicant must provide written notice of application to all property owners and tenants occupying property within 2,500 feet of the boundaries of the property upon which the PWEF will be located. Proof of service of such notice by Certified Mail or notarized Affidavit of hand delivery must be provided with the application.

4. Revocation of Permit - The following reasons shall constitute cause to revoke a permit issued under this Ordinance. Below is a partial list and <MUNICIPALITY NAME> reserves the right to revoke a permit for violation of any other provision contained in this Ordinance.

i) If Facility Owner ceases to operate the wind energy facility provided, however, that Facility Owner shall not be deemed to have ceased operating the wind energy facility if Facility Owner ceases operations for all or substantially all of the wind energy facility for a period not exceeding 6 months;

ii) If a petition is filed by Facility Owner under any bankruptcy, reorganization, arrangement, insolvency, dissolution or liquidation law of any jurisdiction, whether now or hereafter in effect, and is not dismissed within 90 days after such filing;

iii) If Facility Owner fails to observe or perform any material condition or provision hereof for a period of 60 days after receiving written notice of such failure from <MUNICIPALITY NAME>, Facility Owner shall commence corrective action within 30 days of notice from any source, of any failure, and shall complete corrective action within 60 days of receipt of notice.

Any period of time for which Facility Owner is unable to commence or complete corrective action as the result of any material third party withholding approval of such action shall not be counted against Facility Owner. If Facility Owner is unable to commence corrective action within 30 days of notice or is unable to complete corrective action within 60 days of receipt of notice for reasons other than delays caused by any material third party, Facility Owner shall request an extension from <MUNICIPALITY NAME>, which shall not be unreasonably withheld and which may include reasonable conditions, in order for Facility Owner to receive and maintain such extension,

iv) If Facility Owner continues to be in material breach of any statute, regulation, rule or permit administered by any federal, state, county or local department, agency or commission within 60 days after receiving written notice of a Violation by such federal, state or county department, agency or commission, Facility Owner shall notify <MUNICIPALITY NAME>, in writing, of any alleged violation, order or enforcement proceeding within seven days of receipt. Facility Owner shall commence corrective action within 30 days of notice, from any source, of any breach and/or violation, and shall complete corrective action within 60 days of receipt of notice. Any period of time for which Facility Owner is unable to commence or complete corrective action as the result of any material third party withholding approval of such action shall not be counted against Facility Owner. If Facility Owner is unable to commence corrective action within 30 days of notice or is unable to complete corrective action within 60 days of receipt of notice for reasons other than delays caused by any material third party, Facility Owner shall request an extension from <MUNICIPALITY NAME> which shall not be unreasonably withheld and which may include reasonable conditions in order for Facility Owner to receive and maintain such extension,

5. In addition, <MUNICIPALITY NAME> may revoke a permit issued under this Ordinance if the following conditions are met:

- i) The Event of Default remains uncured; and
- ii) There is no Force Majeure Event causing the Event of Default to continue; and
- iii) <MUNICIPALITY NAME> has provided Facility Owner an opportunity to present and explain its position before the <MUNICIPALITY'S GOVERNING BODY> to respond to the Event of Default, and any and all decisions and/or determinations by the <MUNICIPALITY'S GOVERNING BODY> may be appealed to the Court of Common Pleas of Mifflin County, and all appeals are de novo; and
- iv) All de novo appeals from the decision rendered by the <MUNICIPALITY'S GOVERNING BODY> have been exhausted.

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