

ARTICLE 28
Fifth Amendment
WIND TURBINES AND WIND ENERGY FACILITIES

2801 PURPOSE

The purpose of this Article is to establish standards and procedures by which installment and operation of the Wind Turbines and Wind Energy Facilities shall be governed. The goals of this section are:

- A. Promoting safe, effective, and efficient use of Wind Turbines and Wind Energy Facilities installed to reduce the on-site consumption of electricity supplied by utility companies.
- B. To lessen potential adverse impacts Wind Turbines and Wind Energy Facilities may have on residential areas and land uses through careful design, siting, noise limitations, and innovative camouflaging techniques.
- C. To avoid potential damage to adjacent properties from Wind Turbine failure through engineering and proper siting of Wind Turbine structures and Wind Energy Facilities.

2802 DEFINITIONS

As used in this Article:

- A. "Anemometer Tower" means a structure and equipment used to determine the potential for the placement for a Wind Turbine.
- B. "Applicant" is the person or entity filing an application under this Article, as well as the applicant's successor(s), assign(s), heir(s) and/or transferee(s) as to any approved Wind Turbine and/or Wind Energy Facility. An applicant shall have the legal authority to represent and bind the landowner and lessee who will construct, own and operate the Wind Turbine and/or Wind Energy Facility. The duties and obligations regarding a zoning approval for any approved Wind Turbine and/or Wind Energy Facility shall be with the owner of the Wind Turbine and/or Wind Energy Facility, and jointly and severally with the owner and operator or lessee of the Wind Turbine and/or Wind Energy Facility if different than the owner.
- C. "Facility Owner" means the entity or entities having an equity interest in a Wind Turbine or Wind Energy Facility, including their respective successors and assigns. The Facility Owner may also be the property owner, or may have an

agreement with the property owner allowing the Facility Owner to install and operate a Wind Turbine or Wind Energy Facility.

D. "Operator" means the entity responsible for the day-to-day operation and maintenance of a Wind Turbine or Wind Energy Facility.

E. "Hub Height" means the distance measured from the surface of the tower foundation to the height of the Wind Turbine hub, to which the blade is attached.

F. "Occupied Building" means a residence, school, hospital, church, public library or other building used for public gathering that is occupied or in use when the permit application is submitted.

G. "Turbine Height" means the distance measured from the surface of the tower foundation to the highest point of the Turbine rotor plane.

H. "Wind Turbine" means a freestanding or roof-mounted, single wind energy conversion system that converts wind energy into electricity through the use of a Wind Turbine generator, and includes the nacelle, rotor, tower, and pad transformer, if any. This may also include an anemometer.

I. "Wind Energy Facility" means an electric generating facility, whose main purpose is to supply electricity, consisting of one or more Wind Turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines and other appurtenant structures and facilities. For purposes of this Article, this definition shall include any parcel with more than one Wind Turbine that is 70-200 feet in Turbine Height.

J. "Non-Participating Landowner" means 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.

2803 PERMITTED AND SPECIAL USES

Permitted and special uses shall be governed by the following:

A. A single Wind Turbine less than 70 feet in Turbine Height shall be considered a permitted accessory use on a single parcel in any zoning district, if it meets the standards and requirements of this Article. Provided further, that any additional Wind Turbines requested for said single parcel shall only be applied for and approved as a special use, and the guidelines set forth in Section 2806 of this Article shall apply to such request.

B. A single Wind Turbine 70-200 feet in Turbine Height shall be considered a special use in any residential development, existing or proposed, subject to the standards and requirements of this Article. Said Turbine would be in lieu of future, individual Wind Turbines on individual parcels within the development.

C. A Wind Energy Facility shall be considered a special use in the Wind Energy Facility Overlay district subject to the standards and regulations of this Article.

2804 PERMIT REQUIREMENT

Permits shall be required as follows:

A. No Wind Turbine or Wind Energy Facility shall be constructed or located within the Township of Whitehall unless a permit has been issued by the Township of Whitehall to the Facility Owner or Operator approving construction of the facility under this Article. A zoning permit shall be required for a single Wind Turbine less than 70 feet in Turbine Height. A special use permit shall be required for Wind Turbines 70-200 feet in Turbine Height, and for additional Wind Turbines that are less than 70 feet in Turbine Height to be located on a single parcel as an accessory use. A special use permit shall be required for Wind Energy Facilities.

B. Any physical modification to an existing and permitted Wind Energy Facility that materially alters the size, type and number of Wind Turbines or other equipment shall require a permit amendment under this Article. Like-kind replacements shall not require a permit modification.

2805 SPECIAL USE PERMIT APPLICATION FOR WIND ENERGY FACILITIES

Wind Energy Facilities shall be subject to the Special Use Permit and Site Plan provisions of this Zoning Ordinance, and shall also comply with all of the standards set forth below:

A. The applications shall contain the following:

1. An overview of the project; the project location; the approximate generating capacity of the Wind Energy Facility; 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 operation of the Wind Energy Facility.

3. The legal description and tax identification numbers of the properties on which the proposed Wind Energy Facility 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 Wind Energy Facility to the substation(s), ancillary equipment, building, and structures, including permanent meteorological towers, associated transmission lines, and layout of all structures within the geographical boundaries of any applicable setback.

5. Documents related to decommissioning pursuant to this Article.

6. Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Township of Whitehall to ensure compliance with this Article.

7. Documented annual wind resources sufficient for the operation of the proposed Wind Turbine generator; provided, however, this standard shall not apply to an anemometer tower.

B. No Wind Turbine located within a Wind Energy Facility or Wind Energy Facility shall be approved without submission of a wind resource study documenting wind resources on the site over a minimum of two years. Said study shall indicate the long-term commercial economic viability of the project. Anemometers to be placed shall be calibrated regularly to ensure a measurement of error of 1% or less. All anemometers shall be placed at the expected hub height of the Wind Turbine to be used. Sufficient wind resources, as described by the U.S. Department of Energy, include areas with a wind power class 4 or higher. The Township may retain the services of an independent, recognized expert to review the results of the wind resource study prior to acting on the application for special use permit. This review shall be at the expense of the applicant.

C. The minimum site area for a Wind Energy Facility of an anemometer tower erected prior to a Wind Energy Facility shall be twenty (20) acres and must meet required setbacks and any other standards of this Article.

D. Each proposed Wind Turbine or anemometer tower located within a Wind Energy Facility shall be set back from any adjoining lot line a distance equal to

2,600 feet. The Planning Commission may reduce this setback to no less than 2,100 feet. The amount of setback relief approved by the Planning Commission shall be based on data provided by the applicant and prepared and certified by a registered Professional Engineer licensed in the State of Michigan, who is practicing in his or her area of competency. Such data may be subject to review by the Township's independent, recognized expert. This review shall be at the expense of the applicant.

E. In addition to the above, a Wind Turbine shall, in all cases, be setback from a public or private road right-of-way or easement a minimum distance equal to six (6) times the Turbine Height as defined in this Article.

F. For any newly proposed Wind Turbine or anemometer tower, a "wind access buffer" equal to a minimum of five (5) rotor diameters shall be observed from any existing off-site Wind Turbine generator tower.

G. Within thirty (30) days after receipt of a permit application, the Township of Whitehall shall determine whether the application is complete and advise the applicant accordingly.

H. Within sixty (60) days of a completeness determination, the Whitehall Township Planning Commission will schedule a public hearing.

I. Within one hundred and twenty (120) days of a completeness determination, or within forty-five (45) days after the close of any hearing, whichever is later, the Township of Whitehall shall make a decision whether to issue or deny the permit application.

2806 SPECIAL USE PERMIT APPLICATION FOR WIND TURBINE NOT LOCATED IN A WIND ENERGY FACILITY

All Wind Turbines, except for Wind Turbines and Wind Energy Facilities addressed in section 2805, and also except for single Wind Turbines less than 70 feet in Turbine Height addressed in section 2803(A), shall be subject to the Special Use Permit and Site Plan provisions of this Zoning Ordinance and shall also comply with the following standards:

A. The application shall contain the following:

1. The project location (including the legal description of the property where the proposed Wind Turbine will be located and the tax identification number of the property where the proposed Wind Turbine will be located),

the approximate generating capacity of the Wind Turbine, the height of the Turbine to be constructed, and a description of ancillary facilities.

2. An affidavit or similar evidence of agreement between all property owners in the development demonstrating that the applicant has the permission of all property owners to apply for necessary permits for construction and operation of the Wind Turbine.

3. A site plan showing the planned location of the Wind Turbine and ancillary equipment, property lines, and setback line.

4. Documents related to decommissioning.

5. Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Township of Whitehall to ensure compliance with this Article.

6. Documented annual wind resources sufficient for the operation of the proposed Wind Turbines generator; provided, however, this standard shall not apply to an anemometer tower.

B. No Wind Turbine subject to this section 2806 shall be approved without submission of a wind resource study documenting wind resources on the site over a minimum of two years. Said study shall indicate the long-term commercial economic viability of the project. Anemometers to be placed shall be calibrated regularly to ensure a measurement of error of 1% or less. All anemometers shall be placed at the expected hub height of the Wind Turbine to be used. Sufficient wind resources, as described by the U.S. Department of Energy, include areas with a wind power class 4 or higher. The Township may retain the services of an independent, recognized expert to review the results of the wind resource study prior to acting on the application for special use permit. This review shall be at the expense of the applicant.

C. Such proposed Wind Turbine or anemometer tower shall be set back from any adjoining lot line a distance equal to the overall height of the tower.

D. Within thirty (30) days after receipt of a permit application, the Township of Whitehall shall determine whether the application is complete and advise the applicant accordingly.

E. Within sixty (60) days of a completeness determination, the Whitehall Township Planning Commission shall schedule a public hearing.

F. Within one hundred and twenty (120) days of a completeness determination, or within forty-five (45) days after the close of any hearing, whichever is later, the Township of Whitehall shall make a decision whether to issue or deny the permit application. Approval of said Wind Turbine would be in lieu of future, individual Wind Turbines on individual parcels within the development.

2807 WIND TURBINE DESIGN AND INSTALLATION

All Wind Turbines shall comply with the following:

A. The Building Code currently adopted by the Township. Building permits for all Wind Turbines must be issued to a licensed contractor and applications shall be accompanied by standard drawings of the Wind Turbine structure, including the tower, base, and footing. An engineering analysis of the tower showing compliance with the currently adopted Building Code and certified by a licensed professional engineer shall also be submitted.

B. All Wind Turbines shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls (including variable pitch, tip, and other similar 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 overspeed protection.

C. All electrical components of the Wind Turbine shall conform to relevant and applicable local, state and national codes, and relevant and applicable international standards.

D. Visual Appearance; Power Lines

1. Wind Turbines shall be monopole, monolithic tube or lattice style construction, and a non-obtrusive color such as white, off-white or gray.

2. Wind Turbines shall not be artificially lighted, except to the extent required by the Federal Aviation Administration or other applicable authority that regulates air safety.

3. Wind Turbines shall not display advertising, except for one (1) sign no greater than two (2) square feet identifying the Turbine manufacturer,

and one (1) sign no greater than two (2) square feet providing the owner's name, address and telephone number for emergency calls. Both signs must be located on the lowest 10 feet of the structure.

4. On-site transmission and power lines between Wind Turbines shall, to the maximum extent practicable, be placed underground.

E. Warnings

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

2. 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 feet from the ground.

F. Climb Prevention/Locks

1. Wind Turbines shall not be climbable up to fifteen (15) feet above ground surface.

2. All access doors to Wind Turbines and electrical equipment shall be locked to prevent entry by non-authorized persons.

G. In addition to the above, any application for Wind Turbines and/or Wind Energy Facilities shall be accompanied with a survey by a licensed surveyor. Said survey shall show locations and heights of all adjacent buildings, structures and above ground utilities located within 300 feet of the base of the Wind Turbine.

H. A site plan shall also accompany any application for Wind Turbines and/or Wind Energy Facilities. Said site plan shall show existing and proposed setbacks for the Wind Turbine from all structures located on the property where the Wind Turbine will be located. The site plan shall depict the setback of the Wind Turbine from any building and/or structure within 600 feet of the base of the Wind Turbine, regardless of whether or not the building is on the same property as the proposed Wind Turbine.

2808 WIND TURBINE HEIGHT

Wind Turbines shall comply with the following Turbine Height requirements:

A. Maximum Turbine Height for a single Wind Turbine not constructed as part of a Wind Energy Facility shall be limited to 70 feet.

B. Maximum Turbine Height for Turbines located in the Wind Energy Facility Overlay district shall be limited to 200 feet.

2809 SETBACKS

Setbacks of all Wind Turbines shall be as follows:

A. Wind Turbines shall be set back from the nearest Occupied Building a distance not less than the normal setback requirements for that zoning classification or equal to the Turbine Height, whichever is greater. The setback distance shall be measured from the center of the Wind Turbine base to the nearest point on the foundation of the Occupied Building. Provided further, that Wind Turbines with a Turbine Height of less than 70 feet, may be located not less than 10 feet from an Occupied Building that is located on the same parcel upon which the Wind Turbine is Located. Those Wind Turbines rigidly attached to a building and whose base is on the ground may reduce this required setback by the amount equal to the distance from the point of attachment to the ground.

B. All Wind Turbines shall be set back from the nearest property line a distance of not less than the normal setback requirements for that zoning classification or equal to the Wind Turbine Height, whichever is greater. The setback distance shall be measured to the center of the Wind Turbine base. Those Wind Turbines rigidly attached to a building and whose base is on the ground may reduce this required setback by the amount equal to the distance from the point of attachment to the ground.

C. All Wind Turbines shall be set back from the nearest public road a distance equal to the Turbine Height, as measured from the right-of-way line of the nearest public road to the center of the Wind Turbine base. Those Wind Turbines rigidly attached to a building and whose base is on the ground may reduce this required setback by the amount equal to the distance from the point of attachment to the ground.

2810 NOISE AND SHADOW FLICKER

Noise and shadow flicker compliance shall be as follows:

A. Audible sound from a Wind Turbine or Wind Energy Facility shall not exceed 45 dBA, as measured at the exterior of an Occupied Building on a Non-participating Landowner's property.

B. The Property Owner of a Wind Turbine or Wind Energy Facility Owner and Operator shall make reasonable efforts to minimize shadow flicker to any Occupied Building on a Non-participating Landowner's property.

2811 UTILITY NOTIFICATION

No Wind Turbine shall be installed until evidence has been given that the utility company has been informed of the applicant's intent to install an interconnected generator. Off-grid systems shall be exempt from this requirement.

2812 SIGNAL INTERFERENCE

The Applicant shall make reasonable efforts to avoid any disruption or loss of radio, telephone, television or similar signals, and shall mitigate any harm caused by the Wind Turbine or Wind Energy Facility.

2813 DECOMMISSIONING

In the event that decommissioning is necessary, the following shall apply:

A. The Property Owner, Facility Owner and Operator (if any) shall remain jointly and severally liable for the cost of the complete decommissioning of a Wind Turbine and/or Wind Energy Facility within twelve (12) months after the end of the useful life of the Facility or individual Wind Turbine. The Wind Energy Facility or individual Wind Turbine will presume to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months.

B. Decommissioning shall include removal of Wind Turbines, building, cabling, electrical components, roads, foundations to a depth of 36 inches, and any other associated facilities.

C. Disturbed earth shall be graded and re-seeded.

2814 SEVERABILITY

The provisions of this Article are declared to be severable in the holding of any court of competent jurisdiction that any section hereof is invalid and shall not impair or invalidate any other section.

2815 EFFECTIVE DATE

This Article shall become effective seven (7) days after its adoption.

Introduced: September 22, 2008
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