

ORDINANCE NO. 18-4
Belvidere Township, Montcalm County, Michigan

An Ordinance to amend Ordinance No. 18, as amended, commonly referred to as the 2010 Belvidere Township Zoning Ordinance, to add, delete, and otherwise revise provisions addressing commercial wind energy conversion facilities including definitions of terms and phrases, application requirements, and site development standards.

THE BELVIDERE TOWNSHIP BOARD ORDAINS:

SECTION 1

The 2010 Belvidere Township Zoning Ordinance is amended by the deletion of Section 10.28 and the insertion of the following in its place:

“Section 10.28 Wind Energy Conversion Facility, Commercial

A. Definitions: For the purpose of this Section and Ordinance, the following terms and phrases shall have the following meanings.

1. Ambient Sound Pressure Level: The sound pressure level exceeded 90% of the time prior to the installation of a commercial WECF, which may be a result of traffic, machinery, lawnmowers, human activity, and the interaction of wind with the landscape. Ambient sound pressure levels may also be commonly referred to as background noise levels.
2. ANSI: American National Standards Institute.
3. dB(A): Sound pressure level measured in decibels according to the “A” weighted scale defined by ANSI.
4. MET (meteorological) Tower: The structure and equipment used to determine the placement or potential placement of a WECS, containing instrumentation such as anemometers designed to provide wind data.
5. Non-Participating Parcel: A parcel that does not participate in a lease, easement, or other agreement for the purpose of using the parcel for the placement of a MET Tower or commercial WECF.
6. Participating Parcel: A parcel in the township that participates in a lease, easement, or other agreement for the purpose of using the parcel for the placement of a MET Tower or commercial WECF.
7. Shadow Flicker: Alternating changes in light intensity caused by the moving blade of a commercial WECF casting shadows on the ground and stationary objects.
8. WECF: Wind energy conversion facility.
9. Wind Energy Conversion Facility, Commercial (Commercial WECF): An electricity generating facility consisting of one or more wind turbines under common ownership or operation control, and may include substations, cables, wires and other structures and buildings accessory to such facility, whose main purpose is to supply electricity to off-site customers including to an electrical utility provider. A commercial WECF shall be construed as a principal use of the parcel on which it is located.
10. Wind Turbine: A device that converts wind energy into electricity through the use of a generator, and includes the base, blade, foundation, generator, nacelle, rotor, support tower, transformer, and turbine.

B. Compliance with Table 3-4: See Table 3-4 for standards pertaining to minimum lot area, width, frontage, and yard setbacks, and maximum building height and lot coverage, except as follows:

1. The minimum lot area shall be as necessary to meet required setbacks and any other standards of this Ordinance, but in no case shall the lot be less than ten (10) acres.

C. Additional Standards:

1. Height: The permitted maximum total wind turbine height shall be five hundred fifty (550) feet as measured from the ground level at the base of the tower to the uppermost vertical extension of any blade. The permitted maximum total test tower height shall be 300 feet. All heights shall comply with the requirements of the Federal Aviation Authority and county, state and federal regulations including the Michigan Tall Structures Act and Airport Zoning Act.
2. Setbacks and Separation Distances: No part of a commercial WECF or MET tower (including guy wire anchors associated with a test tower) shall be located within or above any required front, side, or rear

- yard setback according to Table 3-4. No wind turbine shall be located closer to another wind turbine than the minimum separation distance recommended by the manufacturer or the wind energy industry as may be published from time to time, whichever is less. In addition, all wind turbines shall comply with the following setbacks. References to turbine height shall be as measured from the ground level at the base of the supporting tower to the uppermost vertical extension of any blade.
- a. The minimum setback from a road right-of-way shall be equal to 1.1 times the turbine height.
 - b. The minimum setback from a nonparticipating parcel's lot line shall be equal to four (4) times the turbine height.
 - c. A minimum setback of two thousand (2,000) feet shall be maintained from the following, as measured horizontally from the nearest extending wind turbine blade to the designated feature:
 - 1) The shoreline of water courses that have a continuous flow of water throughout the year and are at least ten (10) feet in surface width at the location of the setback measurement.
 - 2) Any wetland identified on the U.S. Fish & Wildlife Service's National Wetland Inventory or other state-produced wetland inventory, which is greater than twenty (20) acres in area.
 - 3) A lake, pond or similar water body that has a water surface area greater than twenty (20) acres in area.
3. Unloading and Storage Setbacks: Areas devoted to the unloading and storage of materials and equipment to be used during commercial WECF construction shall be set back from property lines a minimum distance of one hundred (100) feet.
 4. Rotor Blade Clearance: No rotor/blade shall approach closer than seventy-five (75) feet to any ground surface, structure or tree on the same parcel.
 5. Safety Measures:
 - a. All access doors to turbine towers and electrical equipment shall be lockable, and no climbing device shall be made part of a wind turbine except within the interior of the tower from such lockable door or where not located within twelve (12) feet of the ground when placed on the exterior of the tower. In addition, a fence of a minimum ten (10) foot height shall be erected at the base of each turbine that fully encloses the tower base and includes "danger" signage in both English and Spanish.
 - b. All electrical equipment shall include applicable warning signs.
 - c. All electrical wiring shall comply with all applicable safety and stray voltage standards including any connections to an off-site electrical network.
 - d. All electrical distribution lines from the commercial WECF to an off-site electrical network shall be located and maintained underground on the property where the commercial WECF will be located.
 - e. A commercial WECF shall include a system to prevent uncontrolled rotation at excess wind speeds unless the manufacturer certifies that such a system is not necessary.
 - f. All waste products during construction and during commercial WECF operations, including lubricants and cooling fluids, shall be collected, stored, and disposed in a safe manner and in compliance with township, county, state and federal rules and regulations.
 - g. Signage shall be located at the base of each tower that provides appropriate danger warnings and emergency contact information.
 6. MET Tower Setback: A MET tower shall be set back from lot lines a minimum distance equal to 1.1 times the height of the tower and shall be removed within three (3) years of erection.
 7. Shadow Flicker: A commercial WECF shall be sited in such a manner to minimize shadow flicker from the blades on any public road and prohibit shadow flicker on any portion of a non-participating parcel at the time the application is considered.
 8. Electrical and Building Codes: All commercial WECFs and MET towers shall comply with the electrical and building codes of the Township and all other regulations and requirements of county, state and federal agencies including those of the Federal Aviation Authority, the Michigan Public Service Commission, National Electric Safety Code, and any other agency of the state or federal government with the authority to regulate wind turbine generators or other tall structures in effect at the time the permit is approved. A commercial WECF shall meet the manufacture's specifications for erection and anchoring the wind turbine including foundation specifications, and shall exceed such specifications where local, state, or federal regulations require so.
 9. Noise Levels: No commercial WECF shall produce noise levels that exceed fifty-five (55)- decibels on the dB(A) scale, measured along the property lines of the parcel on which the commercial WECF is located, and no commercial WECF shall produce noise levels that exceed forty-five (45) decibels on the dB(A) scale measured at the exterior of a dwelling on a nonparticipating parcel. This sound pressure level shall not be exceeded for more than three (3) minutes in any hour of the day. If the ambient sound pressure level exceeds 55 d(B)(A), the standard shall be the ambient dB(A) plus 5 dB(A). Within sixty (60) days of the operation of a commercial WECF, the applicant shall submit sound pressure level

measurements recorded by a third party who is a qualified professional, according to the procedures in the most current version of American National Standardization Institute S12.18. All sound pressure levels shall be measured with a sound meter that meets or exceeds the most current version of American National Standardization Institute S1.4 specifications for a Type II sound meter.

- a. Proof of compliance with audible sound standards shall be submitted to the Township for review within one hundred-eighty (180) days of the date the commercial WECF project becomes operational. Sound shall be measured by a third-party, qualified sound professional. The analysis shall be completed by the applicant from a sample of locations along the perimeter of the participating parcels to demonstrate compliance with the requirements of this Section.
10. Appearance
 - a. Wind turbines shall be mounted on tubular towers and shall be of such color and finish to minimize visual intrusion and improve compatibility with surrounding conditions, subject to any applicable standards of the Federal Aviation Authority. Any additional buildings or structures shall, to the extent reasonably practical, use materials, colors, textures, screening, and landscaping to enhance the compatibility of the facility with surrounding conditions.
 - b. No commercial WECFs shall be artificially lighted, except to the extent required by the Federal Aviation Authority or other applicable authority, or otherwise necessary for the reasonable safety and security thereof. Strobe lights, as may be required by the Federal Aviation Authority, shall be shielded from the ground. Lighting shall be radar-activated if permitted by the Federal Aviation Authority.
 - c. No wind turbines shall be used for displaying any advertising except that each wind turbine shall have one (1) or more signs of no greater than four (4) square feet each that shall provide operational information including, but not necessarily limited to, a warning of high voltage and a specification of the manufacturer's name, company/utility operator, and emergency number(s).
 11. Communications Interference: No commercial WECF shall be installed in any location where its proximity to existing fixed broadcast, retransmission, or reception antennae for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception unless the applicant provides a replacement signal to the affected party that will restore reception to at least the level present before operation of the WECF. No commercial WECF shall be installed in any location within the line of sight of an existing microwave communications link where operation of the commercial WECF is likely to produce electromagnetic interference in the link's operation unless the interference is insignificant.
 12. Signal Interference: No WECS shall be installed in any location where its proximity to existing fixed broadcast, transmission, or reception antennae for radio, television, or wireless phone or other personal communication systems would produce interference with signal transmission or reception unless the applicant provides a replacement signal to the affected party that will restore reception to at least the level present before operation of the WECS. No WECS shall be installed in any location within the line of sight of an existing microwave communications link where operation of the WECS is likely to produce electromagnetic interference in the link's operation.
 13. Vibrations and Wind: Under no circumstances shall any commercial WECF or MET tower produce vibrations or wind currents humanly perceptible beyond the property boundaries of the parcel on which the WECF or MET tower is located.
 14. Maintenance and Abandonment: A commercial WECF shall be maintained and kept in a safe working condition. The WECF owner shall annually certify in writing to the Township Clerk that all turbines are operating under normal conditions and any non-operational turbines at the time of the annual review report shall be identified along with the anticipated operational date or date of removal. Maintenance tasks for the year shall be documented in the certification. The annual certification shall be submitted no later than the date on which the WECF becomes operational. A WECF turbine that has not been operational for more than twelve (12) months shall be considered abandoned and, at the owner's expense, shall be removed within ninety (90) days of notification by the Zoning Administrator.
 15. Other Regulations: See also Article 5, Signs; Article 6, Access Management and Private Roads; Article 7, Off-Street Parking and Loading; Article 8, Landscaping and Screening; Article 9, Environmental Standards; Article 20, Supplemental Provisions, and other Articles as applicable.

D. Special Authorization and Approval Procedures for Commercial WECF: An application for a commercial WECF shall be accompanied by all information normally required for a special land use application including a site plan according to Article 14, and including the identification of the proposed location of wind turbines, underground and overhead wiring including wiring depths, substations and accessory structures; the location and height of all proposed buildings, structures, electrical lines, towers, guy wires, guy wire anchors, security fencing, and other above-ground features associated with the WECF; and engineering data concerning construction of the turbine towers and bases. In addition to the submittal requirements of Article 14, the following supplemental information shall be provided. Where the application is for a MET tower only, the designated approving body may waive any of the submittal requirements where it determines such information is not necessary in evaluating the application solely for testing purposes based on the character of the site, surrounding conditions, and the nature of the MET tower.

1. Locations and Heights: Locations and height of all buildings, structures, and above-ground utilities located within one thousand (1,000) feet of a participating parcel, and the specific distances to such features from the nearest wind turbine, along with the locations of all existing and proposed overhead and underground electrical transmission or distribution lines shall be shown.
2. Lighting Plan: A lighting plan describing all lighting that will be utilized, including any lighting that may be required by the Federal Aviation Authority. Such plan shall include but shall not be limited to the planned number and location of lights, light color and whether any lights will be flashing.
3. Access Drives: Location of access drives and their dimensions and construction profiles.
4. Security Measures: Planned security measures to prevent unauthorized trespass and access.
5. Facility Operations: Description of facility operations including anticipated regular and unscheduled maintenance, and the manner in which the site will be returned to its original condition upon termination of its use as a commercial WECF.
6. Wind Speeds: Evidence documenting that wind speeds are sufficient to support the viability of the proposed commercial WECF.
7. Transportation Routes and Road Repair: A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary in the county to accommodate construction vehicles, equipment, or other deliveries. Unless waived by the Montcalm County Road Commission, the entity responsible for overseeing the construction of an approved Commercial WECS shall enter into an agreement with the Montcalm County Road Commission for the repair of damages to public roads under the Road Commission's jurisdiction, as a result of construction operations, and such proposed agreement shall be made part of the application. The entity responsible for overseeing the construction of an approved Commercial WECS shall enter into an agreement with Belvidere Township for the repair of damages to private roads as a result of construction operations, and such proposed agreement shall be made part of the application.
8. Shadow Flicker Analysis: The applicant shall conduct an analysis of the alternating changes in light intensity caused by the moving blades of a commercial WECF casting shadows on the ground and stationary objects, commonly referred to as "shadow flicker." The analysis shall identify the locations of shadow flicker that may be caused by the WECF and the expected durations of the flicker at these locations where located on adjacent properties, from sunrise to sunset over the course of the year. The analysis shall identify areas where shadow flicker may affect such properties including persons in structures or on roads, measures that shall be taken to eliminate or mitigate flicker in such circumstances, and the source and basis for such flicker projections.
9. Environmental Impact: The application shall include a report that demonstrates that the proposal shall not have a significant adverse effect on area avian, bat and other wildlife and wildlife habitats including wetlands and nesting, migratory and feeding patterns, and shall identify all proposed mitigation measures to minimize potential impacts. The report shall also address the extent to which the commercial WECF conforms to the "Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines" as prepared by the U.S. Fish and Wildlife Service, as may be updated from time to time. The report shall be a separately bound document prepared by a certified wildlife biologist and the report shall document such certification and pertinent expertise of all persons contributing to the report and the procedures followed for documenting nesting, migratory and feeding patterns.
 - a. The above-referenced report shall include documentation regarding the proposal's compliance with the federal Endangered Species Act of 1973 and the Michigan Natural Resources and Environmental Protection Act (1994 PA 451, MCL 324.101 et seq.), including but not limited to:
 - 1) Part 31 Water Resources Protection (MCL 324.3101 et seq.),
 - 2) Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.),
 - 3) Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.),
 - 4) Part 303 Wetlands (MCL 324.3030 1 et seq.),

- 5) Part 365 Michigan Endangered Species Protection (MCL. 324.36501 et seq.),
10. Sound Pressure Study: The applicant shall submit modeling and analysis that will confirm that the commercial WECF will not exceed the maximum permitted sound pressure levels specified in subsection (C)(9). Modeling and analysis shall conform to International Electrotechnical Commission 61400 and International Organization for Standardization 9613.
 11. Communication Interferences Certification: The applicant shall submit documentation that the commercial WECF shall not produce interference with signal transmission or reception in association with radio, television, or wireless phone or other personal communication systems.
 12. Installation Instructions: A copy of the manufacturer's installation instructions and blueprints shall be provided to the Township. Included as part of or as an attachment to the installation instructions shall be standard drawings of the structural components of the commercial WECF and support structures, including base and footings provided along with engineering data and calculations to demonstrate compliance with the structural design provisions of the Building Code as adopted by the Township. Drawings and engineering calculations shall be certified by a registered engineer licensed in the State of Michigan.
 13. Proof of Liability Insurance: The applicant shall submit proof of liability insurance including the levels of coverage per incident and cumulatively.
 14. Lease Agreements: The applicant shall submit copies of those portions of executed lease agreements for participating parcels that document the landowners granting authority to erect a test tower or establish a commercial WECF.
 15. Performance Guarantee Requirements
 - a. Prior to the issuance of a commercial WECF permit, the applicant shall engage a licensed professional engineer to estimate the total cost of decommissioning the WECF and reclamation efforts to return affected land back to its physical condition prior to commercial WECF construction. The applicant shall pay for the costs of obtaining such estimate. Said estimates shall be submitted to the Township for review.
 - b. Prior to the issuance of a commercial WECF permit, the owner(s) and/or operator of the WECF shall post a performance guarantee, in a form acceptable to the Township, equal to one hundred percent (100%) of the total estimated decommissioning and reclamation costs. Decommissioning and reclamation costs shall be re-evaluated and the value of the bond shall be adjusted accordingly every five (5) years.
 - c. Said performance guarantee shall be posted and maintained with a bonding company licensed in the State of Michigan or Federal or State chartered lending institution chosen by the owner(s) or operators and acceptable to the Township.
 - d. An applicant shall maintain the approved performance guarantee for the duration of the commercial WECF, until decommissioning and removal is complete. The performance guarantee documents shall prohibit the applicant from terminating or withholding renewal of the performance guarantee except upon written approval from the Township Clerk. The termination or non-renewal of a performance guarantee without the Township's approval shall be a violation of this Ordinance and the Township may revoke approval of the WECF, require its removal, and/or exercise any other authority permitted by law.
 - e. The performance guarantee provisions of Section 2.6 shall apply except where otherwise modified by this subsection.
 16. Decommissioning/Reclamation.
A commercial WECF application shall include a decommissioning and reclamation plan that shall address, at a minimum, the anticipated life of the project, the manner in which all structures and equipment shall be disassembled and removed from the participating parcels, and the manner in which the participating parcel shall be returned to its pre-existing state including revegetation. The decommissioning/reclamation plan shall also address the following:
 - a. When a commercial WECF is decommissioned, all items shall be removed from the subject property, including electrical components, structure foundation, or other associated components to a depth not less than ten (10) feet below the ground surface.
 - b. Any material left more than ten (10) feet below the ground surface shall be documented and recorded upon a certified survey and recorded within the County Register of Deeds.
 17. Register of Deeds Filings. No construction shall be initiated for any portion of a Commercial WECF prior to the applicant filing with the Montcalm County Register of Deeds, for each participating parcel, the lease agreements and easements to which the respective participating parcel is subject.
 18. Professional Review Fees: The provisions of Section 2.8 of this Ordinance shall apply except that the Township may require the applicant to replenish the professional review fee account at any time to ensure a sufficient balance. If the Township instructs the applicant to replenish the account and the

applicant fails to do so within fourteen (14) days after receiving notice, then the Township shall not proceed further in processing or deliberating on the application until the Township has received the necessary balance.

- 19. **Complaint Resolution:** A detailed description of the complaint resolution process developed by the applicant to resolve complaints from nearby residents concerning the construction or operation of the WECS. The process shall not preclude the Township from acting on the complaint. During construction the applicant shall maintain and make available to nearby residents a telephone number where the project representative can be reached during normal business hours."

SECTION 2

The 2010 Belvidere Township Zoning Ordinance is amended by the deletion of the phrase and corresponding definition for "*Wind energy conversion facility, Commercial (Commercial WECF)*" in Article 21 and the insertion of the following in its place:

"Wind energy conversion facility, Commercial (Commercial WECF): See Section 10.28 regarding terms and definitions pertaining to commercial wind energy conversion facilities."

SECTION 3

The 2010 Belvidere Township Zoning Ordinance is amended by the deletion of the following phrases and corresponding definitions in Article 21: "*Wind energy conversion testing facility,*" "*Wind turbine,*" and "*Wind turbine height/test tower height.*"

SECTION 4

The remaining provisions of Ordinance No. 18 and all amendments thereto are hereby ratified and reaffirmed.

SECTION 5

In the event that any provision of this amending ordinance is held to be unconstitutional or void for any reason by a court of competent jurisdiction, that provision shall be struck from the amendment and severed and the remaining provisions shall be enforced according to their terms and provisions.

SECTION 6

This amendment ordinance shall be effective seven (7) days after adoption and publication as provided by law.

CLERK'S CERTIFICATION

I, Sheila Smith, the duly appointed, qualified and acting Clerk of the Township of Belvidere, Montcalm County, Michigan, hereby certify that the foregoing Belvidere Township Zoning Ordinance No. 18-4, an ordinance to amend the 2010 Belvidere Township Zoning Ordinance, Ordinance No. 18, was adopted at a regular meeting of the Township Board on the 13th day of April, 2022. I further certify that

_____ moved the adoption of the ordinance, supported by _____,

and that the vote on the said proposed ordinance was:

Yeas: _____ Nays: _____

Sheila Smith, Belvidere Township Clerk

Date