

**TOWNSHIP OF WATERTOWN  
ZONING ORDINANCE AMENDMENT  
WIND ENERGY TURBINES  
Ordinance Number 2019-1**

An ordinance to establish requirements to obtain an appropriate balance between the need for clean, renewable energy resources and the need to protect the public health, safety, character and welfare of the community.

**THE TOWNSHIP OF WATERTOWN ORDAINS:  
WIND ENERGY TURBINES**

A. **APPLICABILITY.** This Ordinance applies to all Wind Energy Turbines (WETs) proposed for construction after the effective date of this Amendment. Any physical modification to an existing WET that materially alters the size, type, equipment or location shall require approval under the standards of this Ordinance.

B. **GENERAL REQUIREMENTS.**

1. No WETs shall be located on any property in such a manner as to interfere with the safe takeoff, approach and landing of aircraft at any publicly or non-publicly owned airport as defined by the Michigan Airport Zoning Act, as amended.
2. The WET installation must minimize the adverse impacts of technological obsolescence of such equipment.
3. All WETs, except Small Structure Mounted Wind Energy Turbine (SSM-WETs) shall be mounted on a tubular tower.
4. All WETs, including accessory buildings and related structures, shall be a non-reflective, non-obtrusive color, such as white or gray. No striping or advertisement shall be visible on the blades, nacelle or tower.
5. The appearance of the WET and all accessory structures shall be maintained throughout the life of the unit.
6. Exterior lighting of a tower, rotor blades and nacelle shall only be allowed in order to meet FAA requirements.
7. Exterior lighting of accessory buildings or entrance points shall be permitted, provided that such exterior lighting fixtures shall be full cutoff "shoe box" fixtures. These fixtures shall not be mounted on poles or other structures that exceed a total height of twenty (20) feet, as measured from the grade at the base of the fixture.
8. WETs shall not contain commercial signage, banners, flags or advertising logos, except for the identification of the turbine manufacturer and unit specifications for regulatory purposes.

C. TEMPORARY USES. Anemometers are permitted in all zoning districts as a temporary use, subject to the provisions of this Section.

1. The construction, installation or modification of an anemometer shall require a building permit.
2. Anemometers shall conform to all applicable local, state and federal safety, construction, environmental, electrical, communications and FAA requirements.
3. Anemometers shall be subject to the requirements of this Section for height; setbacks, separation, location, safety and decommissioning that correspond to the size of the WET(s) proposed on the site.
4. An anemometer shall be permitted on a site for no more than thirteen (13) months for a SSM-WET, STM-WET or M-WET.
5. An anemometer shall be permitted on a site for no more than three (3) years for an L-WET.

D. PERMITTED USES. Small Structure Mounted Wind Energy Turbines (SSM-WET) and Small Tower Mounted Wind Energy Turbines (STM-WET) shall be considered a permitted use in all zoning districts subject to the following:

1. SSM-WETs and STM-WETs must receive a building permit prior to construction, installation, relocation or modification. The WET Owner/Applicant or Operator must apply for and receive the building permit.
2. Ground Clearance: The lowest extension of any rotor blade or other exposed moving component of an SSM-WET or STM-WET shall be at least twenty (20) feet above the ground, as measured from the highest point of grade within thirty (30) feet of the base of the WET. In addition, the lowest extension of any rotor blade or other exposed moving component of an SSM-WET or STM-WET shall be at least twenty (20) feet above any outdoor areas intended for human use that are located below the WET. Examples include balconies, roof gardens, etc.
3. Noise Control:
  - i. Noise produced by an SSM-WET or STM-WET shall not, at any time, exceed the lowest ambient sound level that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a residential use.
  - ii. Noise produced by an SSM-WET or STM-WET shall not, at any time, exceed the lowest ambient sound level plus 5 Decibels dB(A) that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a commercial, office, civic, public, agricultural or industrial use.
4. Vibration: An SSM-WET or STM-WET shall not produce vibrations that are perceptible to humans beyond any property line upon which a WET is located.
5. Wire Supports: Guy wires or similar apparatus shall not be allowed as part of an SSM-WET or STM-

WET installation.

6. All STM-WET shall be of monopole construction.

7. SSM-WET Height: The height of an SSM-WET shall not exceed twenty (20) feet, as measured from the highest point of the adjacent roof or structure, excluding chimneys, antennae or other similar features.

8. SSM-WET Setbacks:

i. An SSM-WET shall be setback a minimum of 100% of the height above the structure that the SSM-WET is mounted on, or twenty five (25) feet, whichever is greater from any property line, public right-of-way, public easement or overhead utility lines.

ii. If the SSM-WET is affixed by any extension to a structure's walls, roof or other elevated surface then the setback from property lines, public rights- of-way, public easements or overhead utility lines shall be measured from the furthest outward extension of moving WET components.

iii. An SSM-WET shall not be affixed to a wall on the side of a structure that directly faces a public street.

9. SSM-WET Separation Distances: If more than one SSM-WET is installed on a property, then a distance equal to the height of the tallest SSM-WET must be maintained between the base of each SSM-WET.

10. STM-WET Height: The total height of a STM-WET shall not exceed one hundred (100) feet. Total height is defined as the vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

11. STM-WET Setbacks:

i. On a property containing occupied buildings; STM-WETs shall only be located in the rear yard.

ii. An STM-WET shall be setback a minimum of twenty (20) feet from all occupied buildings on the subject property. This setback will be measured from the base of the tower.

iii. A minimum setback equal to one and a half times the total height of the STM-WET shall be required to any property line, public right-of-way, public easement or overhead utility lines. This setback will be measured from the base of the tower. This setback may be reduced if the applicant provides a registered engineer's certification that the WET is designed to collapse, fall, curl or bend within a distance less than the total height of the WET.

iv. The setbacks may be reduced if the applicant provides a registered easement from any adjacent property owners on whose property the STM- WET could encroach.

12. STM-WET Separation Distances: If more than one STM-WET is installed on a property, then a

distance equal to the total height of the tallest STM-WET must be maintained between the base of each STM-WET.

13. Site Plan Review Required: SSM-WETs and STM-WETs shall be required to undergo site plan review by the Planning Commission, subject to the following:

1. Owner/applicants of SSM-WETs and STM-WETs proposed for installation shall provide the following to the Township of Watertown Planning Commission:

i. A completed application for site plan review by the Planning Commission plus any applicable fees and/or escrow deposit approved by the Township Planning Commission;

ii. A scaled site plan drawing that clearly locates the proposed WET(s) and all accessory structures/equipment in relation to all onsite and adjacent property lines, rights-of-way, public easements and overhead utility lines. Setbacks as required in this Section shall be clearly shown to scale on the site plan drawing.

iii. A scaled site plan drawing that clearly displays property dimensions, existing buildings on the subject property and on adjacent properties, sidewalks, non-motorized pathways and streets.

iv. A scaled site plan that includes existing and proposed onsite grading / topography at two-foot contour intervals.

v. Product-specific technical information from the manufacturer of the SSM-WET or STM-WET. This information shall include the proposed height and type of WET, maximum noise output in Decibels, total rated generating capacity, product dimensions, rotor blade diameter and a detail of accessory structures.

vi. Documented compliance with the noise generation requirements set forth in this Section.

vii. Documented compliance with applicable local, state and federal regulations including, but not limited to, public safety, construction, environmental, electrical, communications and FAA requirements.

viii. Proof of liability insurance.

ix. Documented evidence that the utility company has been informed of, and approved, the owner/applicant's intent to install an interconnected, customer-owned generator. Off-grid systems shall be exempt from this requirement.

x. A narrative that explains the proposed methods that will be used to perform maintenance on the WET(s) in compliance with the manufacturer's recommendations and requirements.

14. Safety Requirements:

i. If the SSM-WET or STM-WET is connected to a public utility system for net metering purposes, it shall meet the requirements for interconnection and operation as set forth in the public utility's current service regulations that meet federal, state and industry standards applicable to wind power generation facilities.

Any such connection shall be inspected and approved by the appropriate utility company.

ii. The SSM-WET or STM-WET shall be equipped with an automatic braking, governing or feathering system in order to prevent uncontrolled rotation, over-speeding or excessive pressure on the WET.

lii. A clearly visible warning sign regarding voltage shall be placed at the base of the WET.

iv. The structural integrity of the WET shall conform to the design standards of the International Electrical Commission; specifically IEC 61400-1 "Wind Turbine Safety and Design," IEC 61400-2 "Small Wind Turbine Safety," IEC 61400-22 "Wind Turbine Certification," and IEC 61400-23 "Blade Structural Testing," as amended or succeeded.

15. Signal Interference: The SSM-WET or STM-WET shall not interfere with communication systems, such as, but not limited to, radio, telephone, television, satellite or emergency services communication systems.

16. Decommissioning:

i. The SSM-WET or STM-WET owner/applicant shall complete decommissioning within twelve (12) months after the end of the WETs useful life. The term "end of useful life" is defined as zero electricity generation for a period of twelve (12) consecutive months from a particular WET.

ii. All decommissioning expenses are the responsibility of the owner/applicant.

lii. The Township of Watertown Zoning Administrator may grant an extension of the decommissioning period based upon a reasonable and explanatory request by the owner/applicant. Such extension period shall not exceed one calendar year.

iv. If the SSM-WET or STM-WET owner/applicant fails to complete the act of decommissioning within the period described in this Section, then Watertown Township may designate a contractor to complete the decommissioning. All decommissioning expenses shall be charged to the owner/applicant, successors or assigns. All decommissioning expenses shall become a lien against the premises.

v. Decommissioning shall be defined as the complete removal of the WET, structures, buildings, electrical components and any other accessory facilities.

vi. For STM-WETs, following removal of all items required by this ordinance, the site shall be graded and stabilized to prevent soil erosion in a manner consistent with the post-WET use of the property.

17. Public Noise Complaints:

1. Should an aggrieved person allege that the SSM-WET or STM-WET is not in compliance with the noise requirements of this Section, the administrative enforcement procedure shall be as follows:

i. The complainant shall notify the Township of Watertown Zoning Administrator in writing regarding the noise level.

ii. The Zoning Administrator shall coordinate with the Sheriff Department to test the Decibel level for compliance with the standards of this Section.

iii. If the test results are unsatisfactory, the complainant may request a noise level test by a certified acoustic technician. The complainant will be required to submit a cash deposit in an amount sufficient to pay for the noise level test.

iv. If the noise level test indicates that the noise level complies with the standards of this Section, then the Township will use the deposit to pay for the test.

v. If the noise level test indicates that the WET is in violation of this Section, then the owner/applicant shall reimburse the Township for the noise level test while taking immediate action to bring the WET into compliance with this Section. The Township may require the WET to be shut down until compliance can be achieved

vi. Under circumstances as noted in (vi) above, the Township shall refund the cash deposit to the complainant.

#### E. SPECIAL APPROVAL USES.

1. Medium Wind Energy Turbines (M-WETs) and Large Wind Energy Turbines (L-WETs) shall be allowed in all zoning districts as special land use only after special approval.
2. M-WETs and L-WETs must receive a building permit prior to construction, installation, relocation or modification. The WET Owner/Applicant or Operator must apply for and receive the building permit.
3. An escrow account shall be set up when the applicant applies for a Special Use Permit for a WET or WET testing facility. The monetary amount filed by the applicant with the Township shall be in an amount estimated by the Township Board to cover all reasonable costs and expenses associated with the special use zoning review and approval process, which, costs can include, but are not limited to, fees of the Township Attorney, Township Planner, and Township Engineer, as well as any reports or studies which the Township anticipates it may have done related to the zoning review process for the particular application. Such escrow amount shall include regularly established fees. At any point during the zoning review process, the Township may require that the applicant place additional monies into escrow with the Township should the existing escrow amount filed by the applicant prove insufficient. If the escrow account needs replenishing and the applicant refuses to do so within fourteen (14) days after receiving notice, the zoning review and approval process shall cease until and unless the applicant makes the required escrow deposit. Any escrow amounts, which are in excess of actual costs, shall be returned to the applicant. An itemized billing of all expenses shall be provided to the applicant.
4. At the Township's request, the applicant shall fund an environmental assessment or impact study and/or other relevant report(s) or studies (including, but not limited to, assessing the potential impact on endangered species, eagles, birds, and/or other wildlife) as required by the Township for review. Any study shall be limited to the area within the Township boundaries or areas within an adjacent three (3) miles. Each such study or report shall be provided to the Township prior to the time when the Planning Commission makes its final decision regarding the special use request.
5. At the Township's request, the applicant shall fund an economic impact study for review by the Township of the area affected by the WET system. Such study or report shall be provided to the

Township prior to the time when the Planning Commission makes its final decision regarding the Special Use request. Such a study shall include probable financial impact as to jobs, tax revenue, lease payments and property values.

6. Ground Clearance:

i. M-WET: The lowest extension of any rotor blade or other exposed moving component of an M-WET shall be at least twenty (20) feet above the ground, as measured from the highest point of grade within fifty (50) feet of the base of the tower. In addition, the lowest extension of any rotor blade or other exposed moving component of an M-WET shall be at least twenty (20) feet above any outdoor areas intended for human use that are located below the WET. Examples include balconies, roof gardens, etc.

ii. L-WET: The lowest extension of any rotor blade or other exposed moving component of an L-WET shall be at least fifty (50) feet above the ground, as measured from the highest point of grade within one hundred fifty (150) feet of the base of the tower.

7. Shadow Flicker: The M-WET or L-WET owner/applicant(s) and/or operator(s) shall conduct an analysis of potential shadow flicker onto any occupied building with direct line-of-sight to the M-WET or L-WET. The analysis shall identify the locations of shadow flicker that may be caused by the WET and the expected duration of the flicker at these locations from sunrise to sunset over the course of a year. Analysis shall identify situations where shadow flicker may affect the occupants of the buildings for more than 30 hours per year, and describe measures that shall be taken to eliminate or mitigate the problems. Shadow Flicker on a building shall not exceed thirty (30) hours per year.

8. Noise Control:

i. Noise produced by an M-WET or L-WET shall not, at any time, exceed the lowest ambient sound level that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a residential use.

ii. Noise produced by an M-WET or L-WET shall not, at any time, exceed the lowest ambient sound level plus 5 Decibels dB(A) that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a commercial, office, civic, public, agricultural or industrial use.

iii. Sound requirements may be exceeded if written consent is acquired from all adjacent property owners impacted by the On-Site WET. Such written consent must be submitted to the Township.

9. Vibration: An M-WET or L-WET shall not produce vibrations that are perceptible to humans beyond any property line upon which a WET is located.

10. Wire Supports: Guy wires or similar apparatus shall not be allowed as part of an M- WET or L-WET installation.

11. All M-WET and L-WET shall be of monopole construction.

12. Electrical System: All electrical system components, wiring, grounding wires, or power lines related to the M-WET or L-WET, except necessary wiring from the base of the support structure (tower) to the

turbine, are required to be placed underground within the boundary of each participating parcel at a depth designed to accommodate the existing land use to the maximum extent practical.

13. Quantity of WETs:

i. No more than one (1) M-WET shall be installed for every two and one-half (2.5) acres of land included in the subject parcel.

ii. The number of L-WETs shall be determined based on WET setbacks and separation distances as required in this Section.

14. Total Height:

i. The height of an M-WET shall not exceed one hundred fifty (150) feet. Total height is defined as the vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

ii. The height of an L-WET shall not exceed three hundred seventy five (375) feet. Total height is defined as the vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

15. M-WET Setbacks & Separation:

i. Occupied Building Setback: Each M-WET shall be set back from the nearest occupied building that is located on the same parcel as the M-WET a minimum of two (2) times its Total Height as measured from the base of the tower.

ii. Property Line Setbacks: With the exception of the locations of public roads (see below) and parcels with occupied buildings (see above), all internal property line setbacks shall be equal to the Total Height of the M-WET, as measured from the base of the tower. This setback may be reduced by the Planning Commission as part of a special exception use permit if the applicant provides a registered engineer's certification that the WET is designed to collapse, fall, curl, or bend within a distance or zone shorter than the height of the WET.

iii. Public Road Setbacks: Each M-WET shall be set back from the nearest public road a distance equal to the Total Height of the M-WET, as measured from the nearest boundary of the road right-of-way to the base of the tower.

iv. Communication and Electrical Lines: Each M-WET shall be set back from the nearest above-ground public electric power line or telephone line a distance equal to the Total Height of the M-WET, as measured from the base of the tower to from the existing power line or telephone line.

v. Tower Separation: M-WET separation shall be based on industry standards and the manufacturer's recommendation.

vi. The setbacks may be reduced if the applicant provides a registered easement from any adjacent property owners on whose property the M- WET could encroach.

16. L-WET Setbacks & Separation:

i. Occupied Building Setback: Each L-WET shall be set back from the nearest occupied building that is



located on the same parcel as the L-WET a minimum of two (2) times its Total Height as measured from the base of the tower.

ii. Property Line Setbacks: With the exception of the locations of public roads (see below) and parcels with occupied buildings (see above), all internal property line setbacks shall be a minimum of one and one-half (1.5) times the Total Height of the L-WET, as measured from the base of the tower. This setback may be reduced by the Planning Commission as part of a special exception use permit if the applicant provides a registered engineer's certification that the L-WET is designed to collapse, fall curl, or bend within a distance or zone shorter than the height of the WET.

iii. Public Road Setbacks: Each L-WET shall be set back from the nearest public road a minimum distance of four hundred (400) feet or one and one-half (1.5) times the Total Height of the L-WET, whichever is greater, as measured from the nearest boundary of the road right-of-way to the base of the tower.

iv. Communication and Electrical Lines: Each L-WET shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than four hundred (400) feet or one and one-half (1.5) times its Total Height, whichever is greater, as measured from the base of the tower to from the existing power line or telephone line.

v. Tower Separation: L-WET tower separation shall be based on industry standards and the manufacturer's recommendation.

vi. The setbacks may be reduced if the applicant provides a registered easement from any adjacent property owners on whose property the L- WET could encroach.

17. Access Driveway: Each L-WET shall require the construction of an access road to offer an adequate means by which public safety vehicles may readily access the site in the event of an emergency. All access roads shall be constructed to standards as defined by the Township Engineer, Sanilac County Road Commission and Fire Chief.

18. Signal Interference: The SSM-WET or STM-WET shall not interfere with communication systems, such as, but not limited to, radio, telephone, television, satellite or emergency services communication systems.

19. Site Plan Review Required: M-WET and L-WET projects shall be required to undergo site plan review by the Planning Commission, subject to the following:

i. Owner/applicants of proposed M-WET and L-WET projects shall provide the following to the Township of Watertown Planning Department:

A completed and signed application for site plan review by the Planning Commission plus any applicable fees and/or escrow deposit approved by the Township Commission;

ii. A scaled site plan drawing, sealed by a professional engineer, that includes the following:

1. Contact information for the Owner(s) and Operator(s) of the M- WET or L-WET as well as contact information for all property owners on which the M-WET or L- WET is located.

2. A site location map with identification and location of the properties on which the proposed M-WET or L-WET will be located.
3. The location and dimensions of all proposed WET(s) and all accessory structures/equipment, including security fencing, exterior lighting and power grid connectivity equipment, whether buried or above ground.
4. The location of all onsite and adjacent property lines, rights-of- way, public easements and overhead utility lines.
5. The location and dimension of all setbacks as required in this Section.
6. All property dimensions, zoning districts, existing buildings on the subject property and on adjacent properties, sidewalks, non-motorized pathways, large trees and streets.
7. Existing and proposed onsite grading / topography at two-foot contour intervals.
8. Soil erosion and storm water drainage plans.
9. Plan view and cross sectional details of all proposed access drives.
  - iii. Required Supplemental Site Plan Review Documentation:
    1. A narrative that explains the proposed methods that will be used to perform maintenance on the WET(s) in Compliance with the manufacturer's recommendations and requirements.
2. A copy of the lease, or recorded document, with the landowner(s) if the applicant does not own the land for the proposed M-WET or L-WET.
3. A statement from the landowner(s) of a leased site that he/she will abide by all applicable terms and conditions of the special exception use permit, if approved.
4. In the case of a Condominium Development, a copy of the Condominium Development's Master Deed and Bylaws addressing the legal arrangement for the M-WET or L-WET.
5. The proposed number, representative types and height of each M-WET or L-WET to be constructed; including their manufacturer and model, product specifications including maximum noise output (measured in Decibels), total rated capacity, rotor diameter, and a description of ancillary facilities.
6. Documentation verifying the developer/manufacturer's confirming specifications for M-WET or L-WET tower separation as proposed on the site plan.
7. Documented compliance with the noise, vibration and shadow flicker requirements set forth in this Section.
8. Engineering data concerning construction of the M-WET or L- WET and its base or foundation,

including soil boring information.

9. A certified, registered engineer's certification that certifies the MWET or LWET meets or exceeds the manufacturer's construction and installation standards.

10. The anticipated construction schedule.

11. A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary to accommodate construction vehicles, equipment or other deliveries.

12. An agreement or bond, which guarantees the repair of damage to public roads and other areas caused by construction of the LWET.

13. A copy of the WET maintenance and operation plan, including anticipated regular and scheduled maintenance. Additionally, a description of the procedures that will be used for lowering or removing the M-WET or L-WET to conduct maintenance, if applicable.

14. Documented compliance with applicable local, state and national regulations including, but not limited to, all applicable safety, construction, environmental, electrical, and communications standards.

15. Documented compliance with Federal Aviation Administration (FAA) requirements, the Michigan Airport Zoning Act, the Michigan Tall Structures Act, and any applicable airport overlay zone regulations.

16. Proof of comprehensive liability insurance.

17. A statement indicating what hazardous materials will be used and stored on the site.

18. Evidence that the utility company has been informed of the customer's intent to install an interconnected, customer-owned generator and that such connection has been approved. Off-grid systems shall be exempt from this requirement.

19. A fire prevention and emergency response plan, including: Potential fire and emergency scenarios that may require a response from fire, emergency medical services, police or other emergency responders; Designation of the specific agencies that would respond to potential fire or other emergencies; A description of all emergency response training and equipment needed to respond to a fire or other emergency including an assessment of the training and equipment available to the designated agencies.

20. A written explanation of the design characteristics and the ability of the structure(s) and attendant facilities to withstand winds, ice and other naturally occurring hazards as well as information as to the potential for vibration, shadow flicker, and blade ice deposits on nearby residences. This information shall also address the potential for the windmill to topple over or collapse, and what tower configuration should be expected in such an event.

21. A written description of the anticipated life of each M-WET or L-WET; the estimated cost of

decommissioning; the method of ensuring that funds will be available for decommissioning and site restoration; and removal and restoration procedures and schedules that will be employed if the M-WET(s) or L-WET(s) become inoperative or non-functional.

22. A decommissioning plan that will be carried out at the end of the M-WET's or L-WET's useful life, which shall be submitted as a Participating Landowner Agreement, regarding equipment removal and property restoration upon termination of the lease.

23. As part of the Participating Landowner Agreement, an independent and certified professional engineer shall be retained to estimate the total cost of decommissioning ("Decommissioning Costs") with no regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment.

24. When determining this amount, the Township of Watertown may also require an annual escalator or increase based on the Federal Consumer Price Index (or equivalent or its successor). Said estimates shall be submitted to the Township of Watertown after the first year of operation and every fifth year thereafter.

i. M-WET and L-WET Owner(s) or Operator(s) shall post and maintain Decommissioning Funds in an amount equal to one hundred percent (100%) of Decommissioning Costs. The Decommissioning Funds shall be posted and maintained with a bonding company or Federal or state chartered lending institution chosen by the Owner(s) or Operator(s) and participating landowner(s) posting the financial security. The bonding company or lending institution shall be authorized to conduct such business as approved by Township of Watertown.

ii. Decommissioning Funds shall be in the form of a performance bond made out to the Township of Watertown.

iii. A condition of the bond shall be notification by the bond company to the Township of Watertown when the bond is about to expire or be terminated.

iv. Failure to keep the bond in effect while an M-WET or L- WET is in place will be a violation of the special exception use permit. If a lapse in the bond occurs, the Township of Watertown may take action, up to and including requiring the cessation of operations of the WET until the bond is restored.

25. Other relevant information as may be requested by the Township of Watertown to ensure compliance with the requirements of this Section.

#### 20. Safety Requirements:

i. If the M-WET or L-WET is connected to a public utility system for net- metering purposes, it shall meet the requirements for interconnection and operation as set forth in the public utility's current service regulations that meet federal, state and industry standards applicable to wind power generation facilities. Any such connection shall be inspected and approved by the appropriate utility company.

ii. The M-WET or L-WET shall be equipped with an automatic braking, governing or feathering system in order to prevent uncontrolled rotation, over-speeding or excessive pressure on the WET.

lii. Security measures shall be in place to prevent unauthorized trespass and access. Each M-WET or L-WET shall not be climbable up to fifteen (15) feet above ground surfaces. All access doors to M-WETs or L-WETs and accessory electrical equipment shall be locked and/or fenced as appropriate.

iv. All spent lubricants, cooling fluids, and any other hazardous materials shall be properly and safely removed in a timely manner.

v. Each M-WET or L-WET shall have one sign, not to exceed two (2) square feet in area, posted at the base of the tower and on the security fence if applicable. The sign shall contain at least the following:

1. A warning of high voltage
2. Names of Manufacturer and owner/operator(s)
3. Emergency contact numbers (list more than one number).

vi. The structural integrity of the WET shall conform to the design standards of the International Electrical Commission; specifically IEC 61400-1 "Wind Turbine Safety and Design," IEC 61400-2 "Small Wind Turbine Safety," IEC 61400-22 "Wind Turbine Certification," and IEC 61400-23 "Blade Structural Testing," as amended or succeeded.

#### 21. Decommissioning:

i. The M-WET or L-WET owner/applicant shall complete decommissioning within twelve (12) months after the end of the WETs useful life. The term "end of useful life" is defined as zero electricity generation for a period of twelve (12) consecutive months from a particular WET.

ii. Decommissioning shall include the removal and disposal of each M-WET or L-WET, accessory buildings and structures, electrical components, and all foundations to a minimum depth of sixty (60) inches.

lii. All access drives to the M-WET or L-WET shall be removed, cleared, and graded by the Owner/Applicant(s), unless the property owner(s) requests, in writing, a desire to maintain the access drives. The Township of Watertown will not be assumed to take ownership of any access drive.

iv. The WET site and any disturbed earth shall be stabilized, graded, and cleared of any debris by the owner(s) of the M-WET or L-WET or its assigns. If the site is not to be used for agricultural practices following removal, the site shall be seeded to prevent soil erosion.

v. All decommissioning expenses are the responsibility of the owner/applicant.

vi. The Township of Watertown Planning Commission may grant an extension of the decommissioning period based upon a reasonable and explanatory request by the owner/applicant. Such extension period shall not exceed one calendar year.

vii. The performance bond agent shall release the Decommissioning Funds noted in Subsection 16 (t) of this Ordinance when the Owner(s) has demonstrated Township of in writing, and the Township of Watertown concurs in writing, that decommissioning has been satisfactorily completed.

viii. If the M-WET or L-WET Owner / Applicant fails to complete the act of decommissioning within the period described in this Section, then the following shall occur:

ix. The Township of Watertown shall contact the performance bond holding agent and request a release of the Decommissioning Funds.

x. The Watertown Township Commission shall designate a contractor to complete the decommissioning.

xi. All decommissioning expenses shall be charged to performance bond of the owner/applicant, successors or assigns.

xii. All outstanding decommissioning expenses shall become a lien against the premises.

xiii. The entry into, and submission of, a Participating Landowner Agreement to the Township of Watertown shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors and assigns that the Township of Watertown may take such action as necessary to implement the decommissioning plan.

## 22. Certification & Compliance:

i. The Township of Watertown shall be notified of a change in ownership of an M-WET or L-WET or a change in ownership of the property on which the M-WET or L-WET is located within sixty (60) days of such a transaction.

ii. The Township of Watertown reserves the right to inspect any M-WET or L- WET, in order to ensure compliance with the Ordinance. Any cost associated with the inspections shall be paid by the owner/operator of the WET.

lii. A sound pressure level analysis shall be conducted from a reasonable number of sampled locations at the perimeter and in the interior of the property containing any M-WETs or L-WETs to demonstrate compliance with the requirements of this Ordinance. Proof of compliance with the noise standards is required within ninety (90) days of the date the M-WET or L-WET becomes operational. Sound shall be measured by a third-party, qualified professional, with the associated fees being paid by the Owner/Applicant.

iv. The M-WET or L-WET Owner(s) or Operator(s) shall provide the Township of Watertown with a copy of the yearly WET maintenance inspection.

## 23. Public Noise Complaints:

i. Noise: Should an aggrieved person allege that the M-WET or L-WET is not in compliance with the noise requirements of this Section, the administrative enforcement procedure shall be as follows:

ii. The complainant shall notify the Township of Watertown Zoning Administrator in writing regarding the noise level.

lii. The Zoning Administrator shall coordinate with the Police Department to test the Decibel level for

compliance with the standards of this Section.

iv. If the test results are unsatisfactory, the complainant may request a noise level test by a certified acoustic technician. The complainant will be required to submit a cash deposit in an amount sufficient to pay for the noise level test.

v. If the noise level test indicates that the noise level complies with the standards of this Section, then the Township will use the deposit to pay for the test.

vi. If the noise level test indicates that the WET is in violation of this Section, then the owner/applicant shall reimburse the Township for the noise level test while taking immediate action to bring the WET into compliance with this Section. The Township may require the WET to be shut down until compliance can be achieved.

vii. Under circumstances as noted in (v) above, the Township shall refund the cash deposit to the complainant.

24. Shadow Flicker Complaints: Should an aggrieved person allege that the M-WET or L- WET is not in compliance with the shadow flicker requirements of this Section, the administrative enforcement procedure shall be as follows:

i. The complainant shall notify the Township of Watertown Zoning Administrator in writing regarding the shadow flicker level.

ii. The Zoning Administrator shall examine the shadow flicker complaint on the site.

iii. If the Zoning Administrator finds justifiable cause, the Township of Watertown may authorize a shadow flicker level test by a certified acoustic technician. The complainant will be required to submit a cash deposit in an amount sufficient to pay for the shadow flicker level test.

iv. If the shadow flicker level test indicates that the shadow flicker level complies with the standards of this Section, then the Township will use the deposit to pay for the test.

v. If the shadow flicker level test indicates that the WET is in violation of this Section, then the owner/applicant shall reimburse the Township for the shadow flicker level test while taking immediate action to bring the WET into compliance with this Section. The Township may require the WET to be shut down until compliance can be achieved.

vi. Under circumstances as noted in (v) above, the Township shall refund the cash deposit to the complainant.

#### DEFINITIONS:

Ambient Sound Level: The amount of background noise at a given location prior to the installation of a WET(s) which may include, but is not limited to, traffic, machinery, lawnmowers, general human activity and the interaction of the wind with the landscape. The Ambient Sound Level is measured on the Decibel - dB(A) - weighted scale as defined by the American National Standards Institute (ANSI).

Anemometer: A temporary wind speed indicator constructed for the purpose of analyzing the potential for installing a WET at a given location. An Anemometer includes a tower, base plate, anchors, cables and hardware, wind direction vanes, booms to hold equipment, a data logger, instrument wiring and telemetry devices used to monitor or transmit wind speed and wind flow characteristics over a period of time. Telemetry data can include instantaneous wind speeds or characterizations of a wind resource at a given location.

Decommissioning: The process of terminating the operation of a WET by completely removing the entire WET and all related buildings, structures, foundations, supports, equipment and access roads.

L-WET (Large Wind Energy Turbine): A tower-mounted wind energy system, standing greater than 150 feet tall and up to 375 feet tall, that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) L-WETs have nameplate capacities that identify maximum kilowatts.

M-WET (Medium Wind Energy Turbine): A tower-mounted wind energy system standing between one hundred (100) feet tall and one hundred fifty (150) feet tall and that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) M-WETs have nameplate capacities that do not exceed two hundred and fifty (250) kilowatts.

Nacelle: The encasement that houses the interior electricity generating components, gearbox, drive train, brakes and related equipment of a WET.

Net Metering: A special metering and billing agreement between utility companies and their customers, which facilitates the connection of sustainable energy generating systems to the power grid.

Occupied Building: A residential structure, school, hospital, church, library, commercial or industrial structure or public building that contains residents, customers, workers or visitors.

Operator: The entity responsible for the day-to-day operations and maintenance of a WET.

Owner/Applicant: The person, firm, corporation, company, limited liability corporation or other entity which applies for Township approval under this Ordinance, as well as the applicant's successor(s), assign(s) and/or transferee(s) as to any approved WET or Anemometer. An owner/applicant must have the legal authority to represent and bind the landowner or lessee who will construct, own, and operate the WET or Anemometer. The duties and obligations regarding a zoning approval for any approved WET or Anemometer shall be with the owner/applicant of the WET or Anemometer, and jointly and severally with the owner and operator or lessee of the WET or Anemometer if different than the owner/applicant.

Participating Landowner: Any landowner (s) having entered into an agreement for lease of real property or the granting of easements for access, entry or conveyance of the other real property rights related to the Wind Energy Turbine Farm.

Participating Landowner Agreement: A decommissioning plan regarding equipment removal and property



restoration submitted to the Township of Watertown by the Participating Landowners, which will be carried out at the end of the M-WET's or L-WET's useful life or upon termination of the lease.

Rotor: A blade of a WET that is connected to the rotor hub and nacelle and acts as an airfoil assembly that extracts kinetic energy directly from the wind.

Rotor Diameter: The cross-sectional dimension of the circle swept by the rotating blades of a WET.

Shadow Flicker: The moving shadow created by the sun shining through the rotating blades of a WET. The amount of Shadow Flicker created by a WET is calculated by a computer model that measures WET location, elevation, tree cover, location of adjacent structures, wind activity and sunlight angle.

STM-WET (Small Tower Mounted Wind Energy Turbine): A tower-mounted wind energy system standing up to one hundred (100) feet tall that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) STM-WETs have nameplate capacities that do not exceed thirty (30) kilowatts.

Structure: Anything constructed or erected that requires permanent location on the ground or attachment to something having such a location.

SSM-WET (Small Structure Mounted Wind Energy Turbine): A structure-mounted wind energy system that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) SSM-WETs are attached to a structure's roof, walls or another elevated surface. SSM-WETs have nameplate capacities that do not exceed ten (10) kilowatts. The Total Height of a SSM-WET unit does not exceed fifteen (15) feet as measured from the highest point of the adjacent roof or structure, excluding chimneys, antennae or other similar features.

Survival Wind Speed: The maximum wind speed, as designated by the WET manufacturer, at which a WET in an unattended state is designed to survive without damage to any structural equipment or the loss of the ability to function normally.

Total Height: The vertical distance as measured from the ground level at the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

Tower: A freestanding monopole that supports a Wind Energy Turbine (WET).

Wind Energy Turbine (WET): A structure-mounted or tower-mounted small, medium or large wind energy conversion system that converts wind energy into electricity through the use of specialized equipment and structures.

The undersigned Supervisor and Clerk of the Township of Watertown hereby certify that this Zoning Ordinance Amendment was duly adopted by the Township Board at a meeting held on the Tuesday, October 1, 2019 and was published in the Tribune Recorder Leader on Wednesday, October 9, 2019. This Zoning Ordinance Amendment shall take effect seven (7) days after said date of publication.

Scott Franzel, Township Supervisor

Tammy Ross, Township Clerk