Draft Date
02/11/09

ORDINANCE NO. 356

ZONING TEXT AMENDMENT ORDINANCE

AN ORDINANCE TO AMEND CERTAIN PORTIONS OF THE ZONING ORDINANCE OF ZEELAND CHARTER TOWNSHIP, OTTAWA COUNTY, MICHIGAN (THE "ZONING ORDINANCE"), CONCERNING DEFINITIONS; CONCERNING WIND ENERGY CONVERSION SYSTEMS; CONCERNING LANDSCAPING REQUIREMENTS; CONCERNING WIND ENERGY TURBINES; AND CONCERNING AN EFFECTIVE DATE.

THE CHARTER TOWNSHIP OF ZEELAND, COUNTY OF OTTAWA, AND STATE OF MICHIGAN, ORDAINS:

Section 1. Definition - Wind Energy Conversion System (WECS). Section 2.23 of the Zoning Ordinance shall be amended by eliminating the text of the definition of Wind Energy Conversion System (WECS), but leaving the balance of Section 2.23 as currently stated.

Section 2. Tables of Uses. The Tables of Uses in Section 5.02 of the Zoning Ordinance for the Agricultural District and in Section 6.02 of the Zoning Ordinance for the Residential Districts shall be revised by eliminating references to Wind Energy Conversion Systems but leaving the balance of Section 5.02 and Section 6.02 as currently stated.

Section 3. Landscaping Requirements in General. Section 15.05.B of the Zoning Ordinance shall be restated in its entirety as follows.

B.1. The landscape requirements of this Section are considered the minimum necessary to achieve the intent noted above. In several instances, the standards or requirements are intentionally flexible to encourage adaptability to specific circumstances and creative design. Applicants are encouraged to provide additional landscaping to improve the function, appearance and value of their property.

2. The Planning Commission shall have the authority to approve a landscape/Screening plan, even if it does not meet the maximum requirements of this Section, if the landscape/Screening plan is prepared by a registered landscape design professional, and if the Planning Commission specifically finds that the plan achieves the intent described in Subsection A above.

Section 4. Landscaping Requirements - Tree Replacement. Section 15.05.C.8.b of the Zoning Ordinance shall be restated in its entirety as follows.

c. Should any tree required by this Ordinance to be preserved die, it shall be the responsibility of the owner/developer to replace the dead tree on a tree-per-tree basis; the replacement tree shall be the same type of tree as the dead tree, or a different type approved by the Planning Commission.

Section 5. Landscaping Requirements - Perimeter Plantings. Section 15.05.F.1 of the Zoning Ordinance shall be restated in its entirety as follows.

F.1. Perimeter plantings shall be provided at a rate of one (1) deciduous Canopy, ornamental, or evergreen tree for every ten (10) feet of Street Frontage; five (5) shrubs per forty (40) linear feet of landscape strip area; and ten (10) perennials per forty (40) linear feet of landscape strip area. Plant materials shall be creatively and functionally dispersed around the perimeter of the property. Clustering and staggering of materials is recommended to maintain the rural character of the Township. These perimeter plantings shall not apply in the Industrial District unless the Lot borders another zoning district or a Street.

Section 6. Wind Energy Conversion Systems (WECS) - Special Land Uses. Section 16.06.VV of the Zoning Ordinance, concerning Special Land Use standards for Wind Energy Conversion Systems, shall be eliminated in its entirety and preserved for future use.

Section 7. Wind Energy Turbines. Chapter 16A of the Zoning Ordinance, concerning Wind Energy Turbines, shall be added in its entirety as follows.

CHAPTER 16A
WIND ENERGY TURBINES

SECTION 16A.01 PURPOSE AND INTENT

The purpose of this Chapter is to establish guidelines for siting Wind Energy Turbines (WETs). The goals are as follows:

A. To promote the safe, effective, and efficient use of a WET in order to reduce the consumption of fossil fuels in producing electricity;

B. To preserve and protect public health, safety, welfare, and quality of life by minimizing the potential adverse impacts of a WET; and

C. To establish standards and procedures by which the siting, design, engineering, installation, operation, and maintenance of a WET shall be governed.

SECTION 16A.02 DEFINITIONS

For purposes of this Chapter, the following words and phrases shall be defined as described.

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

ANEMOMETER is a temporary wind speed indicator constructed for the purpose of analyzing the potential for utilizing a WET at a given site. This includes the Tower, base plate, anchors, cables and hardware, wind direction vanes, booms to hold equipment, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location.

CONDOMINIUM DEVELOPMENT is defined as a development that is created under the Condominium Act.

DECIBEL is defined as unit of measure used to express the magnitude of sound pressure and sound intensity. Decibels shall be measured on the dB(A) weighted scale as defined by the American National Standards Institute.

GENERAL COMMON ELEMENT is defined as an area designated for use by all owners within Condominium Development.

LARGE WIND ENERGY TURBINE (LWET) is a Tower-mounted wind energy system that converts wind energy into electricity through the use of equipment which includes any base, blade, foundation, generator, Nacelle, rotor, Tower, transformer, vane, wire, inverter, batteries, or other components used in the system. The LWET has a nameplate capacity that identifies the maximum kilowatts.

MEDIUM WIND ENERGY TURBINE (MWET) is a Tower-mounted wind energy system that converts wind energy into electricity through the use of equipment which includes any base, blade, foundation, generator, Nacelle, rotor, Tower, transformer, vane, wire, inverter, batteries, or other components used in the system. The MWET has a nameplate capacity that does not exceed two hundred fifty (250) kilowatts. The Total Height does not exceed one hundred fifty (150) feet.

NACELLE refers to the encasement which houses all of the generating components, gear box, drive tram, and other equipment.

NET-METERING is a special metering and billing agreement between utility companies and their customers, which facilitates the connection of renewable energy generating systems to the power grid.

OCCUPIED BUILDING is a residence, school, hospital, church, public library, business, or other building used for public gatherings.

OPERATOR is the entity responsible for the day-to-day operation and maintenance of a WET.

OWNER is the individual or entity, including any respective successors and assigns, with an equity interest in or ownership of a WET.

ROTOR DIAMETER is the cross-sectional dimension of the circle swept by the rotating blades of a WET.

SHADOW FLICKER is 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 takes into consideration turbine location, elevation, tree cover, location of all Structures, wind activity, and sunlight.

SMALL STRUCTURE-MOUNTED WIND ENERGY TURBINE (SSMWET) converts wind energy into electricity through the use of equipment which includes any base, blade, foundation, generator, Nacelle, rotor, Tower, transformer, vane, wire, inverter, batteries, or other components used in the system. A SSMWET is attached to a Structure's roof, walls, or other elevated surface. The SSMWET has a nameplate capacity that does not exceed ten (10) kilowatts. The Total Height does not exceed fifteen (15) feet as measured from the highest point of the Structure, excluding chimneys, antennae, and other similar protuberances.

SMALL TOWER-MOUNTED WIND ENERGY TURBINE (STMWET) is a Tower-mounted wind energy system that converts wind energy into electricity through the use of equipment which includes any base, blade, foundation, generator, Nacelle, rotor, Tower, transformer, vane, wire, inverter, batteries, or other components used in the system. The STMWET has a nameplate capacity that does not exceed thirty (30) kilowatts. The Total Height does not exceed one hundred twenty (120) feet.

STRUCTURE is any building or other fixture, such as a municipal watertower, that is a minimum of twelve (12) feet high at its highest point and is secured to frost-footings or a concrete slab.

TOTAL HEIGHT is the vertical distance measured from the ground level at the base of the Tower to the uppermost vertical extension of any blade, or the maximum height reached by any part of the WET.

TOWER is a freestanding monopole that supports a WET.

WIND ENERGY OVERLAY DISTRICT is a district created by the Township Board, upon receiving a recommendation from the Planning Commission, which includes specific areas within the Township best situated for development of an LWET.

WIND ENERGY TURBINE (WET) is any Structure-mounted, small, medium, or large wind energy conversion system that converts wind energy into electricity through the use of a wind generator and includes the Nacelle, rotor, Tower, and pad transformer, if any.

SECTION 16A.03 APPLICABILITY

A. This Chapter applies to all WETs proposed to be constructed after the effective date of this Chapter.

B. All WETs constructed prior to the effective date of this Chapter shall not be required to meet the requirements of this Chapter. However, any physical modification to an existing WET that materially alters the size, type, equipment or location shall require a permit under this Ordinance, in compliance with the standards of this Chapter.

SECTION 16A.04 ANEMOMETERS

Anemometers are permitted in all zoning districts established by this Ordinance as a temporary use, in compliance with the provisions contained in this Section, and the applicable WET regulations.

A. The construction, installation, or modification of an Anemometer Tower shall require a building permit and shall conform to all applicable local, state, and federal applicable safety, construction, environmental, electrical, communications, and Federal Aviation Administration ("FAA") requirements.

B. An Anemometer shall be subject to the minimum requirements for height, setback, separation, location, safety requirements, and decommissioning that correspond to the size of the WET that is proposed to be constructed on the site.

C. An Anemometer shall be permitted for no more than thirteen (13) months for a SSMWET, STMWET, or MWET, and no more than three (3) years for an LWET.

SECTION 16A.05 PERMITTED USES

SSMWETs and STMWETs are Permitted Uses in all Zoning Districts established by this Ordinance and shall not be erected, constructed, installed, or modified as provided in this Chapter unless a building permit has been issued to the Owner or Operator.

All SSMWETs and STMWETs are subject to the following minimum requirements.

A. Siting and Design Requirements

1. Visual Appearance.

   a. A SSMWET or STMWET, including accessory buildings and related Structures, shall be a non-reflective, non-obtrusive color (e.g., white, gray, black). The appearance of the turbine, Tower, and any ancillary facility shall be maintained throughout the life of the SSMWET or STMWET.

   b. A SSMWET or STMWET shall not be artificially lighted, except to the extent required by the FAA or other applicable authority, or otherwise necessary for reasonable safety and security.

   c. A SSMWET or STMWET shall not be used for displaying any advertising (including flags, streamers, or decorative items), except for identification of the turbine manufacturer).

2. Ground Clearance. The lowest extension of any blade or other exposed moving component of a SSMWET or STMWET shall be at least fifteen (15) feet above the ground (at the highest point of the natural grade within thirty [30] feet of the base of the Tower) and, in addition, at least fifteen (15) feet above any outdoor surfaces intended for human use, such as balconies or roof gardens, that are located directly below the SSMWET or STMWET.

3. Noise. Noise emanating from the operation of a SSMWET or STMWET shall not increase the Ambient Sound Level at any Lot Line of a residential or agricultural use Lot or from the Lot Line of parks, schools, hospitals, and churches. Noise emanating from the operation of a SSMWET or STMWET shall not increase the Ambient Sound Level by more than five (5) dB(A) at any Lot Line of a non-residential or non-agricultural use Lot.

4. Vibration. Vibrations shall not be produced which are humanly perceptible beyond the Lot on which a SSMWET or STMWET is located.

5. Guy Wires. Guy wires shall not be permitted as part of a SSMWET or STMWET.

6. SSMWET. These additional requirements apply to SSMWETs only.

   a. Height. The Total Height of a SSMWET shall not exceed fifteen (15) feet as measured from the highest point of a Structure, excluding chimneys, antennae, and other similar protuberances.

b. Setback. The Setback of a SSMWET shall be a minimum of fifteen (15) feet from the Lot Line, public right-of-way, public easement, or overhead utility lines. The setback shall be measured from the furthest outward extension of all moving parts.

c. Location. The SSMWET shall not be affixed to the wall on the side of a Structure facing a Street.

d. Quantity. No more than three (3) SSMWETs shall be installed on any Lot.

e. Separation. If more than one (1) SSMWET is installed on a Lot, a distance equal to the height of the highest SSMWET must be maintained between the base of each SSMWET.

7. STMWET. These additional requirements apply to STMWETs only.

a. Height. The Total Height of a STMWET shall not exceed one hundred (100) feet.

b. Location. The STMWET shall only be located in a Rear Yard of a Lot that has an Occupied Building.

c. Occupied Building Setback. The Setback from all Occupied Buildings on the Lot where the STMWET is located shall be a minimum of twenty (20) feet measured from the base of the Tower.

d. Other Setbacks. The Setback shall be equal to the Total Height of the STMWET, as measured from the base of the Tower, from the Lot Line, public right-of-way, public easement, or overhead public utility lines. 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 or zone shorter than the Total Height of the WET.

e. Quantity. No more than one (1) STMWET shall be installed on any Lot.

f. Electrical System. All electrical controls, control wiring, grounding wires, power lines, and system components of a STMWET shall be placed underground within the boundary of the Lot where the STMWET is located, at a depth designed to accommodate the existing land use to the maximum extent practicable. Wires necessary to connect the WET to the Tower wiring are exempt from this requirement.

B. Permit Application Requirements

1. The name of the Lot owner, the address of the Lot and of the Owner, and the Lot's parcel number are required.

2. A site plan is required, with maps (drawn to scale) showing the proposed location of all components and ancillary equipment of the SSMWET or STMWET, Lot Lines, physical dimensions of the Lot, existing Buildings, Setback lines, right-of-way lines, public or private easements, overhead utility lines, sidewalks, non-motorized pathways, Streets and contours. The site plan must also include adjoining properties as well as the location and use of all Structures.

3. The type and Total Height of the proposed SSMWET or STMWET shall be included, with the manufacturer and model, product specifications including maximum noise output (measured in Decibels), total rated generating capacity, dimensions, Rotor Diameter, and a description of ancillary facilities.

4. Documented compliance with the noise requirements of this Chapter shall be included.

5. Documented compliance with applicable Township, County, state and federal regulations shall be included, including at least , all applicable safety, construction, environmental, electrical, communication, and FAA requirements.

6. Proof of the applicant's liability insurance shall be included.

7. Evidence shall be included to show the utility company has been informed of any intent to install an interconnected, customer-owned generator and any approval of that connection. Off-grid systems shall be exempt from this requirement.

8. Other relevant information as may be reasonably requested by the Township shall be included.

9. Signature of the applicant shall be included.

10. An application for a SSMWET shall also include the total proposed number of SSMWETs.

11. An application for a STMWET shall also include a description of the methods that will be used to perform maintenance on the STMWET and the procedures for lowering or removing the STMWET in order to conduct maintenance.

C. Safety Requirements

1. If the SSMWET or STMWET 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 then-current service regulations meeting federal, state, and industry standards applicable to wind power generation facilities. The connection shall be inspected by the appropriate public utility.

2. The SSMWET or STMWET shall be equipped with an automatic braking, governing or feathering system to prevent uncontrolled rotation, over-speeding, and excessive pressure on the Tower, rotor blades and other wind energy components, unless the manufacturer certifies that a braking system is not necessary.

3. A clearly visible warning sign regarding voltage shall be placed at the base of the SSMWET or STMWET.

4. The structural integrity of the SSMWET or STMWET shall conform to the design standards of the International Electrical Commission, specifically IEC 61400-1, "Wind Turbine Safety and Design" or IEC 61400-2, "Small Wind Turbine Safety," IEC 61400-22, "Wind Turbine Certification," and IEC 61400-23, "Blade Structural Testing," or any similar successor standards.

D. Signal Interference. The SSMWET or STMWET shall not interfere with communication systems such as, but not limited to, radio, telephone, television, satellite, or emergency communication systems.

E. Decommissioning

1. The SSMWET or STMWET Owner or Operator shall complete decommissioning within twelve (12) months after the end of the useful life. Upon request of the Owner or Operator of the SSMWET or STMWET, and for a good cause, the Township Board may grant a reasonable extension of time. The SSMWET or STMWET will be presumed to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months. All decommissioning expenses are the responsibility of the Owner or Operator.

2. If the SSMWET or STMWET Owner or Operator fails to complete decommissioning within the period prescribed above, the Township Board may designate a contractor to complete decommissioning with the expense to be charged to the violator or become a lien against the premises. If the SSMWET or STMWET is not owned by the Lot owner, a bond must be provided to the Township Board for the cost of decommissioning each SSMWET or STMWET on the property.

3. The following additional requirements apply to a STMWET only.

a. Decommissioning shall include the removal of each STMWET and any associated Buildings, electrical components, and other associated facilities. Any foundation shall be removed to a minimum depth of sixty (60) inches below grade, or to the level of the bedrock if less than sixty (60) inches below grade.

b. The site and any disturbed earth shall be stabilized, graded, and cleared of any debris by the Owner of the STMWET. If the site is not to be used for agricultural practices following removal, the site shall be seeded to prevent soil erosion, unless the Lot owner requests in writing that the land surface areas not be restored.

F. Public Inquiries and Complaints About Noise

If an aggrieved property owner alleges that the SSMWET or STMWET is not in compliance with the noise requirements of this Chapter, the procedure shall be as follows.

1. Notify the Township in writing regarding concerns about noise level.

2. If the complaint is deemed sufficient by the Township to warrant an investigation, the Township will request the aggrieved property owner deposit funds in an amount sufficient to pay for a noise level test conducted by a certified acoustic technician to determine compliance with the requirements of this Chapter.

3. If the test indicates that the noise level is within the noise requirements of this Chapter, the Township will use the deposit to pay for the test.

4. If the SSMWET or STMWET is in violation of the noise requirements of this Chapter, the Owner shall reimburse the Township for the noise level test and take immediate action to bring the SSMWET or STMWET into compliance, which may include ceasing operation until the violations of this Chapter are corrected. The Township will refund the deposit to the aggrieved property owner upon the Township's receipt of the reimbursement from the Owner.

SECTION 16A.06 SPECIAL LAND USES

A. An MWET is allowed only in the Agricultural, General Commercial, Industrial and Planned Unit Development Districts, as well as in Condominium Developments approved after the effective date of this Chapter, subject to all of the standards and procedures established by Chapter 16 of this Ordinance.

B. An LWET is allowed only in the Wind Energy Overlay District.

C. All MWETs and LWETs shall comply with the following requirements.

1. The design of an MWET or LWET shall conform to all applicable industry standards.

2. Visual Appearance.

   a. Each MWET or LWET, including Accessory Buildings and other related Structures, shall be mounted on a tubular Tower and shall use a non-reflective, non-obtrusive color (e.g., white, gray, black). The appearance of turbines, Towers and Buildings shall be maintained throughout the life of the MWET or LWET.

   b. No MWET or LWET may be artificially lighted, except to the extent required by the FAA or other applicable authority, or otherwise necessary for reasonable safety and security.

   c. Each MWET or LWET shall not be used for displaying any advertising (including flags, streamers, or decorative items), except for reasonable identification of the turbine manufacturer or Operator.

3. Vibration. No MWET or LWET may produce vibrations humanly perceptible beyond the property on which it is located.

4. Shadow Flicker. The MWET or LWET Owner or Operator shall conduct an analysis on potential Shadow Flicker at any Occupied Building with direct line-of-sight to the MWET or LWET. The analysis shall identify the locations of Shadow Flicker that may be caused by the MWET or LWET and the expected durations of the Shadow Flicker at these locations from sunrise to sunset over the course of a year. The analysis shall identify problem areas where Shadow Flicker may affect the Occupied Buildings and describe measures that shall be taken to eliminate or mitigate the problems. Shadow Flicker on an Occupied Building shall not exceed thirty (30) hours per year.

5. Guy Wires. Guy wires shall not be permitted as part of the MWET or LWET.

6. Electrical System. All electrical controls, control wiring, grounding wires, power lines, and all other electrical system components of the MWET or LWET shall be placed underground within the boundary of the Lot where the MWET or LWET is located, at a depth designed to accommodate the existing land use to the maximum extent practicable. Wires necessary to connect the WET to the Tower wiring are exempt from this requirement.

7. MWET. These additional requirements apply to MWETs only.

a. Location. In a Condominium Development an MWET shall only be located in a General Common Element. All other WMETs shall be located in the Rear Yard.

b. Height. The Total Height of an MWET shall not exceed one hundred fifty (150) feet.

c. Ground Clearance. The lowest extension of any blade or other exposed moving component of an MWET shall be at least fifteen (15) feet above the ground (at the highest point of the grade level within fifty [50] feet of the base of the Tower) and, in addition, at least fifteen (15) feet above any outdoor surfaces intended for human occupancy, such as balconies or roof gardens, that are located directly below the MWET.

d. Noise. Noise emanating from the operation of an MWET shall not increase the Ambient Sound Level at any Lot Line of a residential or agricultural use Lot or from the Lot Line of parks, schools, hospitals, and churches. Noise emanating from the operation of an MWET shall not increase the Ambient Sound Level by more than five (5) dB(A) at any Lot Line of a non-residential or non-agricultural use Lot.

e. Quantity. No more than one (1) MWET shall be installed for every two and one-half (2-1/2) acres of land included in the Lot.

f. Setback and Separation.

(1) Occupied Building Setback. The Setback from all Occupied Buildings on the same Lot shall be a minimum of twenty (20) feet measured from the base of the Tower.

(2) Property Line Setbacks. With the exception of the locations of Streets (see below), drain rights-of-way and parcels with Occupied Buildings (see above), the internal property line Setbacks shall be equal to the Total Height of the MWET as measured from the base of the Tower. This Setback may be reduced by the Township if the applicant provides a registered engineer's certification that the MWET is designed to collapse, fall, curl, or bend within a distance or zone shorter than its height.

(3) Street Setbacks. Each MWET shall be set back from any Street a distance equal to the Total Height of the MWET, determined at the nearest boundary of the underlying right-of-way for the Street.

(4) Communication and Electrical Lines. Each MWET 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 MWET, as measured from the base of the Tower, determined from the existing power line or telephone line.

(5) Tower Separation. The Tower separation between MWETs shall be based on industry standard and manufacturer recommendation.

8. LWET. These additional requirements apply to LWETs only.

a. Wind Site Assessment. Prior to construction of an LWET, a wind site assessment utilizing Anemometers shall be conducted in order to determine wind speeds and the feasibility of using a particular site. Installation of Anemometer Towers shall be considered a temporary use subject to the provisions contained in this Chapter.

b. Ground Clearance. The lowest extension of any blade or other exposed moving component of an LWET shall be at least fifty (50) feet above the ground (at the highest point of the grade level within one hundred fifty [150] of the base of the Tower).

c. Noise. Noise emanating from the operation of an LWET shall not increase the Ambient Sound Level at any Lot Line of a residential or agricultural use Lot or from the Lot Line of parks, schools, hospitals, and churches. Noise emanating from the operation of an LWET shall not increase the Ambient Sound Level by more than five (5) dB(A) at any Lot Line of a non-residential or non-agricultural use parcel.

d. Quantity. The number of LWETs shall be determined based on Setbacks and separation.

e. Setback and Separation.

(1) Occupied Building Setback. Each LWET shall be set back from the nearest Occupied Building located on the same Lot as the LWET a minimum of two (2) times its Total Height, or one thousand (1,000) feet, as measured from the base of the Tower, whichever is greater.

(2) Property Line Setbacks. With the exception of the locations of Streets (see below), drain rights-of-way and parcels with Occupied Buildings (see above), the internal property line Setbacks shall be a minimum of one and one-half (1-1/2) times the Total Height, as

measured from the base of the Tower. This Setback may be reduced by the Township if the applicant provides a registered engineer's certification that the LWET is designed to collapse, fall curl, or bend within a distance or zone shorter than the height of the LWET.

(3) Wind Energy Overlay District Setbacks. Along the border of the Wind Energy Overlay District, there shall be a Setback distance equal to two (2) times the Total Height as measured from the base of the Tower.

(4) Street Setbacks. Each LWET shall be set back from any Street a minimum distance no less than four hundred (400) feet or one and one-half (1-1/2) times its Total Height, whichever is greater, determined at the nearest boundary of the underlying right-of-way for the Street.

(5) Communication and Electrical Lines. Each LWET 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 (1-1/2) times its Total Height, whichever is greater, determined from the existing power line or telephone line.

(6) Tower Separation. The Tower separation between LWETs shall be based on industry standards and manufacturer recommendation.

(7) Access Driveway. Each LWET shall require the construction of a Private Road to offer an adequate means by which the Township may readily access the site in the event of an emergency. All Private Roads shall be constructed to the Township's standards.

D. Safety Requirements

1. If the MWET or LWET 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 then-current service regulations meeting federal, state and industry standards applicable to wind power generation facilities. The connection shall be inspected by the appropriate public utility.

2. The MWET or LWET shall be equipped with an automatic braking or governing system to prevent uncontrolled rotation, over-speeding, and excessive pressure on the Tower, rotor blades and other wind energy components, unless the manufacturer certifies that a braking system is not necessary.

3. Security measures must be in place to prevent unauthorized trespass and access. Each MWET or LWET shall not be climbable up to fifteen (15) feet above ground surfaces. All access doors to MWETs or LWETs and electrical equipment shall be locked or fenced as appropriate, to prevent entry by non-authorized persons.

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

5. Each MWET or LWET shall have one (1) 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:

   a. Warning high voltage;

   b. Names of manufacturer, Owner and Operator;

   c. Emergency contact numbers (more than one [1] number to be listed).

6. The structural integrity of the MWET or LWET shall conform to the design standards of the International Electrical Commission, specifically IEC 61400-1, "Wind Turbine Safety and Design," IEC 61400-22, "Wind Turbine Certification," and IEC 61400-23, "Blade Structural Testing," or any similar successor standards.

E. Signal Interference. The MWET or LWET shall not interfere with communication systems such as, but not limited to, radio, telephone, television, satellite, or emergency communication systems.

F. Decommissioning

1. The MWET or LWET Owner or Operator shall complete decommissioning within twelve (12) months after the end of the useful life. Upon request of the Owner or Operator of the MWET or LWET, and for a good cause, the Township Board may grant a reasonable extension of time. Each MWET or LWET will be presumed to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months. All decommissioning expenses are the responsibility of the Owner or Operator.

2. Decommissioning shall include the removal of each MWET or LWET, Buildings, electrical components, other associated facilities and Private Roads. Any foundation shall be removed to a minimum depth of sixty (60) inches below grade, or to the level of the bedrock if less than sixty (60) inches below grade. Following removal, the location of any remaining WET foundation shall be identified on a map as such and recorded with the deed to the Lot with the County Register of Deeds.

3. All Private Roads of access to the MWET or LWET shall be removed, cleared, and graded by the Owner, unless the property owner requests, in writing, a desire to maintain the Private Road. The Township will not be assumed to take ownership of any Private Road unless through official action of the Township Board.

4. The site and any disturbed earth shall be stabilized, graded, and cleared of any debris by the Owner of the MWET or LWET. If the site is not to be used for agricultural practices following removal, the site shall be seeded to prevent soil erosion, unless the Lot owner requests in writing that the land surface areas not be restored.

5. This additional requirement applies to an MWET only if the MWET Owner or Operator fails to complete decommissioning within the period prescribed above. The Township may then designate a contractor to complete decommissioning with the expense to be charged to the violator or to become a lien against the Lot. If the MWET is not owned by the Lot owner, a bond must be provided to the Township for the cost of decommissioning each MWET.

6. These additional requirements apply to an LWET only.

   a. 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. When determining this amount, the Township may also require an annual escalator or increase based on the Federal Consumer Price Index (or equivalent or its successor). The estimates shall be submitted to the Township Zoning Administrator after the first (1^{st}) year of operation and every fifth (5^{th}) year thereafter.

   b. The LWET Owner or Operator shall post and maintain an amount equal to Decommissioning Costs ("Decommissioning Funds"); however, any net salvage value of the LWET shall not be paid to the Township. The Decommissioning Funds shall be posted and maintained with a bonding company or federal or state chartered lending institution chosen by the Owner or Operator and participating landowner posting the financial security. The bonding company or lending institution must be authorized to conduct such business and be approved by the Township.

   c. Decommissioning Funds shall be in the form of a performance bond made out to the Township, in a form acceptable to the Township.

   d. A condition of the bond shall be written notification by the bond company to the Township Zoning Administrator sixty (60) days before the bond is to expire or be terminated.

e. Failure to keep the bond in effect while an LWET is in place will be a violation of this Chapter. If a lapse in the bond occurs, the Township may take action up to and including requiring the WET to cease operations until the bond is reposted.

f. The escrow agent shall release the Decommissioning Funds when the Owner has demonstrated and the Township concurs that decommissioning has been satisfactorily completed, or upon written approval of the Township in order to implement the decommissioning plan.

g. If neither the Owner or Operator, nor the participating landowner, complete decommissioning within required time frames, then the Township may take such measures as necessary to complete decommissioning.

G. Site Plan Requirements

1. Site Plan Drawing. All applications for an MWET or LWET shall be accompanied by a detailed site plan map that is drawn to scale and dimensioned, displaying the following information.

a. The site plan map shall show existing property features, including the following: Lot Lines, physical dimensions of the Lot, land use, Zoning District, contours, Setback lines, right-of-ways, public and utility easements, Streets (including width), sidewalks, non-motorized pathways, large trees, and all Buildings. The site plan must also include the adjoining properties as well as the location and use of all Structures and utilities within three hundred (300) feet of the Lot.

b. The site plan map shall show location and height of all proposed MWETs or LWETs, Buildings, Structures, ancillary equipment, underground utilities and their depth, Towers, security fencing, Private Roads of access (including width, composition, and maintenance plans), electrical sub-stations, and other above-ground Structures and utilities associated with the proposed MWET or LWET.

c. The site plan map shall show additional details and information as required by the site plan and Special Land Use requirements of this Ordinance, and as requested by the Planning Commission.

2. Site Plan Documentation. The following documentation shall be included with the site plan.

a. The contact information for the Owner and Operator of the MWET or LWET, as well as contact information for all Lot owners on which the MWET or LWET is located, shall be submitted.

b. A copy of the lease, or recorded document, with the landowner shall be submitted, if the applicant does not own the Lot for the proposed MWET or LWET. A statement from the landowner of the leased site that the landowner will abide by all applicable terms and conditions imposed by the Township, if the application is approved, shall be submitted.

c. Identification and location of the properties on which the proposed MWET or LWET will be located shall be submitted.

d. In the case of an MWET or LWET to be located in a Condominium Development, a copy of the Condominium Development's master deed and bylaws, addressing the legal arrangement for the MWET or LWET, shall be submitted.

e. The proposed number, representative types and Total Height of each MWET or LWET to be constructed shall be submitted. Included shall be the manufacturer and model, product specifications including maximum noise output (measured in Decibels), total rated capacity, Rotor Diameter, and a description of ancillary facilities for each MWET or LWET.

f. Documents shall be submitted by the manufacturer confirming specifications for MWET or LWET Tower separation.

g. Documented compliance with the noise and Shadow Flicker requirements set forth in this Chapter shall be submitted.

h. Engineering data shall be submitted concerning construction of the MWET or LWET and its base or foundation, which may include, but not be limited to, soil boring data.

i. A certified registered engineer shall certify that the MWET or LWET meets or exceeds the manufacturer's construction and installation standards.

j. Anticipated construction schedule shall be submitted.

k. A copy of the maintenance and operation plan, including anticipated regular and unscheduled maintenance shall be submitted. Additionally, a description of the procedures that will be used for lowering or removing the MWET or LWET to conduct maintenance, if applicable, shall be submitted.

l. Documented compliance with applicable local, state and federal regulations shall be submitted, including but not limited to all applicable safety, construction, environmental, electrical, and communications regulations. The MWET or LWET shall comply with FAA requirements, Michigan Airport Zoning Act, Michigan Tall Structures Act, and any applicable airport overlay zone regulations, all as amended or restated or superseded.

m. Proof of the applicant's liability insurance shall be submitted.

n. Evidence shall be submitted that the utility company has been informed of the applicant'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.

o. Other relevant information as may be requested by the Township shall be submitted to ensure compliance with the requirements of this Chapter.

p. Following the completion of construction, the applicant shall certify that all construction is completed pursuant to the requirements of this Chapter and the permit issued by the Township.

q. The application shall include a written description of the anticipated life of each MWET or LWET; 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 MWET or LWET becomes inoperative or non-functional.

r. The applicant shall submit a decommissioning plan that will be carried out at the end of the useful life of the MWET or LWET, and shall describe any agreement with the landowner regarding equipment removal upon termination of the lease.

s. The Township reserves the right to review all maintenance plans and bonds under this Chapter to ensure that all conditions of the permit are being followed.

t. The application shall be signed by the applicant.

u. These additional requirements apply to an LWET only.

(1) A site grading, erosion control and storm water drainage plan will be submitted to the Township Zoning Administrator prior to issuing a

Special Land Use permit for an LWET. At the Township's discretion, these plans may be reviewed by the Township's engineering firm. The cost of this review will be the responsibility of the applicant.

(2) The application shall include a description of the routes to be used by construction and delivery vehicles and of any Street improvements that will be necessary to accommodate construction vehicles, equipment or other deliveries, and an agreement or bond which guarantees the repair of damage to Public Streets and other areas caused by construction of the LWET.

(3) The application shall include a statement indicating what hazardous materials will be used and stored on the site.

(4) The application shall include a study assessing any potential impacts on the natural environment (including, but not limited to, assessing the potential impact on endangered species, eagles, other birds or wildlife, wetlands and fragile ecosystems). The study shall conform to state and federal wildlife agency recommendations based on local conditions.

H. Certification and Compliance

1. The Township must be notified of a change in ownership of an MWET or LWET, and a change in ownership of the Lot on which the MWET or LWET is located.

2. The Township reserves the right to inspect any MWET and LWET, in order to ensure compliance with this Chapter. Any cost associated with the inspections shall be paid by the Owner or Operator of the WET.

3. These additional requirements apply to an LWET only.

a. A sound pressure level analysis shall be conducted from a reasonable number of sampled locations at the perimeter and in the interior of the Lot containing any LWET to demonstrate compliance with the requirements of this Chapter. Proof of compliance with the noise standards is required within ninety (90) days of the date the LWET becomes operational. Sound shall be measured by a third-party, qualified professional.

b. The LWET Owner or Operator shall provide the Township Zoning Administrator with a copy of the yearly maintenance inspection.

I. Public Inquiries and Complaints. If a property owner alleges that an MWET or LWET is not in compliance with the noise and Shadow Flicker requirements of this Chapter, the procedure shall be as follows.

1. Noise Complaint.

a. Notify the Township in writing regarding concerns about noise level.

b. If the complaint is deemed sufficient by the Township to warrant an investigation, the Township will request the aggrieved property owner deposit funds in an amount sufficient to pay for a noise level test conducted by a certified acoustic technician to determine compliance with the requirements of this Chapter.

c. If the test indicates that the noise level is within Chapter noise requirements, the Township will use the deposit to pay for the test.

d. If the MWET or LWET is in violation of the Chapter noise requirements, the Owner shall reimburse the Township for the noise level test and take immediate action to bring the MWET or LWET into compliance, which may include ceasing operation of the WET until the violation is corrected. The Township will refund the deposit to the aggrieved property owner.

2. Shadow Flicker Complaint.

a. Notify the Township in writing regarding concerns about the amount of Shadow Flicker.

b. If the complaint is deemed sufficient by the Township to warrant an investigation, the Township will require the Owner to provide a Shadow Flicker analysis of the WET as constructed to determine compliance with the requirements of this Chapter.

c. If the MWET or LWET is in violation of this Chapter's Shadow Flicker requirements, the Owner shall take immediate action to bring the MWET or LWET into compliance, which may include ceasing operation of the WET until the violation is corrected.

Section 8. Effective Date. This amendment to the Zeeland Charter Township Zoning Ordinance was approved and adopted by the Township Board of Zeeland Charter Township, Ottawa County, Michigan on 10/19/2010 ~~, 2009~~ after a public hearing as required pursuant to Michigan Act 110 of 2006, as amended; after introduction and a first reading on 9/21/2010 , ~~2009~~ and after posting and publication following such first reading as required by Michigan Act 359 of 1947,

as amended. This Ordinance shall be effective on 11/4/2010, ~~2009~~ which date is the eighth day after publication of a Notice of Adoption and Posting of the Zoning Text Amendment Ordinance in the Sentinel, as required by Section 401 of Act110, as amended. However, this effective date shall be extended as necessary to comply with the requirements of Section 402 of Act 110, as amended.

Glenn Nykamp, Supervisor
Zeeland Charter Township

Marilyn Evink, Clerk
Zeeland Charter Township

RB090120

CERTIFICATE

I, MARILYN EVINK, the Clerk for the Charter Township of Zeeland, Ottawa County, Michigan, certify that the foregoing Zeeland Charter Township Zoning Text Amendment Ordinance was adopted at a regular meeting of the Township Board held on 10/19/2010, ~~2009~~.

The following members of the Township Board were present at that meeting: Nykamp, Evink, Myaard, Oonk, Compagner, Zylstra, Barkel.

The following members of the Township Board were absent: none.

The Ordinance was adopted by the Township Board with members of the Board Nykamp, Evink, Myaard, Compagner, Oonk, Zylstra, Barkel voting in favor and members of the Board none voting in opposition. Notice of Adoption and Posting of the Ordinance was published in Sentinel on 10/28/2010, ~~2009~~. An attested copy of the Ordinance was sent to the Ottawa County Clerk by first-class mail, postage prepaid, on 11/5/2010, ~~2009~~ (i.e., within one week of the publication date).

Marilyn Evink, Clerk
Zeeland Charter Township

RB090120