

## AN ORDINANCE AMENDING CHAPTER 38 ZONING OF THE CODE OF ORDINANCES TO REGULATE WIND ENERGY CONVERSION SYSTEMS

Whereas, the city council of the city of Owosso realizes the benefits of wind energy turbines for the entire community that includes:

- Reduced pressure on the local electrical grid
- Increased security that can provide back-up power to essential and public services
- Increased local energy independence
- Enhanced reliability and power quality of the electrical grid
- Diversified energy supply portfolio
- Reduced pollutants
- Increased market competition
- Reduced utility costs

Whereas, Owosso has sufficient wind energy to support a variety of small and potentially medium sized wind energy conversion systems;

Whereas, the city council wants to establish procedures and standards to ensure that location and function of wind energy conversion systems including generation, transmission, and potential distribution are compatible with the protection of the public health, safety and welfare;

Therefore, Be It Resolved, that the following amendments to Chapter 38, Zoning Code of the City of Owosso.

Section 1. That Chapter 38, Zoning Code of the City of Owosso Sec. 38-5 Definitions be amended by adding in the appropriate place:

*Small Tower-Mounted Wind Energy System (STWES)* is a tower-mounted small wind energy system that converts wind energy into electricity by using equipment that includes any base, blade, foundation, generator, nacelle, rotor, tower, transformers, vane, wire, inverter, batteries, or other components ancillary to such use in the system. The SWES is an accessory building that does not exceed 50 kilowatts or 120 feet.

*Small Structure-Mounted Wind Energy System (SSWES)* is a structure-mounted small wind energy system that converts wind energy into electricity by using equipment that includes any base, blade, foundation, generator, nacelle, rotor, tower, transformers, vane, wire, inverter, batteries, or other components ancillary to such use in the system. This structure an accessory building that is permanently affixed to a structure's roof, walls, or other elevated surface. The SSWES does not exceed 10 kilowatts or 15 in height as measured from the highest point of the roof, excluding chimneys, antennae, and similar protuberances.

*Small Wind Energy System (SWES)* represent all SSWES and STWES systems.

*Shadow Flicker* is the moving shadow, created by the sun or other permanent light source shining through the rotating blades of a wind energy system (WES). The amount or degree of shadow

flicker is calculated and quantified by computer models.

Section 2. That Chapter 38, Zoning Code of the City of Owosso Sec. 38-379 (2) Accessory buildings be amended to read as follows:

Accessory buildings, except as otherwise permitted in this chapter, shall be subject to the following regulations:

(2) Accessory buildings shall not be located in any required yard, except a rear yard.

Section 3. That Chapter 38, Zoning Code of the City of Owosso Sec. 38-379 (7) Accessory buildings be amended to read as follows:

(7) On residential lots of less than seventeen thousand five hundred (17,500) square feet, only two (2) accessory buildings shall be permitted. On residential lots seventeen thousand five hundred (17,500) square feet or greater, only three (3) accessory buildings shall be permitted. These limits shall not apply to wind energy systems, satellite dishes, or dog pens.

Section 4. That Chapter 38, Zoning Code of the City of Owosso Sec. 38-379 Accessory buildings be amended by adding (10) as follows:

(10) A small wind energy system shall be an accessory building in all zoning districts subject to the following requirements:

- a. Setbacks and location, as measured from the furthest outward extension of all moving parts.
  1. A STWES shall be set back a distance equal to its total height plus an additional five feet from any occupied building, street or highway right-of-way; any overhead utility lines; all property lines; and any existing guy wire, anchor or small wind energy tower on the property.
  2. A SSWES shall be a minimum of fifteen (15) feet from the property line, public right-of-way, public easement, or overhead utility lines if mounted directly on a roof or other elevated surface of a structure.
  3. A SSWES shall not be affixed to the roof or wall of a structure facing a street.
  4. A STWES shall not be located in any front yard except for properties zoned and used for industrial purposes.
  5. The lowest extension of any blade or other exposed moving component of a WES shall be a least fifteen (15) feet above the ground as well as any outdoor surface intended for human use.
  6. Setbacks may be reduced to not less than twenty (20) feet if the applicant provides a registered engineer's certification that the WES is designed to collapse within a zone smaller than the height of the tower, yet still remain within the owner's property or the applicant acquires an easement to meet the required setback distance.
- b. Access.
  1. All ground mounted electrical and control equipment shall be labeled and secured to prevent unauthorized access.
  2. The tower shall be designed and installed so as to not provide step bolts or a ladder readily

- accessible to the public for a minimum height of 8 feet above the ground.
- c. Electrical wires. All electrical wires associated with a small wind energy system, other than wires necessary to connect the wind generator to the wind tower wiring, the wind tower wiring to the disconnect junction box, and the grounding wires shall be located underground.
  - c. Lighting. A wind tower and generator shall not be artificially lighted unless such lighting is required by the Federal Aviation Administration (FAA). Lighting of other parts of the small wind energy systems, such as appurtenant structures, shall be limited to that required for safety purposes, and shall be reasonably shielded from abutting properties.
  - e. Appearance, color, and finish. The wind generator and wind tower shall remain painted or finished the color or finish that was originally applied by the manufacturer.
  - f. Signs. All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a wind generator, wind tower, building, or other structure associated with a small wind energy system visible from any public road shall be prohibited.
  - g. Code compliance. A small wind energy system including wind tower shall comply with all applicable construction and electrical codes.
  - h. Utility notification and interconnection. Small wind energy systems that connect to the electric utility shall comply with the Public Service Commission regulations.
  - i. Small wind energy systems may be attached to any building, including guy wires, provided the city approves the submittal of documentation sealed by an engineer licensed by the state of Michigan showing the proposed connection of the system to the structure and whether any additional reinforcing is required. The city may not be found liable for damage caused by noise or vibration created by the system.
  - j. Meteorological towers shall be permitted under the same standards, permit requirements, restoration requirements, and permit procedures as a small wind energy system.
  - k. Each property is eligible for two small wind energy systems only, except properties of at least one contiguous acre may be allowed one additional system for each additional one-half acre or portion thereof
  - l. A small wind energy system that is out-of-service for a continuous six-month period will be deemed to have been abandoned. The zoning administrator may issue a notice of abandonment to the owner of a small wind energy system that is deemed to have been abandoned. The owner shall have the right to respond in writing to the notice of abandonment setting forth the reasons for operational difficulty and providing a reasonable timetable for corrective action, within 30 days from the date of the notice. The administrator shall withdraw the notice of abandonment and notify the owner that the notice has been withdrawn if the owner provides information that demonstrates the wind energy system has not been abandoned.

- m. If the small wind energy system is determined to be abandoned, the owner of a small wind energy system shall remove the wind generator from the wind tower at the owner's sole expense within 90 days of the date of the notice of abandonment. If the owner fails to remove the wind generator from the wind tower, the administrator may pursue a legal action to have the wind generator removed at the owner's expense.
- o. Noise emanating from a small wind energy system shall not exceed 50 dB(A) as measured from any offsite habitable structure or 55dB(A) to any lot line.
- p. Wind energy systems shall not interfere with communication systems such as radio, telephone, television, satellite, emergency communications, or Wi-Fi.
- q. Shadow Flicker created by a STWES shall not exceed thirty (30) hours per year as observed on the windows or outdoor spaces (such as porches, patios, and decks) of any offsite building intended for human habitation or occupation. The zoning administrator may request a study to demonstrate the impact of a WES proposal.
- r. Public inquires and complaints by an aggrieved property owner that alleges that a STWES or SSWES does not meet noise or shadow flicker requirements shall be processed as follows:
  - 1. The property owner shall notify the city in writing regarding the concerns related to noise and/or shadow flicker.
  - 2. If the city zoning administrator or engineer deem the complaint sufficient to warrant an investigation, the city will request the aggrieved party to deposit funds in an amount sufficient to pay for a noise level test conducted by a certified acoustic technician and/or a shadow flicker study as performed by a professional.
  - 3. If the tests(s) show that the WES does not exceed the noise or shadow flicker requirements of this chapter, the city will use the deposit to pay for the test.
  - 4. If the WES is violating this chapter's noise requirements, the owner(s) shall reimburse the city for the testing and take immediate action to bring the WES into compliance, include ceasing operation of the WES till the violations are corrected. The city will refund the deposit to the aggrieved property owner.

Section 5. This amendment shall become effective 20 days after passage.

Section 6. This ordinance may be purchased or inspected in the city clerks' office, Monday through Friday between the hours of 9:00 a.m. and 5:00 p.m.