

On-site Use Wind Energy Zoning Amendment (ZA)

Amend specific sections within Article XX. (AG, Industrial, etc.) Agricultural District as listed herein to read as follows (any section not listed is to remain as previously adopted):

Amend Section X.xx Definitions by including:

On-site Wind Energy System shall mean any device such as a turbine, windmill or charger that harnesses the wind to produce electricity which is used only by the primary residence or agricultural operation and not sold on the electrical grid for commercial profit.

MET Tower shall mean a meteorological tower used for the measurement of wind speed. It is also called an **Anemometer Tower**.

Hub Height shall mean, when referring to a Wind Turbine, the distance measured from ground level to the center of the turbine hub.

Tip Height shall mean the height of the wind energy system from the base of the system to the top of the blade in its vertical position.

Utility/Commercial Scale Turbine Shall mean any turbine that supplies energy to the electrical grid for commercial profit and is not intended for a single primary user.

Amend Section X.x Intent and Purpose to include:

The Agricultural Districts are designated to preserve those areas historically used for farming and animal husbandry, dairying, horticulture and other agricultural activities. At the same time, in order to provide a degree of flexibility, it is the intent of these provisions to allow single family, non-farming dwellings and related residential uses on larger parcels, wind energy generation and certain limited uses related to farming.

Amend Section X.xx by adding new subsection **X)**: Add to Uses Permitted by Right in the Agricultural District (add to any other appropriate districts)

X) On-Site Wind Energy Systems and related wind site assessment devices, subject to the conditions described in Section Y.yy:

Add Section Y.yy- Conditions to obtain an on-site use wind energy system or Met Tower.

1) An on-site use wind energy system may only serve the needs of the on-site consumer only. An on-site use wind energy system with a hub height higher than 30 meters or 100 feet shall be considered a large-scale wind energy conversion facility and not permitted under this ordinance.

2) Temporary anemometer towers (MET) used to conduct a wind site assessment for possible installation of an on-site use wind energy system must conform to a height vs. setback requirement of 1 ½ times the height of the tower. Anemometer towers & attached equipment are limited to a height of 164 feet (80 meters).

3) Prior to the installation of an on-site wind energy system, or installation of an anemometer tower of greater than 20 meters in height a permit application shall be submitted.

4) On-Site Wind Energy Systems Site Permit Application:

a. An on-site wind energy system is designed and intended to primarily serve the needs of the consumer. Prior to the installation of an on-site wind energy system, an application for a site permit must be filed and subsequently approved by the zoning administrator and shall include the following:

i. Applicant information: name, address and contact information.

ii. Project description: A general description of the proposed project including a legal description (property identification number) of the property on which the project would be located.

iii. Site Plan: The site plan shall include maps showing the physical features and land uses of the project area, both before and after construction of the proposed project. The site plan shall include:

- the project area boundaries.
- the location, height and dimensions of all existing and proposed structures and fencing.
- the location, grades and dimensions of all temporary and permanent on-site and access roads from the nearest county or state maintained road.
- existing topography.
- water bodies, waterways, wetlands, and drainage ditches (county drains).
- all new infrastructure above ground related to the project.

iv. Insurance: Proof of the applicant's public liability insurance.

v. Consent documents: Copies of any written waivers from neighboring property owners.

vi. Sound Pressure Level: A copy of the modeling and analysis report for the system to be installed.

vii. Certifications: Certification that applicant has complied or will comply with all applicable state and federal laws and regulations.

b. Prior to the installation of an anemometer tower more than 20 meters (66 feet) in height, a site permit shall be filed with the zoning administrator that will include:

i. Applicant information (property ownership, property identification number).

ii. A site plan (location of proposed use vs. property lines, buildings, roadways, right-of-ways, easements, etc.).

iii. A copy of that portion of the applicant's lease with the land owner granting authority to install the Met tower and requiring the applicant to remove all equipment and restore the site after completion of the wind site assessment.

iv. Proof of the applicant's public liability insurance.

5. An on-site wind energy system shall meet the following standards and requirements:

a. Property setbacks:

i. The distance between an on-site wind energy use/tower and the owner's property lines shall be at least $1 \frac{1}{2}$ times the height of the wind energy system tower including the top of the blade in its vertical position (tip height).

ii. The distance between an anemometer (met) tower and the owner's property lines shall be at least $1 \frac{1}{2}$ times the height of the tower.

iii. No part of the wind energy system structure, including guy wire anchors, may extend closer than ten (10) feet to the owner's property line.

6. Other Required Setbacks:

a. The distance between an on-site wind energy system and a road or a public right-of-way shall be at least 1 ½ times the height of the wind energy system tower including the top of the blade in its vertical position (tip height).

b. The distance between an anemometer (met) tower and a road or a public right-of-way shall be at least 1 ½ times the height of the tower.

7. Sound Pressure Level:

a. On Site wind energy system shall not exceed 55 dBA at the property line closet to the wind energy system.

b. Exceptions for neighboring property are allowed with the written consent of those property owners.

c. This sound pressure level may be exceeded during short-term events such as utility outages and/or severe wind storms. If the ambient sound pressure level exceeds 55 dBA, that standard shall be ambient dBA plus 5 dBA.

8. Construction Codes, Towers & Interconnections Standards:

a. On-site wind energy systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements.

b. On site wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act, The Michigan Tall Structures Act, and any other State or Federal regulations.

c. An interconnected on-site wind energy system shall comply with Michigan Public Service Commission and utility interconnection requirement. Off-grid systems are exempt from this requirement.

9. Safety:

a. The safety of the design of all private and commercial WECS towers shall be certified by a Professional Engineer registered in the State of Michigan. The standard for certification shall be included with the permit application.

b. An onsite wind energy system shall have a governing, or a feathering system to prevent uncontrolled rotation or over speeding.

c. All wind energy towers shall have lightning protection.

d. If a tower is supported by guy wires, the wires shall be clearing visible to a height of a least six (6) feet above the guy wire anchors.

e. The minimum vertical blade tip clearance from grade shall be 40 feet for a wind energy system employing a horizontal axis rotor.

10. Installation Certification

- a. A Professional Engineer shall certify that the construction and installation of the on-site wind energy system meets or exceeds the manufacturer's construction and installation standards.

11. Climb Prevention

- a. All private and commercial WECS project towers or poles must be unclimbable by design or protected by anti-climbing devices such as:
 1. Fences with locking portals at least six feet high;
 2. Anti-climbing devices 12 feet from base of pole; or
 3. Anchor points for guy wires supporting tower shall be enclosed by a six-foot high fence or shall be located within the confines of a yard that is completely fenced.

12. Waste

- a. All solid wastes, whether generated from supplies, equipment, parts, packaging, operation or maintenance of the on-site wind energy system, including old parts and equipment, shall be removed from the site immediately and disposed of in an appropriate manner. All hazardous waste generated by the operation and maintenance of the wind energy system, including but not limited to lubricating materials, shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal rules and regulations.