

**ORDINANCE NO. 143**  
**AMENDMENT TO THE GUN PLAIN TOWNSHIP ZONING ORDINANCE**

**ADOPTED:** 4-1-10  
**EFFECTIVE:** 4-29-10

AN ORDINANCE TO AMEND THE GUN PLAIN TOWNSHIP ZONING ORDINANCE FOR THE PURPOSES OF ADDING CERTAIN PERMITTED AND SPECIAL LAND USES TO THE I-1 INDUSTRIAL, AG AGRICULTURAL AND R-1 RURAL ESTATE DISTRICTS AND TO ADD ZONING PROVISIONS RELATIVE TO LOCATION AND OPERATION OF WIND ENERGY SYSTEMS AND SOLAR PANELS AND TO MAKE VARIOUS OTHER RELATED CHANGES:

**GUN PLAIN TOWNSHIP, ALLEGAN COUNTY, MICHIGAN ORDAINS:**

*Article 1*

**SECTION 3.02 SOLAR PANELS.**

*Amend Chapter 3 Definitions by adding a new term. "Solar Panels" shall read in its entirety as follows:*

SECTION 3.02 SOLAR PANELS. A solar photovoltaic panel or covering, or solar hot air or water panel collector device, which relies upon solar radiation as an energy source for the generation of electricity or transfer of stored heat.

**WIND ENERGY SYSTEM (WES)**

*Add Under Chapter 19 General provisions a new Section 19.23 WIND ENERGY SYSTEM (WES)  
Which shall read in its entirety as follows:*

**SECTION 30.01 WIND ENERGY SYSTEM (WES)** -The purpose of this section is to establish standards and procedures by which the installation and operation of a WES shall be regulated within the Township, in order to promote the safe, effective, and efficient use of wind energy.

**(a) Definitions:**

- (1). Wind Energy System (WES) – shall mean any combination of the following:
  - a). A mill or machine operated by wind acting on oblique vanes or sails that radiate from a vertical or horizontal shaft;
  - b). A surface area such as a blade, rotor or similar device, either variable or fixed, for utilizing the wind for electrical or mechanical power;
  - c). A shaft, gearing, belt or coupling utilized to convert the rotation of the surface area into a form suitable for driving a generator, alternator or other electricity-producing device;

- d) The generator, alternator or other device to convert the mechanical energy of the surface area into electrical energy;
  - e) The tower, pylon, or other structure upon which any, all, or some combination of the above are mounted.
  - f) A windmill traditionally used to pump water shall not be considered a Wind Energy System.
- (2). On Site Use Wind Energy System – A WES the purpose of which is to provide energy to only the property where the structure is located, or to adjacent properties under the same ownership or control as the property where the structure is located, or by the mutual consent of adjacent property owners.
  - (3). Single WES for Commercial Purposes – A single WES placed upon a lot or parcel with the intent to sell or provide electricity to a site or location other than the premises upon which the WES is located. The WES may or may not be owned by the owner of the property upon which the WES is placed.
  - (4). Wind Farm – Clusters of two or more WES placed upon a lot or parcel with the intent to sell or provide electricity to a site or location other than the premises upon which the WES are located. The WES may or may not be owned by the owner of the property upon which the WES is placed.
  - (5). Utility Grid Wind Energy Systems – A WES designed and constructed to provide electricity to the electric utility grid.
  - (6). Structure Mounted WES – A WES mounted or attached to an existing structure or building.
  - (7). Interconnected WES – A WES which is electrically connected to the local electrical power utility system and can provide power to the local electrical power utility system.
  - (8). WES Height – The distance from the ground at normal grade and the highest point of the WES which is the tip of a rotor blade when the blade is in full vertical position.
  - (9). WES Setback – The distance from the base of the tower or structure upon which the WES is mounted to the nearest lot line. In the case of multiple parcels utilized for multiple or single WES, the setbacks shall be taken from the outside boundary of the parcels utilized for the WES project.
  - (10). Nacelle - In a wind turbine, the nacelle refers to the structure that houses all of the generating components, gearbox, drive train and other components.
  - (11). Shadow Flicker – Alternating changes in light intensity caused by the moving blade of a WES casting shadows on the ground and stationary objects such as dwellings.
  - (12). Applicant- The person, firm, corporation, company, Limited Liability Corporation or other entity that applies for Township approval under this section, as well as the applicant's successor(s), assign(s) and/or transferee(s) to any approved WES. An applicant must have the legal authority to represent and bind the landowner or lessee who will construct, own and operate the WES. The obligations regarding a

zoning approval for any approved WES shall be with the owner of the WES and jointly and severally with the owner and operator or lessee of the WES if different from the owner.

- (b) **Wind Energy Systems Allowed As a Permitted Use:** Any On Site Use Wind Energy System including structure mounted WES which is 65 feet or less in total height shall be a permitted use in all zoning districts, subject to the following:
- (1) The maximum height of any WES shall be 65 feet. The height of the WES having horizontal shafts shall be measured with the blade in vertical position.
  - (2) A WES shall be set back from all lot lines a distance which is at least equal to the height of the WES as measured from the lot line to the base of the tower and portion of the WES, including the guy wire anchors, shall be located within or above the required front, side, or rear yard setback.
  - (3) A structure mounted WES shall have a distance from the nearest property line that is at least equal to the height of the WES, as measured from the point of attachment to the structure or building to the top of the WES with the blade in the vertical position. The blade arcs created by a WES mounted on an existing structure shall have a minimum clearance of eight feet.
  - (4) A permit from Gun Plain Township shall be required to construct and operate an On Site Use WES that is 65 feet or less in total height. A permit shall be issued after an inspection of the WES by an authorized agent of the Township where the inspection finds that the WES complies with all applicable state construction and electrical codes, local building permit requirements and all manufacturers' installation instructions.  
  
The WES shall not operate nor remain on the property unless a permit has been issued. A copy of the manufacturer's installation instructions and blueprints shall be provided to the Township.
  - (5) An On Site Use WES may provide electrical power to more than one dwelling unit, provided the dwelling units are located on property or properties that are adjacent to the property or properties on which the WES is located.
  - (6) Decommissioning and Removal Required - The applicant shall provide a written description of the anticipated life of the system and facility; the estimated cost of decommissioning; the method of ensuring that funds will be available for decommissioning and restoration of the site; and removal and restoration procedures and schedules that will be employed if the WES become obsolete or abandoned. The system shall be removed within one (1) year of decommissioning.

- (c) **Wind Energy Systems Which Require A Special Use Permit :** Any WES including a structure mounted WES which is greater than 65 feet in height, Wind Farms, Single WES for Commercial Purposes, and Utility Grid Wind Energy Systems may be allowed as a Special Use only within the *AG Agricultural* Zoning District subject to the following regulations and requirements of this Section and the procedures and general standards for special land as contained in Chapter 20 of this Zoning Ordinance:

- (1) **Site Plan Requirements** – For those WES for which a Special Use permit is required the following items shall be included with or on the site plan:

- a). All requirements for a site plan as contained in Chapter 14A.
  - b). A location map of the proposed WES sufficient to show the character of the area surrounding the proposed WES.
  - c). Location and height of all existing and proposed buildings, structures, electrical lines, towers, guy wires, guy wire anchors, security fencing, and any other above-ground structures proposed or existing for the parcel or parcels containing the WES.
  - d). Specific distances from the WES structures to all other buildings, structures, and above ground utilities on the parcel or parcels upon which the WES is proposed to be located.
  - e). Location of all existing and proposed overhead and underground electrical transmission or distribution lines, located on the lot or parcel(s) upon which the WES or is proposed to be located, as well as within 300 feet of the boundaries of the parcel(s).
  - f). Locations and height of all buildings and structures within 300 feet of the exterior boundaries of the lot or parcel where the WES is proposed to be located.
  - g). Contour elevations of all WES buildings and structures and the elevations of all existing and proposed structures within 300 feet of the parcel(s) upon which the WES is proposed to be located.
  - h). Land uses within 300 feet of the parcel.
  - i). Access drives to the WES including dimensions and composition, with a narrative describing proposed maintenance of the drives.
  - j). All lighting proposed for the site, including diagrams of lighting fixtures proposed if requested by the Planning Commission.
  - k). Security measures proposed to prevent unauthorized trespass and access.
  - l). Standard drawings of the structural components of the WES, including structures, towers, bases, and footings. A registered engineer shall certify drawings and any necessary calculations that show that the system complies with all applicable local, state and federal building, structural and electrical codes.
  - m). The applicant shall perform an analysis of potential shadow flicker. The analysis shall identify locations of shadow flicker that may occur, and shall describe measures such as screening that shall be taken to eliminate or minimize the shadow flicker.
  - n). Additional information as required by this Ordinance, or as may be required by the Planning Commission.
- (2) Height. - The height of a WES for which a Special Use is required shall be determined by compliance with the requirements of this Section.
- (3) Setbacks - No part of a WES including guy wire anchors shall be located within or above any required front, side or rear yard setback. The setback for a WES

shall be at least equal to the height of the WES. A reasonable set back shall be maintained from overhead electrical transmission lines.

- (4) Rotor or Blade Clearance - Blade arcs created by a WES shall have a minimum of 20 feet of clearance over and from any structure, or tree or ground surface.
- (5) Lighting - A WES shall be provided with lighting as may be required by the FAA.
- (6) Maintenance Program Required – The applicant shall provide a written description of the maintenance program to be used to maintain the WES, including a maintenance schedule of types of maintenance tasks to be performed.
- (7) Decommissioning Plan Required - The applicant shall provide a written description of the anticipated life of the system and facility; the estimated cost of decommissioning; the method of ensuring that funds will be available for decommissioning and restoration of the site; and removal and restoration procedures and schedules that will be employed if the WES become obsolete or abandoned. The system shall be removed within one (1) year of decommissioning.
- (8) Siting Standards and Visual Impact.
  - a) A WES shall be designed and placed in such a manner to minimize adverse visual and noise impacts on neighboring areas.
  - b) A WES project with more than one WES structure or tower shall utilize consistent design, size, color, operation and appearance throughout the project.
- (9) Inspection – Upon approving any WES, the Township shall have the right to inspect the premises on which the WES is located at all reasonable times. The Township may hire a consultant to assist with any such inspections at the applicant's cost.
- (10) Insurance – The WES operator shall maintain a current insurance policy which will cover installation and operation of the WES. The amount of the policy shall be determined at the time of approval and shall be stipulated as a condition of approval.
- (11) Performance Guarantee – If a Special Use permit is approved pursuant to this section, the Planning Commission may require a security to be furnished by the applicant to the Township in order to ensure full compliance with this section and any conditions of approval. The security shall be in the form of a cash deposit, surety bond, or irrevocable letter of credit as specified by the Planning Commission in an amount, time duration and with a financial institution deemed acceptable to the Planning Commission.

(d) **Standards For All Wind Energy Systems:** All WES Shall Comply With The Following:

- (1) Sound Pressure Level.
  - a) On Site wind energy systems shall not exceed 55 dB (A) at the property line closest to the WES. This sound pressure level may be exceeded during short-term events such as severe wind storms. If the ambient



sound pressure level exceeds 55 dB (A), the standard shall be ambient dB (A) plus 5 dB (A).

- b) Utility Grid Systems and Wind Farms shall be subject to the above standards but the sound pressure level shall be measured at the property line closest to the WES at the outside boundary of each property used for the Utility Grid System. In addition, the applicant shall provide modeling and analysis that will demonstrate that the Utility Grid System or Wind Farm will not exceed the maximum permitted sound pressure.

(2) Construction Codes and Interconnection Standards -

- a) All applicable state construction and electrical codes and local building permit requirements;
- b) Federal Aviation Administration requirements.
- c) The Michigan Airport Zoning Act, Public Act 23 of 1950, as amended;
- d) The Michigan Tall Structures Act, Public Act 259 of 1959, as amended;
- e) Private landing strips in or adjacent to Gun Plain Township
- f) The Michigan Public Service Commission and Federal Energy Regulatory Commission if the WES is an interconnected system.

(3) Safety.

- a) Each WES shall be equipped with both a manual and automatic braking device capable of stopping the WES operation in high winds so that the rotational speed of the rotor blade does not exceed the design limits of the rotor.
- b) To prevent unauthorized access, each WES must comply with at least one of the following provisions, and more than one if required by the Planning Commission:
  - 1. Tower climbing apparatus shall not be located within 12 feet of the ground.
  - 2. A locked anti-climb device shall be installed and
  - 3. A tower capable of being climbed shall be enclosed by a locked, protective fence at least ten feet high with barbed wire fence.
- c) All WES shall have lightning protection.
- d) If a tower is supported by guy wires, the wires shall be clearly visible to height of at least 10 feet above the guy wire anchors
- e) The minimum height of the lowest position of the rotor or blade shall be at least 20 feet above the ground.

(4) Signs.

- a) Each WES shall have one sign not to exceed two square feet posted at the base of the tower, or, if the structure is fenced, on the fence. The sign shall include the following information:
  - 1. The words "Warning: High Voltage

2. Emergency phone numbers.
- b) A WES shall not include any advertising of any kind, except the nacelle may have lettering that exhibits the manufacturer's and/or owner's identification.
- (5) Electromagnetic Interference – WES shall be designed, constructed and operated so as not to cause radio and television interference.
- (6) Maintenance –Each WES must be kept and maintained in good repair and condition at all times and shall not pose a potential safety hazard.
- (7) All distribution lines from the WES to the electrical grid connection shall be located and maintained underground, both on the property where the WES will be located and off-site. The Planning Commission may waive this requirement for off-site distribution lines if the Planning Commission determines that the installation or maintenance of such underground distribution lines would be impractical or unreasonably expensive.
- (8) Unless it is a structure mounted WES, a WES may be located on a lawful parcel or parcels, which do not have frontage on a public or private road if reasonable access is provided by means of appropriate ingress, egress and utility easements.

### ***SOLAR PANELS.***

***Add Under Chapter 19 General provisions by adding a new  
"Section 19.24 Solar Panels" which shall read in its entirety as follows:***

#### **SECTION 31.01 SOLAR PANELS.**

- (a) Solar panels (or arrays thereof) exceeding four (4) square feet in area are not permitted in any front or side yard or on any wall or face of a building or structure facing a street unless such panel(s) is integrated with the ordinary construction of the building or structure, and/or is fully screened from view of the adjacent street (except roof-mounted solar panels as set forth below).
- (b) Ground-mounted solar panels shall:
  - (1) Be located in a side or rear yard only.
  - (2) Not exceed sixteen (16) feet in height above the ground.
  - (3) Be fully screened at all times from view at adjacent property lines and street lines by structures, fencing or a combination of evergreen and deciduous plantings.
- (c) Roof-mounted solar panels. Roof-mounted solar panels are permitted and may include "integrated" solar panels that are either integrated architecturally as part of the roof structure or as part of the surface layer of the roof structure causing no apparent change in relief or projection, as well as separate "flush" and "tilt mounted" solar panel systems attached to the roof surface as follow
  - (1) An integrated solar panel may not cause the height of a building or structure to exceed the height limitations of the district in which the building or structure is located.
  - (2) "Flush" and "tilt mounted" solar panels shall be located on a rear-yard or side-yard facing roof, as viewed from any adjacent street.
  - (3) "Flush" and "tilt mounted" solar panels installed on a pitched roof surface shall not project vertically above the ridgeline of the roof to which it is attached,

- (4) "Flush" or "tilt mounted" solar panels located on a mansard or flat-roofed building shall be set back at least 6-feet from the edge of the deck or roof on all elevations and shall be exempt from district height limitations provided that the panels shall not project more than 5-feet above the roof surface of a flat roof or the deck of a mansard roof.

*Article X*  
*Effective date*

This ordinance takes effect 8 days following publication of notice of its adoption pursuant to Michigan Public Act 110 of 2006. All ordinances and parts of ordinances in conflict herewith are repealed.

AYES: Members: Meert, Pearson, Morrison, Corbin, Mersman  
NAYS: Members: Kopka, Vandenberg  
ORDINANCE DECLARED ADOPTED.

I hereby certify that the foregoing is a true and complete copy of an ordinance adopted by the Township Board of the Township of Gun Plain at a regular meeting thereof held on the date first stated above, and I further certify that public notice of such meeting was given as provided by law.

Marty Meert

Marty Meert  
Gun Plain Township Clerk