

SOLAR ENERGY SYSTEMS

**TOWNSHIP OF MANHEIM
Lancaster County, Pennsylvania**

ORDINANCE NO. 2009 - 16

**AN ORDINANCE TO AMEND THE ZONING ORDINANCE OF
MANHEIM TOWNSHIP – 1989, AS AMENDED, BY AMENDING
ARTICLE 5, DEFINITIONS, BY ADDING A DEFINITION FOR
SOLAR ENERGY SYSTEMS AND BY AMENDING ARTICLE 19,
RESIDENTIAL ACCESSORY REGULATIONS BY ADDING A NEW
SECTION 1911 TO PERMIT SOLAR ENERGY SYSTEMS AS AN
ACCESSORY TO A RESIDENTIAL USE IN ANY ZONING
DISTRICT.**

BE IT HEREBY ENACTED AND ORDAINED by the Board of Commissioners of Manheim Township, Lancaster County, Pennsylvania, the Manheim Township Zoning Ordinance of 1989, as amended, shall be amended in the following respects:

Section 1. The Zoning Ordinance of Manheim Township – 1989, Article 5, Definitions, shall be amended to include the following definitions:

Solar Energy System. An energy conversion system including appurtenances which converts solar energy to a usable form of energy to meet all or part of the energy requirements of the on-site residential user.

Section 2. The Zoning Ordinance of Manheim Township – 1989, Article 19, Residential Accessory Regulations, shall be amended by adding Section 1911 as follows:

Section 1911. SOLAR ENERGY SYSTEMS

It is the purpose of this regulation to promote the safe, effective and efficient use of solar energy systems installed to reduce the on-site consumption of utility supplied energy and/or hot water as a residential accessory use while protecting health, safety and welfare of adjacent and surrounding land uses through appropriate zoning and land use controls. A solar energy system shall be permitted in any zoning district as an accessory to a residential use herein and specific criteria as set forth below. Where said general standards and specific criteria overlap, the specific criteria shall supersede the general standards.

1. The installation and construction of a solar energy system shall be subject to the following development and design standards:
 - A. A solar energy system is permitted in all zoning districts as an accessory to a residential use.
 - B. A solar energy system shall provide power for the principal residential use and/or residential accessory use of the property on which the solar energy system is located and shall not be used for the generation of power for the sale of energy to other users, although this provision shall not be interpreted to prohibit the sale of excess power generated from time to time to the local utility company.
 - C. A solar energy system connected to the utility grid shall provide written authorization from the local utility company acknowledging and approving such connection.
 - D. A solar energy system may be roof mounted or ground mounted.
 - E. A roof mounted system may be mounted on a principal building or accessory building. A roof mounted system whether mounted on the principal building or accessory building, may not exceed the maximum building height or accessory building height specified for the building type in the underlying zoning district. In no instance shall any part of the solar energy system extend beyond the edge of the roof.
 - F. A ground mounted system shall not exceed the maximum building height for accessory buildings.
 - G. The surface area of a ground mounted system regardless of the mounted angle shall be calculated as part of the overall lot coverage. Of the allowable lot coverage, the surface area of a ground mounted system shall not constitute more than two (2) percent of the allowable lot coverage or 360 square feet, whichever is less.
 - H. A ground mounted system or system attached to an accessory building shall not be located within the required front yard setback.
 - I. The minimum solar energy system setback distance from the property lines shall be equivalent to the building setback or accessory building setback requirement of the underlying zoning district.
 - J. The number of solar panels and supporting equipment shall be considered as one solar energy system.

- K. All mechanical equipment associated with and necessary for the operation of the solar energy system shall comply with the following:
- 1) Mechanical equipment shall be screened from any adjacent property that is residentially zoned or used for residential purposes. The screen shall consist of shrubbery, trees, or other plant materials which provides a visual screen. In lieu of a planting screen a decorative fence meeting the requirements of the Zoning Ordinance may be used.
 - 2) Mechanical equipment shall not be located within the minimum front yard setback of the underlying zoning district.
 - 3) Mechanical equipment shall be setback at least ten (10) feet from the rear and side property lines.
- L. Solar panels shall be placed such that concentrated solar radiation or glare shall not be directed onto nearby properties or roadways.
- M. Solar panels shall not be placed in the vicinity of the Airport in a manner that would interfere with airport flight patterns. Acknowledgement from the Federal Aviation Administration may be necessary.
- N. All power transmission lines from a ground mounted the solar energy system to any building or other structure shall be located underground.
- O. A solar energy system shall not be used to display advertising, including signage, streamers, pennants, spinners, reflectors, ribbons, tinsel, balloons, flags, banners or similar materials. The manufacturer's or installer's identification and any appropriate warning signs and placards may be displayed on the solar energy system provided they comply with the prevailing sign regulations.
- P. A solar energy system shall not be constructed until a building permit has been approved and issued.
- Q. The design of the solar energy system shall conform to applicable industry standards. A building permit shall be obtained for a solar energy system per the PA Uniform Construction Code (UCC). All wiring shall comply with the applicable version of the National Electric Code (NEC). The local utility provider (PPL) shall be contacted to determine grid interconnection and net metering policies. The Applicant shall submit certificates of design compliance obtained by the equipment manufacturers from a

certifying organization and any such design shall be certified by an Engineer registered in the Commonwealth of PA.

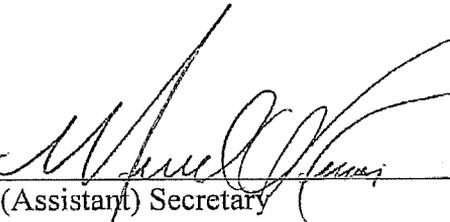
- R. The solar energy system shall comply with all applicable Township Ordinances and Codes so as to ensure the structural integrity of such solar energy system.
 - S. Before any construction can commence on any solar energy system the property owner must acknowledge that he/she is the responsible party for owning and maintaining the solar energy system. If the solar energy system is abandoned or is in a state of disrepair it shall the responsibility of the property owner to remove or maintain the solar energy system.
2. If a ground mounted solar energy system is removed, any earth disturbance as a result of the removal of the ground mounted solar energy system shall be graded and reseeded.

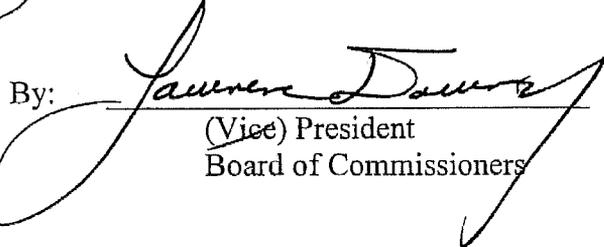
Section 3. All other portions, parts and provisions of the Zoning Ordinance of Manheim Township – 1989, as heretofore enacted and amended, shall remain in force and effect.

Section 4. This Ordinance shall take effect and be in force after its enactment by the Board of Commissioners of the Township of Manheim as provided by law.

DULY ORDAINED AND ENACTED the 10th day of August, 2009, by the Board of Commissioners of the Township of Manheim, Lancaster County, Pennsylvania, in lawful session duly assembled.

TOWNSHIP OF MANHEIM
Lancaster County, Pennsylvania

Attest: 
(Assistant) Secretary

By: 
(Vice) President
Board of Commissioners

[TOWNSHIP SEAL]

WIND ENERGY SYSTEMS

**TOWNSHIP OF MANHEIM
Lancaster County, Pennsylvania**

ORDINANCE NO. 2009 - 17

**AN ORDINANCE TO AMEND THE ZONING ORDINANCE OF
MANHEIM TOWNSHIP – 1989, AS AMENDED, BY AMENDING
ARTICLE 5, BY ADDING DEFINITIONS FOR WIND ENERGY
SYSTEMS, WIND ENERGY SYSTEM HEIGHT AND WIND
ENERGY SYSTEM TURBINE; AND BY AMENDING ARTICLE 23,
PERFORMANCE REGULATIONS BY ADDING A NEW SETION
2323 TO PERMIT WIND ENERGY SYSTEMS AS AN ACCESSORY
STRUCTURE/USE BY CONDITIONAL USE IN THE
AGRICULTURAL ZONING DISTRICT.**

BE IT HEREBY ENACTED AND ORDAINED by the Board of Commissioners of Manheim Township, Lancaster County, Pennsylvania, the Manheim Township Zoning Ordinance of 1989, as amended, shall be amended in the following respects:

Section 1. The Zoning Ordinance of Manheim Township – 1989, Article 5, Definitions, shall be amended to include the following definitions:

Wind Energy System. An energy conversion system consisting of a wind turbine, a tower, blades and associated controls and appurtenances that convert wind energy to a usable form of energy to meet all or part of the energy requirements of the on-site user and which has a rated capacity that does not exceed the rated capacity appropriate to the on-site user.

Wind Energy System Height. The distance measured from the ground surface of the wind energy system tower base to the highest point of the extended blade tip or highest point of the wind energy system.

Wind Energy System Turbine. The parts of a wind energy system including the blades, generator and tail.

Section 2. The Zoning Ordinance of Manheim Township – 1989, Article 23, Performance Regulations, shall be amended by adding Section 2323 as follows:

Section 2323. WIND ENERGY SYSTEMS

1. Purpose: It is the purpose of this regulation to promote the safe, effective and efficient use of wind energy and to reduce the on-site consumption of utility supplied energy as an accessory use while protecting the health, safety and welfare of adjacent and surrounding land uses through appropriate zoning and land use controls. Wind energy systems shall be permitted in the agricultural zoning district as an accessory use by conditional use with the general standards as set forth in Section 2210.3 herein, and with specific criteria as set forth in this Section. This Section is intended to accomplish the following:
 - A. Provide for appropriate locations and development of wind energy systems in Manheim Township.
 - B. Protect Manheim Township's natural environment by promoting wind energy systems and reducing the use of fossil fuels.
 - C. Minimize adverse nuisance and visual impacts of wind energy systems through careful design and siting techniques.
 - D. Avoid potential damage to adjacent properties through engineering and careful siting for wind energy systems.
 - E. Encourage and promote the location of wind energy systems in areas not immediately adjacent or adversely effecting residential uses.

2. Modifications: The Board of Commissioners may, by conditional use approval, permit the modification of the provisions of this Section, including but not limited to provisions related to the number of turbines and associated appurtenances per lot, the height of the system and the minimum yard dimensions in order to encourage the use of wind energy systems. An applicant desiring to obtain conditional use approval shall, when making application for conditional use under this Section shall also make application for modifications simultaneously. However, granting of a modification shall not have the effect of making null and void the intent and purpose of the Article. Any conditional use to permit a modification of the requirements of this Section shall be subject to the following standards:
 - A. The design and improvement shall be in harmony with the purpose and intent of this Section.
 - B. The design and improvement shall not have an adverse impact on the surrounding neighbors.
 - C. The proposed modification shall not result in any danger to the public health, safety or welfare.

- D. The landowner shall demonstrate that the proposed modification will allow equal or better results and represents the minimum modification necessary.
- E. The applicant must demonstrate to the satisfaction of the Board of Commissioners that with respect to each request for a modification that literal compliance with the provisions of this Ordinance is unreasonable; causes undue hardship because of unique or unusual conditions pertaining to the subject property but meets the purpose and intent of the Ordinance; and is unnecessary because an alternate standard can be demonstrated to provide equal or better results.

If the Board of Commissioners determines that the landowner has met his burden, it may grant a modification of the requirements of this Section. In granting modifications, the Board of Commissioners may impose such conditions as will, in its judgment, secure the objectives and purposes of this Section.

- 3. General Standards: Where said general standards and specific criteria overlap, the specific criteria shall supersede the general standards. The installation and construction of a wind energy system shall be subject to the following development and design standards:
 - A. A wind energy system is permitted in the Agricultural district as an accessory use by conditional use.
 - B. A wind energy system shall provide power for the principal use and/or accessory uses of the property on which the wind energy system is located and shall not be used for the generation of power for the sale of energy to other users, although this provision shall not be interpreted to prohibit the sale of excess power generated from time to time to the local utility company.
 - C. A wind energy system connected to the utility grid shall provide written authorization from the local utility company acknowledging and approving such connection.
 - D. The maximum number of towers in a wind energy system is one per lot.
 - E. The maximum wind energy system height is eighty-five (85) feet. The height shall be measured from the ground surface of the wind energy system tower to the highest point of the extended blade tip or the highest point of the wind energy system. The permitted height limits are also subject to

applicable Federal Aviation Administration regulations regarding objects affecting navigable airspace. The applicant shall provide acknowledgement from the Federal Aviation Administration or from a representative from the Lancaster Airport Authority authorized to acknowledge such request indicating that the height of the wind energy system does not adversely affect the airspace of the airport.

F. Setbacks from the wind energy system shall be as follows:

- i) Setback from property line - The minimum wind energy system setback distance from the nearest property line shall be a distance equal to or greater than the distance from the wind energy system tower base to the tip of the blade or the highest point of the wind energy system.
- ii) Setback from residential dwellings - The minimum wind energy system setback distance from any residential dwelling excluding the dwelling situated on the property where the wind energy system will be located shall be five hundred (500) feet from the property line and one thousand (1,000) feet from the residential dwelling. The distance shall be measured from the nearest point of the extended tip of the blade or nearest point of the wind energy system to the residential dwelling.

Upon written notice and approval from the adjacent property owner, a less restrictive setback may be accepted by the Board of Commissioners. Any such written acknowledgement shall include a protection zone extending and covering the area a distance equal to the height of the wind energy system such that no building may be constructed within this protection zone.

- iii) The minimum wind energy system setback distance from all above ground utility lines, radio, television or telecommunication towers shall be a distance equal to or greater than the distance from the wind energy system tower base to the tip of the blade or the nearest point from the wind energy system to the above ground utility lines, radio, television or telecommunication towers.

- iv) The minimum distance from guy wires, accessory structure, and other appurtenances of the wind energy system shall be ten (10) feet from the property lines.
 - v) Wind energy systems shall not be located within the required front yard setback.
- G. The distance between the ground and any part of the rotor or blade system shall be no less than fifteen (15) feet.
- H. Wind energy systems shall be equipped with an appropriate anti-climbing device or other similar protective device to prevent unauthorized access to the wind energy system. Such anti-climbing device shall be installed to a minimum height of fifteen (15) feet from the ground or roof if the wind energy system is situated on the roof. Access doors to wind energy systems and electrical equipment shall be locked to prevent entry by non-authorized person.
- I. All power transmission lines from the wind energy system to any building or other structure shall be located underground. There shall be no exposed wiring.
- J. Wind energy systems shall be a neutral non-obtrusive color such as white, off-white, gray, brown or earth tone shade unless required by the Federal Aviation Administration or other regulatory agency to be otherwise.
- K. Audible sound from a wind energy system shall not exceed sixty (60) decibels, as measured at the exterior of any occupied building on the adjacent parcels.
- L. All wind energy systems shall be designed with an automatic brake to prevent over-speeding and excessive pressure on the wind energy system tower structure.
- M. Wind energy systems shall not be artificially lighted unless required by the Federal Aviation Administration or other applicable regulatory authority. If the Federal Aviation Administration requires safety lighting, the use of red beacons is preferred to flashing strobe lights. Illumination of the wind energy system shall be avoided.
- N. Wind energy systems shall not be used to display advertising, including signage, streamers, pennants, spinners, reflectors, ribbons, tinsel, balloons, flags, banners or similar

materials. The manufacturer's or installer's identification and any appropriate warning signs and placards may be displayed on the wind energy system provided they comply with the prevailing sign regulations.

- O. Mechanical equipment associated with the use of the wind energy system shall comply with the following:
 - i) Any mechanical equipment associated with and necessary for the operation of the wind energy system that is not enclosed within the wind energy tower or within an accessory structure on the property shall comply with the following:
 - a) Mechanical equipment shall be screened from any adjacent property that is residentially zoned or used for residential purposes. The screen shall consist of shrubbery, trees, or other plant materials which provides a visual screen. In lieu of a planting screen a decorative fence meeting the requirements of the Zoning Ordinance may be used.
 - b) Mechanical equipment shall not be located within the minimum front yard setback of the underlying zoning district.
 - c) Mechanical equipment shall be setback at least ten (10) feet from the rear and side property lines.

- P. A site plan including the following information shall be included:
 - i) Overall site boundary with sufficient information to show the location of the property in proximity to adjacent properties and existing features located within five hundred feet (500') of the subject property boundaries.
 - ii) Identification of adjacent property owners.
 - iii) Location, dimensions, and types of existing structures on the property and proximity to structures on adjacent lots within five hundred feet (500') of the subject wind energy system.
 - iv) Location and dimension of driveways, roadways and significant features within and adjacent to the subject property within five hundred feet (500') of the subject property boundaries.

- v) Location of the proposed wind energy system, foundations, guy anchors and associated equipment.
- vi) Setback requirements as outlined in this ordinance and proposed setbacks.
- vii) The location of any rights-of-way, easements, floodplains, or other covenants restricting the use of the property.
- viii) The location of any overhead utility lines, radio transmission lines, cable lines or other overhead lines within five hundred feet (500') of the subject property boundaries.
- ix) The location of any telecommunication towers within 1,000' of the subject property.
- x) Wind energy system specifications, including manufacturer, model, rotor diameter, tower height, tower type.

Q. A report from a qualified engineer, licensed in the State of Pennsylvania, documenting the following shall be submitted for review:

- i) Description of the wind energy system including overview, project location, the rated capacity for the on-site user, type and height of facility including generating capacity, dimensions and respective manufacturers and a description of the ancillary facilities. Description should include technical, engineering, economic, and other pertinent factors governing selection of the proposed design.
- ii) Evidence of structural integrity of each tower structure.
- iii) Structural failure characteristics of the each tower structure and demonstration that site and setbacks are of adequate size to contain debris.
- iv) Information demonstrating that the proposed wind energy system is for the sole purpose of generating energy for the user of the property with the exception of the excess energy that may be generated from time to time and sold to the local utility company.
- v) Identification of the nearest wind energy system, telecommunication tower and residential homes.
- vii) The applicant shall describe the technical options available and reasons why the technical option selected was chosen over the other options.
- viii) Provide make, model, picture and manufacturer's specifications.

- R. Visual Impact - demonstrations including before and after photo-simulations and elevation drawings showing the height, design, color, night lighting and proposed location of the facility as viewed from neighboring areas. The applicant shall demonstrate through project site planning and proposed mitigation that the wind energy system's visual impacts will be minimized for surrounding neighbors and the community. This may include, but is not limited to information regarding site selection, turbine design or appearance, buffering and screening of mechanical equipment.
 - i) Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the wind energy system.
- S. Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Township to ensure compliance with this Ordinance.
- T. Evidence that the applicant is the owner of the premises involved or that the applicant if he is a tenant of the property has written permission of the owner to make such application.
- U. Permitting - A wind energy system shall not be constructed until a building permit has been approved and issued.
 - i) The design of the wind energy system shall conform to applicable industry standards. A building permit shall be obtained for wind energy systems per the PA Uniform Construction Code (UCC). All wiring shall comply with the applicable version of the National Electric Code (NEC). The local utility provider (PPL) shall be contacted to determine grid interconnection and net metering policies. The Applicant shall submit certificates of design compliance obtained by the equipment manufacturers from a certifying organization and any such design shall be certified by an Engineer registered in the Commonwealth of PA.
 - ii) The wind energy systems shall comply with all applicable Township Ordinances and Codes.
- V. Maintenance - All wind energy systems shall be maintained in compliance with Township standards contained in the

applicable codes and ordinances so as to ensure the structural integrity of such facilities. If, upon inspection by the Zoning Officer or any code official, any such facility determined not to comply with the applicable codes and ordinances or to constitute a danger to persons or property, then notice of such lack of compliance shall be provided to the owner of the property. Failure to bring such facility into compliance shall constitute a violation of this ordinance.

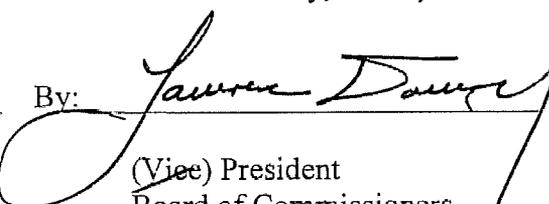
- i) Before any construction can commence on any wind energy systems the property owner must acknowledge that he/she is the responsible party for owning and maintaining the wind energy system. If the wind energy system is abandoned or is in a state of disrepair it shall be the responsibility of the property owner to remove or maintain the wind energy system.
- ii) Any earth disturbance as a result of the removal of the ground mounted wind energy system shall be graded and reseeded.

Section 3. All other portions, parts and provisions of the Zoning Ordinance of Manheim Township – 1989, as heretofore enacted and amended, shall remain in force and effect.

Section 4. This Ordinance shall take effect and be in force after its enactment by the Board of Commissioners of the Township of Manheim as provided by law.

DULY ORDAINED AND ENACTED the 10th day of August, 2009, by the Board of Commissioners of the Township of Manheim, Lancaster County, Pennsylvania, in lawful session duly assembled.

Attest: 
(Assistant) Secretary

TOWNSHIP OF MANHEIM
Lancaster County, Pennsylvania
By: 
(Vice) President
Board of Commissioners

[TOWNSHIP SEAL]
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