

VILLAGE OF DEERFIELD
LAKE AND COOK COUNTIES, ILLINOIS

ORDINANCE NO. 0-12-09

AN ORDINANCE AMENDING ARTICLE 2 (“GENERAL PROVISIONS”)
OF THE ZONING ORDINANCE OF THE VILLAGE OF DEERFIELD
BY ADDING ARTICLE 2.10 ENTITLED “ALTERNATIVE ENERGY SYSTEMS”

PASSED AND APPROVED BY THE
PRESIDENT AND BOARD OF TRUSTEES
OF THE VILLAGE OF DEERFIELD, LAKE
AND COOK COUNTIES, ILLINOIS, this

21st day of February, 2012.

Published in pamphlet form
by authority of the President
and Board of Trustees of the
Village of Deerfield, Lake and
Cook Counties, Illinois, this
21st day of February, 2012.

**VILLAGE OF DEERFIELD
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ORDINANCE NO. 0-12-09

**AN ORDINANCE AMENDING ARTICLE 2 (“GENERAL PROVISIONS”)
OF THE ZONING ORDINANCE OF THE VILLAGE OF DEERFIELD
BY ADDING ARTICLE 2.10 ENTITLED “ALTERNATIVE ENERGY SYSTEMS”**

WHEREAS, the Village of Deerfield has petitioned the Plan Commission of the Village of Deerfield for a text amendment to the Zoning Ordinance of the Village of Deerfield to establish zoning regulations governing the establishment, operation, maintenance and use of alternative and renewable energy systems within the residential and non-residential zoning districts of the Village of Deerfield; and,

WHEREAS, the Plan Commission of the Village of Deerfield held a public hearing on September 22, 2011 and on November 10, 2011 to consider proposed text amendments to the Zoning Ordinance of the Village of Deerfield, including a model ordinance developed by the Alternative Energy Task Force of Lake County, to regulate the establishment, operation, maintenance and use of alternative and renewable energy systems, including wind, solar and geothermal systems, in a manner compatible with existing uses and the built environment in which such systems would be established and operated within the Village; and,

WHEREAS, the Plan Commission of the Village of Deerfield, after considering the evidence and supporting materials presented at said public hearings, submitted its written report to the Board of Trustees of the Village of Deerfield recommending approval of a text amendment to the Zoning Ordinance of the Village of Deerfield to establish rules and regulations for the

establishment, operation, maintenance and use of alternative energy systems within the residential and non-residential zoning districts of the Village of Deerfield; and,

WHEREAS, the President and Board of Trustees of the Village of Deerfield concur in the recommendation of the Plan Commission and have determined that it is in the best interests of the Village of Deerfield that the text of the Zoning Ordinance be amended as provided herein;

NOW, THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF DEERFIELD, LAKE AND COOK COUNTIES, ILLINOIS, in the exercise of its home rule powers, as follows:

SECTION 1: That Article 2 (“General Provisions”) of the Zoning Ordinance of the Village of Deerfield be and the same is hereby amended by adding Article 2.10 entitled "Alternative Energy Systems" as follows:

2.10 ALTERNATIVE ENERGY SYSTEMS

2.10-A Purpose and Intent

1. To establish reasonable and uniform regulations for the location, installation, operation, and maintenance of wind, solar, and geothermal energy systems.
2. To assure that any development and production of wind, solar, and geothermal generated electricity in the Village of Deerfield is safe and to minimize any potentially adverse effects on the community.
3. To promote the supply of sustainable and renewable energy resources, in support of national, state, and local goals.
4. To facilitate energy cost savings and economic opportunities for Deerfield residents and businesses.

2.10-B Definitions

As used in this Article 2.10 the following terms shall have the following meanings:

1. Abandonment: Any Wind Energy System (WES) that has not been repaired to operating condition within the reasonable timeframe identified by the Village of Deerfield, as provided in this ordinance.
2. Ambient Sound: The all-encompassing sound at a given location, usually a composite of sounds from many sources near and far. For the purpose of this ordinance, the “ambient sound level” shall mean the quiescent background level, that is, the quietest of ten 10-second average sound levels measured when there are no nearby or distinctly audible sound sources (e.g., dogs, cars in line-of-sight, or jets).
3. Applicant: The Owner, who is in the process of submitting or has submitted an application to install an Alternative Energy System project in the Village of Deerfield.
4. Building-Integrated Solar Energy System: A solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural part of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water systems that are contained within roofing materials, windows, skylights, shading devices and similar architectural components.
5. Building-Mounted Solar Energy System: A solar energy system that is mounted on the façade or roof of either a principal or accessory structure.
6. Building-Mounted Wind Energy Systems (BWES): Wind Energy Systems that are structurally attached either onto the roof of or to the side of a building.
7. Decibel (dB): The unit of sound level based on a reference where 0 dB represents the threshold of hearing at 1000 Hz for a healthy young adult.
8. Decommissioning: Once a WES has been deemed inoperable or abandoned its components must be disassembled and removed from the premises, including the foundation. Upon removal, the site shall be restored to its original pre-construction condition.
9. FAA: The Federal Aviation Administration of the United States Department of Transportation.
10. FCC: The Federal Communications Commission.
11. Flush-Mounted Solar Energy System: A solar energy system that is mounted flush with a finished surface, at no more than six (6) inches in height above that surface.
12. Geothermal Energy System: A sealed, watertight loop of pipe buried outside of a building foundation, intended to re-circulate a liquid solution through a heat exchanger. This includes but is not limited to: vertical closed loop, horizontal closed loop and body of water closed loop systems.

13. Ground-Mounted Solar Energy System: A solar energy system not attached to another structure and which is ground mounted.
14. High Quality Aquatic Resource: Waters of the United States or Isolated Waters of Lake County that are determined to be critical due to their uniqueness, scarcity, function and/or value.
15. Horizontal Axis Wind Turbine (HAWT): A wind turbine with a main rotor shaft and generator at the top of the tower, and which must be pointed into the wind. A HAWT typically has a gearbox, which turns the slow rotation of the blades into a quicker rotation that is more suitable to drive an electrical generator.
16. IDNR: The Illinois State Department of Natural Resources.
17. Nacelle: The part containing the shaft, gear box, and generator in a typical horizontal axis turbine.
18. Nameplate Wattage: The amount of energy produced from a Wind Energy System at maximum or optimum wind speeds within one hour, as indicated by the manufacturer.
19. Neighboring Property: Any property within 500 feet of a BWES or SWES.
20. Nonparticipating Property: A property that is not owned by the Owner of the property on which the WES is proposed or installed.
21. Photovoltaic Cell: A semiconductor device that converts solar energy into electricity.
22. Operational condition: WES facilities being capable of operating at full capacity while meeting all sound, shadow flicker and other permit conditions.
23. Owner: The person(s), who hold(s) title of the property on which an alternative energy facility is installed.
24. Participating Property: A property that is owned by the Owner of the property on which the WES is proposed or installed.
25. Professional Engineer: A qualified individual who is licensed as a professional engineer in the State of Illinois.
26. Shadow Flicker: The on-and-off strobe light effect caused by the shadow of moving blades cast by the sun passing above the turbine. Shadow flicker intensity is defined as the difference or variation in brightness at a given location in the presence and absence of a shadow.

27. Silhouette: The widest diameter of a building-mounted WES, including the area covered by moving blades, as viewed from the front elevation, described in square feet.
28. Small Wind Energy Systems (SWES): Free-standing, tower-mounted wind energy systems with a system height measuring 75 feet or less from the ground. SWES facilities are accessory structures that generate power for local distribution and consumption.
29. Solar Energy System: An active or passive system for which the primary purpose is to convert solar energy into thermal, mechanical or electrical energy for storage and use.
30. Solar Panel: A group of photovoltaic cells are assembled on a panel. Panels are assembled on-site into solar arrays.
31. Sound Level: The A-weighted sound pressure level in decibels (dB) (or the C-weighted level if specified) as measured using a sound level meter that meets the requirements of a Type 2 or better precision instrument according to ANSI S1.4. The “average” sound level is time-averaged over a suitable period (say 1-minute) using an integrating sound level meter that meets the requirements of ANSI S12.43.
32. Structural Engineer: An engineer who is licensed and registered to practice structural engineering in the State of Illinois under the Illinois Structural Engineering Act and whose principal professional practice is in the field of structural engineering.
33. Sun Glint: The reflection of sunlight off of a surface of the blades, tower, or other component of the WES.
34. System Height: The distance from the ground to the highest point of the WES, including the highest reach of the blades.
35. Vertical Axis Wind Turbine (VAWT): A small scale wind turbine, in which the main rotor shaft is arranged vertically. The generator and gearbox are located near the ground so the tower does not have to support it and it is more accessible for maintenance.
36. Wind Energy System (WES): A wind energy production, conversion and distribution system consisting of a wind turbine, tower, and associated electronics equipment.
37. Tower: The structure on which the WES is mounted.
38. Turbine: The parts of a WES including the blades, nacelle and tail.

2.10-C Wind Energy Systems

1. Requirements for Building-Mounted Wind Energy Systems (BWES)

- a. Building-Mounted Wind Energy Systems (BWES) Building Permit Application Requirements

(1) Zoning Districts

- i. A BWES shall be a Special Use in all residential zoning districts.
- ii. A BWES shall be allowed as a Permitted Use in any non-residential zoning district, provided that all building permit requirements and general regulations are met including the Building Code, Zoning Ordinance and the requirements referenced herein.
- iii. On a property that is used for residential purposes, BWES shall be only Vertical Axis Wind Turbines (VAWT), and Horizontal Axis Wind Turbines (HAWT) shall be prohibited.

(2) Zoning Districts

Building-Mounted Wind Energy Systems (BWES)

(3) Project Proposal

- i. Name, address and phone number of Owner and Applicant.
- ii. Project summary including the manufacturer information and number of proposed turbines.
- iii. Photos of the proposed location of BWES.
- iv. A front elevation depiction of the building showing location and proposed height of the top of the turbine from the top of the building.

(4) Engineering

- i. Manufacturer's engineering specifications of the turbine, nameplate wattage capacity, dimensions of the turbine unit, mounting mechanisms, expected load and expected sound level production that must fit within the Sound Level standards below.
- ii. All BWES facilities shall be designed to withstand a minimum wind velocity of one hundred (100) miles per hour, with an impact pressure of forty (40) pounds per square foot.
- iii. Each BWES shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI). Applicants shall submit certificates of design compliance that equipment manufacturers have obtained from one of the following: Underwriters Laboratories (UL), National Renewable Energy Laboratories (NREL), Det Norske Veritas (DNV), Germanischer Lloyd Wind Energie (GL), or an equivalent third party.

(5) Braking Systems

- i. BWES facilities shall be equipped with automatic and manual braking systems.
- ii. The Owner shall be required to immediately cease operations as reasonably requested by the Village of Deerfield.

(6) Insurance

Proof of homeowner or business liability insurance, as appropriate.

(7) Electric Utility

Approval letter from the local electric utility company, if the system is to be tied to the energy grid.

b. Additional Standards for Building-Mounted Wind Energy Systems (BWES)

(1) Installation

- i. BWES facilities must be installed according to manufacturer specifications.
- ii. BWES devices may be structurally attached either on the roof or on the side of a building, in accordance with the Village of Deerfield's Building Code.
- iii. Electrical connections must be made by a licensed electrician.
- iv. The blade tip, at its lowest point, shall have ground clearance of not less than fifteen (15) feet.
- v. No support structure tower used for a BWES shall be either a lattice tower or supported by guy wires.

(2) Height

BWES facilities shall be allowed at the height of fifteen (15) feet above the highest point of the building structure, but in no case shall exceed forty-five (45) feet above the ground in a residentially zoned district.

(3) Sound Levels

- i. The average sound level from a BWES shall not exceed fifty (50) dB(A) at any point within neighboring, residentially zoned or used property. For neighboring industrial properties the sound level limit is sixty-five (65) dB(A) and for other neighboring non-residential properties, the sound level limit is sixty (60) dB(A) at any time of the day.
- ii. No BWES shall operate with an average sound level more than 5 dB(A) above the non-operational ambient level, as measured within any neighboring residentially zoned or used property.
- iii. If more than one (1) WES is located on a property, the average sound level shall be cumulative, and the total sound from all WES on the property shall not exceed the allowable decibel level.
- iv. To limit the level of low-frequency sound, the average C-weighted sound level during BWES operation shall not exceed the A-weighted ambient sound level by more than twenty (20) dB.
- v. Sound level meters used for sound measurement must be a Type 2 or better grade per ANSI S1.4 and must have an integrating feature that meets ANSI S1.43. Procedures must meet the applicable portions of ANSI S12.9. Measurements must be made when ground level winds do not exceed 5 miles per hour.
- vi. The Village of Deerfield may require, at the Owner's expense, field tests or sound propagation modeling, conducted by or supervised by an

acoustics specialist certified by the Institute of Noise Control Engineering as may be necessary, to determine whether a violation of said sound regulations is occurring or has occurred. The Owner shall be required to promptly remedy any such violations or discontinue operation.

(4) Shadow Flicker

- i. The BWES shall be sited such that shadow flicker will not fall on any window of an existing residential dwelling of an abutting nonparticipating property for more than one hour a day.
- ii. The Applicant may commit to a schedule for turning BWES turbines off during periods when shadow flicker would affect any nonparticipating residential dwelling.
- iii. Subsequently constructed or modified residences shall not compromise the existing approval and operation of the BWES, as a legal non-conforming use, subject to the applicable regulations.

(5) Silhouette

- i. The diameter of the BWES shall not exceed twenty (20) percent of the width of the building's front elevation, for residential buildings and non-residential buildings abutting residentially used properties.
- ii. The diameter of the BWES shall not exceed fifty (50) percent of the width of the building's front elevation for a non-residential building, not abutting residentially used properties.

(6) Color and Sun Glint

BWES facilities shall be finished in a neutral color, as approved by the Village of Deerfield zoning code administrator. The finish shall be flat or matte, so as to reduce incidence of sun glint. The required coloration and finish shall be maintained throughout the life of the system.

(7) Electronic Interference

BWES facilities shall not operate so as to cause electromagnetic degradation in performance of microwave, television, radio, internet or other wireless transmissions, including public emergency communications systems, contrary to Federal Communication Commission (FCC) or other state or local laws.

(8) Signage

No BWES shall have any advertising material, writing, picture, or signage, other than warning information or manufacturer identification.

(9) Accessory Use

- i. The primary purpose of the BWES shall be the production of energy for consumption on the same property.
- ii. It is permissible to sell excess energy that is produced by a BWES to the local electric utility company.

c. Maintenance, Complaints, and Decommissioning

(1) Maintenance and Complaints

- i. BWES facilities shall be maintained in Operational Condition at all times, except for reasonable maintenance and repair outages.
- ii. Should a BWES become inoperable, or should any part of the BWES become damaged, or should a BWES violate a permit condition, the Owner shall cease operations immediately and remedy the condition promptly.

(2) Decommissioning Plan

- i. For any BWES that has not been in Operable Condition within the above timeframe, the Village of Deerfield zoning compliance officer shall notify the Owner of the finding of Abandonment. The Owner shall remove all BWES structures within ninety (90) days of receipt of the finding of Abandonment.
- ii. If such abandoned facility is not removed within ninety (90) days, the Village of Deerfield may remove all structures at the Owner's expense. In the case of such removal the Village of Deerfield has the right to file a lien for reimbursement, or any and all expenses incurred the Village of Deerfield without limitation, including attorney fees and accrued interest.
- iii. Upon removal, the site shall be restored to its original pre-construction condition. See photos presented with Project Proposal.

2. Requirements for Small Wind Energy Systems (SWES)

a. Small Wind Energy Systems (SWES) Building Permit Application Requirements

(1) Zoning Districts

- i. An SWES shall be a Special Use in all zoning districts.
- ii. In residential zoning districts, there shall be limit of one (1) SWES.
- iii. On a property that is used for residential purposes, SWES shall be only Vertical Axis Wind Turbines (VAWT), and Horizontal Axis Wind Turbines (HAWT) shall be prohibited.

(2) Project Proposal

- i. Name, address and phone number of Owner and Applicant.
- ii. Photos of existing conditions for proposed SWES tower.
- iii. Project summary including the manufacturer information, number of proposed turbines, and proposed height to the top of the turbine.

(3) Engineering

- i. Manufacturer's engineering specifications of the tower, turbine and foundation, detailed drawing of electrical components and installation

details, and expected sound level production are required (see Sound Level standards below).

- ii. For turbines greater than twenty (20 kW) kilowatts of nameplate capacity, an Illinois licensed structural engineer's seal shall be required.
- iii. All SWES facilities shall be designed to withstand a minimum wind velocity of one hundred (100) miles per hour, with an impact pressure of forty (40) pounds per square foot.
- iv. Each SWES shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI). Applicants shall submit certificates of design compliance that equipment manufacturers have obtained from one of the following: Underwriters Laboratories (UL), National Renewable Energy Laboratories (NREL), Det Norske Veritas (DNV), Germanischer Lloyd Wind Energie (GL), or an equivalent third party.

(4) Braking Systems

- i. SWES facilities shall be equipped with automatic and manual braking systems.
- ii. The Owner shall be required to immediately cease operations as reasonably requested by the Village of Deerfield.

(5) Insurance

Proof of homeowner or business insurance, as appropriate.

(6) Electric Utility

Approval letter from the local electric utility company, if the system is to be tied to the energy grid.

b. Site Planning and Site Capacity (SWES)

(1) Site plan, drawn to scale, including:

- i. Existing and proposed contours, at a minimum of two foot intervals.
- ii. Location, setbacks, exterior dimensions and square footage of all structures on the owner's property and abutting properties within one hundred (100) ft.
- iii. Location and size of existing waterways, wetlands, one hundred-year floodplains, sanitary sewers, storm sewer systems, and water distribution systems.
- iv. Location of any overhead or underground power lines and utility easements.
- v. The locations and the expected duration of shadow flicker caused by the SWES facility.

(2) Setbacks

- i. Setbacks shall be measured from the base of the SWES tower.

- ii. SWES facilities may not be constructed within or over (including the blades) any utility, water, sewer, or other type of recorded easement.
- iii. SWES facilities may not be constructed within 50 ft. of all water bodies and wetlands and 100 ft. of High Quality Aquatic Resources.
- iv. In residential zoning districts, SWES shall not be located in any front yard or corner side yard.
- v. SWES facilities shall be set back a distance equal to one hundred ten percent, or 1.1 times the system height, from the base of the tower to all property lines, third party transmission lines, and communication towers.
- vi. SWES located on a non-residential property abutting a property used for residential purposes shall be set back a distance equal to one hundred fifty percent, or 1.5 times the system height, and in no case may be less than 100 feet from the base of the tower to all property lines, third party transmission lines, and communication towers.
- vii. The blade tip, at its lowest point, shall have ground clearance of not less than fifteen (15) feet.
- viii. No tower used for a SWES shall be either a lattice tower or supported by guy wires.

(3) Height

- i. In residentially zoned districts the system height for SWES shall be limited to a maximum of forty-five (45) feet.
- ii. In non-residentially zoned districts the system height for SWES shall be limited to a maximum of seventy-five (75) feet.

(4) Accessory Use

- i. The primary purpose of the SWES shall be the production of energy for consumption on the same property.
- ii. It is permissible to sell excess energy that is produced by a SWES to the local electric utility company.

c. Additional Standards for Small Wind Energy Systems (SWES)

(1) Installation

- i. SWES facilities must be installed according to manufacturer specifications.
- ii. Electrical connections must be made by a licensed electrician.

(2) Sound Levels

- i. The average sound level from a BWES shall not exceed fifty (50) dB(A) at any point within neighboring, residentially zoned or used property. For neighboring industrial properties the sound level limit is sixty-five (65) dB(A) and for other neighboring non-residential properties, the sound level limit is sixty (60) dB(A) at any time of the day.

- ii. No SWES shall operate with an average sound level more than 5 dB(A) above the non-operational ambient level, as measured within any neighboring residentially zoned or used property.
- iii. If more than one (1) WES is located on a property, the average sound level shall be cumulative, and the total sound from all WES on the property shall not exceed the allowable decibel level.
- iv. To limit the level of low-frequency sound, the average C-weighted sound level during SWES operation shall not exceed the A-weighted ambient sound level by more than twenty (20) dB.
- v. Sound level meters used for sound measurement must be a Type 2 or better grade per ANSI S1.4 and must have an integrating feature that meets ANSI S1.43. Procedures must meet the applicable portions of ANSI S12.9. Measurements must be made when ground level winds do not exceed 5 miles per hour.
- vi. The Village of Deerfield may require, at the Owner's expense, field tests or sound propagation modeling, conducted or supervised by an acoustics specialist certified by the Institute of Noise Control Engineering as may be necessary, to determine whether a violation of said sound regulations is occurring or has occurred. The Owner shall be promptly remedy any such violations or discontinue operation.

(3) Shadow Flicker

- i. The SWES facility shall be sited such that shadow flicker will not fall on any existing residential building of a nonparticipating property within five hundred (500) feet of the SWES property for more than one hour a day.
- ii. The Applicant may commit to a schedule for turning SWES turbines off during periods when shadow flicker would affect any nonparticipating residential dwelling.
- iii. Subsequently constructed or modified residences shall not compromise the existing approval and operation of the SWES, as a legal non-conforming use, subject to the applicable regulations.

(4) Color and Sun Glint

- i. SWES facilities shall be finished in either off white, light gray, other neutral color, or a color as approved by the Village of Deerfield zoning compliance officer.
- ii. The finish shall be flat or matte, so as to reduce incidence of sun glint.
- iii. The required coloration and finish shall be maintained throughout the life of the system.

(5) Electronic Interference

SWES facilities shall not operate so as to cause electromagnetic degradation in performance of microwave, television, radio, internet or other wireless transmissions, including public emergency communications systems, contrary to Federal Communication Commission (FCC) or other state or local laws.

(6) Signage

- i. No SWES shall have any advertising material, writing, picture, or signage other than warning, turbine tower identification, or manufacturer or ownership information.
- ii. This prohibition shall include the attachment of any flag, decorative sign, streamers, pennants, ribbons, spinners or waiving, fluttering or revolving devices, but not including meteorological/weather devices.
- iii. One (1) warning sign, no less than eighteen (18) square inches and no greater than two (2) square feet in area, shall be posted at the base of the tower. The sign shall include a notice of no trespassing, a warning of high voltage, and 911 and the phone number of the Owner to call in case of emergency.
- iv. Manufacturer's identification or ownership information signs shall be no larger than one (1) square foot.

(7) Climb Prevention

The base of the tower shall not be climbable for a vertical distance of fifteen (15) feet from the base, unless enclosed with a seven (7) foot tall locked fence.

(8) Lighting

- i. SWES facilities shall comply with all applicable Federal Aviation Administration (FAA) and any other Federal, State or local requirements.
- ii. SWES facilities shall not be artificially lighted unless required by the FAA or appropriate authority.
- iii. Any required lighting shall be shielded so that no glare extends substantially beyond the boundaries of the facility.

d. Maintenance, Complaints and Decommissioning (SWES)

(1) Maintenance and Complaints

- i. SWES facilities shall be maintained in Operational Condition at all times, except for reasonable maintenance and repair outages.
- ii. Should a SWES become inoperable, or should any part of the SWES become damaged, or should a SWES violate a permit condition, the Owner shall cease operations immediately and remedy the condition promptly.

(2) Decommissioning Plan

- i. For any SWES that has not been in Operable Condition within the above timeframe, a Deerfield zoning compliance officer shall notify the Owner of the finding of Abandonment. The Owner shall remove all SWES structures within ninety (90) days of receipt of notice.

- ii. If such abandoned facility is not removed within ninety (90) days, the Village of Deerfield may remove all structures at the Owner's expense. In the case of such removal the Village of Deerfield has the right to file a lien for reimbursement, for any and all expenses incurred by the Village of Deerfield without limitation, including attorney fees and accrued interest.
- iii. Upon removal, the site shall be restored to its original pre-construction condition. See photos presented with Project Proposal.

3. Indemnification

The Owner of the BWES or SWES project shall defend, indemnify and hold harmless the Village of Deerfield and its officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever including attorney's fees arising out of the acts or omissions of the Owner concerning the operation of the WES project without limitation, whether said liability is premised on contract or on tort.

2.10-D Solar Energy Systems

1. General Requirements

- a. Solar Energy Systems are a Permitted Use in any zoning district, provided that all building permit requirements and general regulations are met including the Building Code, Zoning Ordinance and the requirements referenced herein.
- b. No Solar Energy System shall be constructed or installed without first obtaining a Deerfield building permit.

2. Application Requirements

- a. An application for permit for all active Solar Energy Systems shall contain the following information, as applicable:
 - (1) Name, address and telephone number of the applicant.
 - (2) Name, address and telephone number of the person, firm or corporation constructing and installing the solar energy system.
 - (3) Elevation drawing(s) (and/or photographs) and site plan showing location, size and design details of proposed system(s).
 - (4) Manufacturer specifications of the solar collectors and devices including: wattage capacity, dimensions of collectors, mounting mechanisms and/or foundation details and structural requirements.
 - (5) Each system shall conform to applicable industry standards including those of the American National Standards Institute (ANSI).
 - (6) A certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency.
 - (7) Any other information to show full compliance with this and other applicable ordinances.
- b. An application for permit for all passive Solar Energy Systems shall contain the following information, as applicable:

- (1) Name, address and telephone number of the applicant.
- (2) Name, address and telephone number of the person, firm or corporation constructing and installing the solar energy system.
- (3) Elevation drawing(s) (and/or photographs) and site plan showing location, size and design details of proposed system(s).
- (4) Manufacturer specifications of the solar collectors and devices including: dimensions of collectors, mounting mechanisms and/or foundation details and structural requirements.
- (5) Each system shall conform to applicable industry standards including those of the American National Standards Institute (ANSI).
- (6) A certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency.
- (7) Any other information to show full compliance with this and other applicable ordinances.

3. Accessory Use

- a. The primary purpose of Solar Energy Systems shall be the production of energy for consumption on the same property.
- b. It is permissible to sell excess energy that is produced by a Solar Energy System to the local electric utility company.

4. Building-Mounted Solar Energy Systems

a. Location

- (1) Building-mounted solar energy systems are allowed on permitted principal and accessory structures.
- (2) Only building-integrated and/or flush-mounted solar energy systems shall be used when installed on the front building elevation.

b. Horizontal Projection

- (1) Solar Energy Systems shall not extend four (4) feet beyond the exterior perimeter of the building on which the system is mounted or built, as measured horizontally from the façade or roof edge on which the panel is mounted.
- (2) All setback restrictions shall apply, as regulated by the respective zoning district.

c. Height

- (1) Height shall be measured vertically from the lowest edge of the panel to the highest edge of the system.
- (2) Shall not extend more than five (5) feet above the highest point on the roof line, provided the maximum height in the respective zoning district is not exceeded.

5. Ground-Mounted Solar Energy Systems

- a. In addition to the application requirements in Section 2.10-D,2 above, the applicant shall also submit a scaled Site Plan drawing(s) which includes the following information:
 - (1) Existing and proposed contours, at a minimum of two foot intervals.
 - (2) Location, setbacks, exterior dimensions and square footage of all existing and proposed structures.
 - (3) Location and size of existing waterways, wetlands, one hundred-year floodplains, sanitary sewers, storm sewers, drain tiles and water distribution systems.
 - (4) Location of any overhead or underground utilities and easements.
- b. Setback
 - (1) In residential zoning districts, systems shall not be located in any front yard or corner side yard.
 - (2) In all zoning districts, systems shall comply with the respective setback requirements, as measured from the property line to the closest edge of the system.
- c. Lot Coverage
The total solar panel surface area shall be included in the lot coverage calculations for the respective zoning district.
- d. Height
Shall not exceed the height limits for accessory structures in the respective zoning district, as measured from adjoining grade at base to the highest elevation of the equipment.

2.10-E Geothermal Energy Systems

1. General Requirements
 - a. Geothermal Energy Systems shall be allowed as a Permitted Use in any zoning district, provided that a building permit is obtained and all permit requirements and general regulations are met, including: the Building Code, the Zoning Ordinance, the Lake or Cook County Health Ordinance (whichever is applicable based on the property's location), and the requirements referenced herein.
 - b. Geothermal Energy System components shall conform to applicable industry standards including those of the American National Standards Institute (ANSI). Applicants shall submit certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency.
2. Application Requirements
 - a. An application for permit for all Geothermal Energy Systems shall contain the following information:

- b. Name, address and telephone number of the applicant.
Name, address and telephone number of the person, firm or corporation installing and constructing the Geothermal Energy System.
 - c. Project summary including site plan and manufacturer information with specifications of materials and devices.
3. Setback
- a. Above-ground equipment shall comply with the setback requirements of the respective zoning district.
 - b. Equipment, piping and devices shall not be located in any easement or right-of-way.
4. Accessory Use
- i. The primary purpose of the Geothermal Energy System shall be the production of energy for consumption on the same property.
 - ii. It is permissible to sell excess energy that is produced by a Geothermal Energy System to the local utility company.

2.10-F Alternative Energy Systems As Permitted Uses

- 1. Notwithstanding Article 7.01, Building-mounted Wind Energy Systems (BWES), Solar Energy Systems, and Geothermal Energy Systems shall be a Permitted Use in the P-1 Public Lands District in accordance with Articles 2.10-C,1; 2.10-D; and 2.10-E.
- 2. Notwithstanding Article 12.09-G, Building-mounted Wind Energy Systems (BWES), Solar Energy Systems, and Geothermal Energy Systems shall be a Permitted Use in Planned Unit Developments (PUDs) in accordance with Articles 2.10-C,1; 2.10-D; and 2.10-E.

SECTION 2: That subparagraph c (“Group C”) of Paragraph 1 (“Building Appurtenance and Accessory Structures”) of Article 2.01-D (“Building Height”) of Article 2 (“General Provisions”) of the Zoning Ordinance of the Village of Deerfield. Be and the same is hereby amended to read as follows (deleted language is indicated by ~~strike through~~ markings):

- c. Group C
Cooling towers, elevator bulkheads, ~~energy collecting devices~~, radio and television receiving antennas, recreational facilities, roof gardens and skylights may exceed the maximum building height by not more than twelve (12) feet except as provided for in Group B.

SECTION 3: That this Ordinance, and each of its terms, shall be the effective legislative act of a home rule municipality without regard to whether such Ordinance should: (a) contain terms contrary to the provisions of current or subsequent non-preemptive state law; or, (b)

legislate in a manner or regarding a matter not delegated to municipalities by state law. It is the intent of the corporate authorities of the Village of Deerfield that to the extent that the terms of this Ordinance should be inconsistent with any non-preemptive state law, this Ordinance shall supersede state law in that regard within its jurisdiction.

SECTION 4: That this Ordinance shall be in full force and effect from and after its passage, approval and publication in pamphlet form as provided by law.

PASSED this 21st day of February, 2012.

AYES: Benton, Jester, Oppenheim, Seiden, Struthers (5)

NAYS: None (0)

ABSENT: None (0)

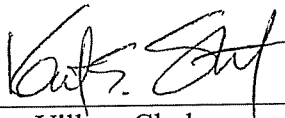
ABSTAIN: None (0)

APPROVED this 21st day of February, 2012.



Village President

ATTEST:



Village Clerk