Item #2:
Ordinance Approving Amendments To Zoning Code Re: Alternative Energy Devices

VILLAGE OF LONG GROVE
ORDINANCE NO. 2013-O-__

AN ORDINANCE AMENDING THE LONG GROVE ZONING CODE
REGARDING ALTERNATIVE ENERGY SYSTEMS

Adopted by the
President and Board of Trustees
of
the Village of Long Grove
this 28th day of May, 2013

Published in pamphlet form by direction
and authority of the Village of Long Grove,
Lake County, Illinois
this 28th day of May, 2013

VILLAGE OF LONG GROVE

ORDINANCE NO. 2013-O-__

AN ORDINANCE AMENDING THE LONG GROVE ZONING CODE
REGARDING ALTERNATIVE ENERGY SYSTEMS

WHEREAS, the Long Grove Zoning Code (***"Zoning Code"***) regulates the development and use of land within the Village of Long Grove; and

WHEREAS, the Village President and Board of Trustees desire to encourage the responsible development and use of alternative sources of energy within the Village in conformance and harmony with the existing land development and use patterns of the Village; and

WHEREAS, in order to allow for the development and use of alternative energy sources in the Village while preserving the public health, safety, and welfare of the residents of the Village, the Village desires to amend the Zoning Code to adopt regulations governing the location, installation, operation, maintenance, and decommissioning of wind, solar, and geothermal energy systems in the Village (collectively, the ***"Proposed Amendments"***); and

WHEREAS, pursuant to notice duly published in the *Daily Herald*, the Long Grove Plan Commission/Zoning Board of Appeals ("***PCZBA***") conducted a public hearing on March 19, 2013 and continued until May 7, 2013, concerning the Proposed Amendments; and

WHEREAS, at the conclusion of the public hearing, the PCZBA made findings and recommended that the Board of Trustees adopt the Proposed Amendments, as set forth in this Ordinance; and

WHEREAS, having considered the findings and recommendations of the PCZBA, the President and Board of Trustees have found and determined that the adoption of the Proposed Amendments, as set forth in this Ordinance, is in the best interests of the Village and its residents.

NOW, THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND THE BOARD OF TRUSTEES OF THE VILLAGE OF LONG GROVE, LAKE COUNTY, ILLINOIS, as follows:

SECTION ONE: **Recitals.** The foregoing recitals are incorporated into and made part of this Ordinance by this reference.

SECTION TWO: **Amendment of Title V of the Village Code.** Chapter 9, entitled "District Regulations of General Applicability," of Title V, entitled "Zoning Regulations" of the Village Code is hereby amended to add a new Section 13, entitled "Wind Energy Systems (WES)," which Section 5-9-13 shall hereafter be and read as follows:

"5-9-13 WIND ENERGY SYSTEMS (WES)

A. Purpose. The purpose of this Section 5-9-13 is to:

1. Establish reasonable and uniform regulations for the location, installation, operation, maintenance, and decommissioning of Building-Mounted Wind Energy Systems and Small Wind Energy Systems;

2. Assure that any development and production of wind-generated electricity in the Village is safe and to minimize any potentially adverse effects on adjoining properties and the broader community;

3. Facilitate the development and production of wind-generated electricity in the Village in a manner consistent with the predominately low density, countryside character of the Village;

4. Promote the supply of sustainable and renewable energy resources, in support of national, state, and local goals; and

5. Facilitate energy cost savings and economic opportunities for Village residents and businesses.

B. Definitions. Notwithstanding Section 5-12-13 of this Code, when used in this Section 5-9-13, the following terms shall have the meanings herein ascribed to them:

Abandoned WES: A WES that has not been repaired to Operable Condition within the applicable timeframe set forth in Paragraph 5-9-13(C)12 of this Section, or for which the owner has not made all submissions required pursuant to Section 5-11-8 of the Village Code.

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 Code, the "ambient sound level" shall mean the quietest of ten 10-second average sound levels measured when there are no nearby or distinctly audible sound sources (e.g., dogs or jets). Daytime ambient measurements should be made during mid-morning weekday hours, while nighttime measurements should be made after midnight.

Blade: The portion of a WES that is designed to capture the wind, causing the shaft to turn.

Blade Tip: The farthest extremes of a blade.

Daytime hours: The hours of the day from 7:00 am to 10:00 pm.

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.

FAA: The Federal Aviation Administration of the United States Department of Transportation.

FCC: The Federal Communications Commission.

Height: When used in reference to a WES, "height" shall mean the vertical distance measured from lowest ground surface (grade) adjacent to the WES to the highest point of the WES. When used in reference to any other structure, "height" shall have the meaning set forth in Section 5-12-13 of this Code.

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, in accordance with the Lake County Watershed Development Ordinance.

Horizontal Axis Wind Turbine (HAWT): A Turbine for which the main rotor shaft is arranged horizontally, and typically for which the main rotor shaft and generator are located at the top of the tower on which the WES is mounted and pointed into the wind in order to generate electricity.

Low-Frequency Sound: Sound with frequencies below 100 Hz, including audible sound and sound at a frequency below that of human hearing (i.e. infrasound).

Nacelle: That part of a turbine containing the shaft, gear box, and generator.

Nameplate Wattage: The amount of energy produced from a WES at maximum or optimum wind speeds within one hour, as indicated by the manufacturer.

Nighttime hours: The time between 10:00 pm on one calendar day and 7:00 am on the next calendar day.

Nonparticipating Property: A property that is not owned by the owner of the property on which the WES is proposed or installed.

Operable Condition: For any WES, the condition of being capable of operating at full capacity while meeting all sound, shadow flicker and other applicable conditions set forth in this Code.

Shadow Flicker: The on-and-off strobe light effect caused by the shadow of moving blades cast by the sun upon a turbine's blades.

Shadow Flicker Intensity: The difference or variation in brightness at a given location in the presence and absence of a shadow.

Silhouette: The area covered by moving blades of a WES turbine, as viewed from the front elevation, described in square feet.

Sound Level: The A-weighted sound level in decibels (dB) (or the C-weighted level, if specified).

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.

Sun Glint: The reflection of sunlight off of a surface of the turbine, tower, or other component of a WES.

Tower: The structure on which a turbine is mounted, which structure is a component of a WES.

Turbine: The blades, nacelle, and tail of a WES.

Vertical Axis Wind Turbine (VAWT): A Turbine of which the main rotor shaft is arranged vertically and that does not need to be pointed into the wind in order to generate electricity.

C. General Regulations. Wind Energy Systems are only allowed as authorized in this Section 5-9-13 of the Village Code. Except as specifically provided otherwise in Subsections D and E of this Section 5-9-13, all WES shall comply with the general regulations set forth in this Subsection 5-9-13(C).

1. Compliance with Laws. All WES shall comply with all applicable Village, state, and federal laws and regulations, including, without limitation, the provisions of this Section 5-9-13, this Code, and all applicable Village building ordinances and regulations.

2. Compliance with Permits. All WES shall obtain and comply with all applicable permits pursuant to this Section 5-9-13, including, without limitation building and electrical permits, and Special Use Permits, if applicable. All conditions imposed by the Village as a condition of issuance of these permits shall be complied with.

3. Horizontal Axis Wind Turbines Prohibited. No WES may include a Horizontal Axis Wind Turbine at any location for any use within the Village.

4. Interference with Utilities, Roads, and Neighboring Properties. No WES shall be operated in a manner so as to interfere with any public right-of-way or any utility system in the Village, or so as to interfere with the reasonable use and enjoyment of any other property in the Village.

5. General Engineering Regulations.

(a) All WES facilities shall be designed to withstand a minimum wind velocity of 120 miles per hour.

(b) Each WES shall conform to all applicable industry standards, including, without limitation, the standards developed by the American National Standards Institute (ANSI).

(c) All WES facilities shall be equipped with automatic and manual braking systems.

6. General Installation Regulations.

(a) WES facilities must be installed according to manufacturer specifications.

(b) All necessary electrical connections must be made by a licensed electrician.

(c) Applicable permits shall be applied for and obtained prior to installation of any WES.

7. General Sound Level Regulations.

(a) The average sound level produced by a WES shall not exceed the following maximums in the following locations:

(i) On any Nonparticipating Property located within a Residential Zoning District (including Planned Unit Developments- PUDs), or used for residential purposes or for a school: 50 dB(A) during daytime hours, and 40 dB(A) during nighttime hours;

(ii) On any Nonparticipating Property used for industrial purposes, 65 db(A) at any time; and

(iii) On any other Nonparticipating Property, 60 db(A) at any time.

(b) No WES shall operate with an average sound level more than 10 dB(A) above the non-operational ambient sound level, as measured on any Nonparticipating Property used for residential purposes or for a school that is within 500 feet of the WES, or, if none, on any other Nonparticipating Property.

(c) To limit the level of low-frequency sound, the average C-weighted sound level during WES operation shall not exceed the A-weighted ambient sound level by more than 20 dB.

(d) Sound level meters used for sound measurement must meet the requirements of a Type 2 or better precision instrument according

to ANSI S1.4 (American National Standard Specification for Sound Level Meters), and must measure the average sound level using an integrating sound level meter that meets the requirements of ANSI S1.43 (American National Standard Specifications for Integrating Averaging Sound Level Meters). Average sound-level shall be calculated by time-averaging sound levels for a period of not less than one minute nor more than two minutes. Measurements shall not be made when ground level winds exceed 10 miles per hour.

8. General Shadow Flicker Regulations.

(a) No shadow flicker caused by any WES shall fall on any Nonparticipating Property that is either located in a Residential Zoning District (including PUDs), or that is used for residential purposes or for a school:

(i) at any time upon any building on a Nonparticipating Property that exists as of the date of first operation of the WES; or

(ii) for more than 50 hours in a calendar year upon any portion of the buildable area of the Nonparticipating Property.

(b) No shadow flicker caused by any WES shall fall on any Nonparticipating Property that is not located in a Residential Zoning District (including PUDs), and that is not used for residential purposes or for a school:

(i) for more than one hour on any calendar day on any window of a building that exists as of the date of first operation of the WES; or

(ii) for more than 50 hours in a calendar year upon any portion of the buildable area of any Nonparticipating Property. In the event that an existing WES causes shadow flicker on a particular window of a Nonparticipating Property, no other WES may be constructed or operated in a manner that would cause shadow flicker on that window in excess of the limitations set forth in this Subparagraph 5-9-13(C)8(b) except upon issuance of a special use permit therefor by the Village Board of Trustees.

(c) As a condition of any permit issued pursuant to this Section 5-9-13, the Village may require the Applicant to commit to a schedule for turning WES turbines off, in order to ensure compliance with the applicable shadow flicker regulations set forth in this Paragraph 5-9-13(C)8.

9. Cessation of Operation in Emergency. The owner of the WES shall be required to immediately cease operation of the WES for the duration of

any emergency, as determined by the Village. For purposes of this Paragraph 5-9-13(C)9, an emergency shall mean a condition or situation caused by the WES or a natural or manmade disaster that presents an imminent physical threat of danger to life or significant threat to property.

10. Electronic Interference. WES facilities shall not be operated so as to cause electromagnetic degradation in performance of microwave, television, radio, internet or other wireless transmissions, including public emergency communications systems, in a manner contrary to FCC regulations or other federal, state or local laws. For purposes of this Paragraph 5-9-13(C)10, "degradation in performance" shall be determined in accordance with the latest principles and standards of the American Institute of Electrical Engineers, the Institute of Radio Engineers, and the Electrical Industries Association.

11. Maintenance.

    (a) WES facilities shall be kept in Operable Condition at all times, except for reasonable maintenance and repair outages.

    (b) Should a WES become inoperable for any reason except reasonable maintenance and repair as noted above, or should any part of the WES become damaged, or should a WES violate a permit condition, the owner of the WES shall cease operations immediately and remedy the condition within 90 days after receipt of a notice from the Village regarding the condition; provided, however, that if the condition presents an immediate threat to the public health, safety, or welfare, the owner of the WES shall remedy the condition promptly.

12. Decommissioning.

    (a) A WES that is not in Operable Condition for a period exceeding 30 consecutive days shall be deemed abandoned. The owner of an abandoned WES and the owner of the property on which the WES is located shall cause the removal of all WES structures and facilities within 30 days after receipt of a notice of abandonment from the Village.

    (b) Any abandoned WES that is not removed within 30 days after receipt of a notice of abandonment shall be deemed a public nuisance, which nuisance the Village shall have the right, but not the obligation, to summarily abate by removing such WES at the joint and several expense of the owners of the WES and of the property on which the WES is located. In the case of such removal, the Village shall have the right, but not the obligation, to file a lien for reimbursement of any and all expenses incurred by the Village in connection with the removal, including, without limitation, attorney fees and accrued interest.

(c) Upon removal of the WES, the subject property shall be restored to its original pre-WES-construction condition.

13. Architectural Review. The design, materials, and location of all proposed WES facilities shall be subject to Architectural Review pursuant to Section 5-11-19 of this Code.

D. Building-Mounted Wind Energy Systems.

1. Permitted Locations. Building-Mounted Wind Energy Systems shall be considered special uses in all residential zoning districts (including PUDs) and are only authorized subject to a Special Use Permit as provided for in Section 5-11-17 of this the Village Code as well as review and approval by the Architectural Commission.

Building-Mounted Wind Energy Systems shall be allowed as a permitted use in any Business District or Office District as identified in Section 5-2-1 of the Village Code, except for the B-1 Historic District where such structures shall not be permitted.

2. Permits Required. Building-Mounted Wind Energy Systems are only authorized to operate upon receipt of all applicable permits, which shall be issued upon compliance with the following:

(a) The owner of the property on which the BWES is proposed to be installed shall submit an application for building permits, as applicable, pursuant to Title 4 of the Long Grove Village Code. Such application shall include the Minimum Data Requirements identified in Section 5-11-8(E)14 and this Section 5-9-13 of the Village Code.

(b) Upon receipt of a complete application pursuant to Title 4 of the Long Grove Village Code, and subject to approval of the proposed BWES by the Architectural Commission pursuant to Section 5-11-19 of this Code, and approval of a Special Use Permit, if applicable, and upon review and determination by the Village that the application and the proposed BWES complies with the requirements set forth in this and other applicable codes the Village shall: (i) issue the permit(s) for the BWES; and (ii) record a maintenance covenant submitted with the Recorder of Deeds of Lake County, Illinois.

2. Installation. BWES devices may be structurally attached either on the roof or on the side of a building, if in accordance with the Village Building Code. There shall be no maximum number of BWES devices that may be installed on any property, provided that each such device complies with all applicable code provisions.

3. Height. No portion of any BWES facility shall extend more than 15 feet above the highest point of the building on which it is mounted, nor more than 35 feet above grade if located in any Residential District.

4. Diameter. Unless authorized pursuant to a special use permit, the maximum diameter of a BWES shall be as follows:

   (a) For a BWES that is mounted on a residential building, or on a property abutting a Nonparticipating Property that is located within a Residential District or used for residential purposes (including PUDs), the diameter of the BWES shall not exceed the lesser of 10 feet, or 20 percent of the width of the front elevation of the building on which the BWES is mounted.

   (b) For all other BWES, the diameter shall not exceed the lesser of 10 feet, or 50 percent of the width of the front elevation of the building on which the BWES is mounted.

5. Color and Sun Glint. BWES facilities shall be finished in a neutral color or as determined by the Architectural Commission. 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 BWES.

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

E. Small Wind Energy Systems.

1. Permitted Locations. Small Wind Energy Systems shall be considered special uses in all residential zoning districts (including PUDs) and shall be subject to the issuance of a special use permit as provided for in Section 5-11-17 of this Village Code as well as review and approval by the Architectural Commission.

   One (1) SWES shall be allowed as a permitted use in any Business District or Office District as identified in Section 5-2-1 of the Village Code, except for the B-1 Historic District where such structures shall not be permitted. Any additional SWES shall be allowed on a property in a Business District or Office District, except the B-1 District, only upon issuance of a special use permit therefor.

2. Permits Required. Small Wind Energy Systems are only authorized to operate upon receipt of all applicable permits, which shall be issued upon compliance with the following:

   (a) The owner of the property on which the SWES is proposed to be installed shall submit an application for building permits, as applicable, pursuant to Title 4 of the Long Grove Village Code. Such application shall include the Minimum Data Requirements identified in Section 5-11-8(E)14 and this Section 5-9-13 of the Village Code.

   (b) Upon receipt of a complete application pursuant to Title 4 of the Long Grove Village Code, and subject to approval of the proposed SWES by the Architectural Commission pursuant to Section 5-11-

19 of this Code, and approval of a Special Use Permit, if applicable, and upon review and determination by the Village that the application and the proposed SWES complies with the requirements set forth in this and other applicable codes the Village shall: (i) issue the permit(s) for the SWES; and (ii) record a maintenance covenant submitted with the Recorder of Deeds of Lake County, Illinois.

3. Use and Energy Production Restrictions. The primary purpose of the SWES shall be the production of energy for local distribution and consumption on the property on which the SWES is located. SWES shall not be constructed for the sole purpose of energy production for wholesale or retail sale purposes; provided, however, that excess energy produced by an SWES may be sold to a local electric utility company.

4. Bulk Restrictions.

(a) Setbacks. All portions of all SWES (including, without limitation, the blades of any turbines) shall comply with the generally applicable setback restrictions for the Zoning District or building setbacks lines as established in a PUD in which the SWES is located and with the additional setback restrictions as follows, to be measured from the base of the SWES tower:

(i) SWES facilities may not be constructed within or over any utility, water, sewer, or other type of recorded easement.

(ii) SWES facilities may not be constructed within 50 feet of any body of water or wetlands, nor within 100 feet of any High Quality Aquatic Resources.

(iii) SWES facilities shall be set back from all property lines, third party transmission lines, and communication towers a minimum distance equal to 110 percent of the height of the SWES.

(iv) Guy wires and anchoring systems shall not be located closer than 30 feet from any property line or public right-of-way.

(v) The blade tip, at its lowest point, shall have a ground clearance of not less than 15 feet.

(b) Height.

(i) Residential Districts. The height of any SWES within residential zoning districts including PUDs shall be as authorized pursuant to a special use permit.

(ii) All Other Districts. No portion of any SWES constructed in any zoning district other than a Residential District shall

exceed 100 feet in height; provided, however, that no portion of any SWES shall exceed 65 feet in height if located within 500 feet of a Nonparticipating Property located within a Residential District or used for residential purposes.

5. Diameter. Unless authorized pursuant to a special use permit, the diameter of a SWES shall not exceed 10 feet.

6. Color and Sun Glint. Except as approved by the Architectural Commission, all SWES facilities shall be finished in either off-white, light gray, or another neutral color. 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 SWES.

7. Signage.

   (a) No SWES shall have any advertising material, writing, picture, or signage other than warning signage, turbine tower identification, or manufacturer or ownership information.

   (b) Except for meteorological and weather devices, or bird flight diverters on guy wires, no flag, decorative sign, streamers, pennants, ribbons, spinners or waiving, fluttering or revolving or attention getting devices shall be attached to any portion of the SWES.

   (c) One or more warning signs, no less than eighteen square inches and no greater than two square feet in area, shall be posted at the base of an SWES tower. The sign shall include a notice of no trespassing, a warning of high voltage, and the emergency telephone number of the owner of the SWES.

   (d) The sign area of any sign displaying the manufacturer's identification or ownership information shall be no larger than one square foot.

8. Climb Prevention. The base of the tower shall not be climbable for a vertical distance of 15 feet from the base, unless the tower is enclosed with a locked fence that is at least eight feet in height.

9. Lighting.

   (a) SWES facilities shall comply with all applicable FAA lighting regulations and any other federal, state or Village lighting regulations.

   (b) SWES facilities shall not be artificially lighted except as expressly required by the FAA or as necessary for the safety of personnel performing maintenance of, or repairs to, the facilities. Any such artificial lighting shall be shielded so that no glare extends

substantially beyond the property lines of the property on which the SWES is located.

(c) Any security or emergency lighting shall be used only to the minimum extent necessary.

(d) In order to reduce the impact on local wildlife, only red, dual red-and-white strobe, strobe-like, or flashing lights shall be used for SWES facilities.

10. Environmental Impact.

(a) SWES facilities, and the property on which such facilities are located, shall be maintained in accordance with the environmental plan submitted pursuant to Section 5-11-8(E)14(c)(iv) of the Village Code.

(b) In order to reduce potential bird perching and nesting, all towers used for SWES facilities shall be designed as enclosed tubular structures with pointed tops, unless otherwise approved by the Village.

F. Reporting to Village. Not less than once every 12 months, the owner of each WES shall submit to the Village: (1) a sworn statement that the operation and maintenance of the WES has been performed in compliance with all applicable directions issued by the manufacturer thereof, along with supporting evidence as may be requested by the Village; and (2) electric bills for the property on which the WES is located for the preceding 12 months, to indicate the level of WES energy production and usage.

G. Indemnification. The owner of each WES, and the owner of the property on which the WES is located, shall jointly and severally defend, indemnify and hold harmless the Village 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 any permit, approval, inspection, or other act or omission of the Village, or any acts or omissions of the owners concerning the operation of the WES project without limitation, whether said liability is premised on contract or in tort.

H. Subsequent Development. No WES that is constructed and operated in compliance with this Section 5-9-13 shall be deemed to be in violation of this Section 5-9-13 solely as a result of any construction on, or rezoning of, any Nonparticipating Property that occurs after the lawful first date of operation of the WES."

SECTION THREE: Amendment of Title V of the Village Code. Chapter 9, entitled "District Regulations of General Applicability," of Title V, entitled "Zoning Regulations," of the Village Code is hereby

amended to add a new Section 14, entitled "Solar and Geothermal Energy Systems," which Section 5-9-14 shall hereafter be and read as follows:

"5-9-14 SOLAR AND GEOTHERMAL ENERGY SYSTEMS

A. Purpose. The purpose of this Section 5-9-14 is to:

1. Establish reasonable and uniform regulations for the location, installation, operation and maintenance of Solar and Geothermal Energy Systems;

2. Assure that any development and production of solar and geothermal energy systems is safe and minimizes any potentially adverse effects on the community;

3. Promote the supply of sustainable and renewable energy resources, in support of national, state and local goals; and

4. Facilitate energy cost savings and economic opportunities for residents and businesses situated within the Village.

B. Solar Energy System Regulations. Solar Energy Systems are only allowed as authorized in this Section 5-9-14, and all Solar Energy Systems shall comply with the regulations set forth in this Section 5-9-14.

1. Compliance with Laws. All Solar Energy Systems shall comply with all applicable Village, state, and federal laws and regulations, including, without limitation, the provisions of this Section 5-9-14, this Code, and all applicable Village building ordinances and regulations.

2. Compliance with Permits. All Solar Energy Systems shall obtain and comply with all applicable permits pursuant to this Section 5-9-14, including, without limitation building and electrical permits, all conditions imposed by the Village as a condition of issuance of these permits shall be complied with.

3. Use and Energy Production Restrictions. The sole purpose of the Solar Energy System shall be the production of energy for local distribution and consumption on the property on which the Solar Energy System is located; provided, however, that excess energy produced by a Solar Energy System may be sold to a local electric utility company.

4. Interference with Utilities, Roads, and Neighboring Properties. No Solar Energy System shall be operated in a manner so as to interfere with any public right-of-way or any utility system in the Village, or so as to interfere with the reasonable use and enjoyment of any other property in the Village.

5. Engineering Requirements. Solar Energy Systems shall conform to all applicable industry standards, including, without limitation, the standards developed by the American National Standards Institute.

6. Building-Mounted Solar Energy Systems.

(a) Solar Energy System Permit Required. Building-mounted Solar Energy Systems are allowed as a permitted use in any zoning district, but only upon issuance of a Solar Energy System permit in accordance with the following:

(i) The owner of the property on which the Solar Energy System is proposed to be installed shall submit an application for building permits, as applicable, pursuant to Title 4 of the Long Grove Village Code. Such application shall include the Minimum Data Requirements identified in section 5-11-8(E)15 of this Code.

(ii) Upon receipt of a complete application pursuant to Title 4 of this Code, and upon a determination by the Village that the application and the proposed Building-Mounted Solar Energy System comply with the requirements set forth in this and the other applicable codes the Village shall issue permits for the Solar Energy System.

(b) Location.

(i) Solar Energy Systems may be mounted on the roof of a permitted principal or accessory structure. Solar Energy Systems shall not be mounted upon any other portion of any principal or accessory structure.

(ii) Solar Energy Systems must either be: (1) an integral part of the structure, rather than a separate mechanical device, replacing or substituting for an architectural or structural part of the building, such as a photovoltaic or hot water system that are contained within roofing materials, windows, skylights, shading devices and similar architectural components; or (2) mounted flush with, and parallel to, a finished surface, at no more than six inches in height above that surface.

(iii) Applications and plans for a Building Mounted Solar Energy System within the B-1 Historic District shall also be subject to review and approval by the Architectural Commission.

(c) Horizontal Projection. Solar Energy Systems shall not extend beyond the exterior perimeter of the structure on which the System is mounted.

(d) Setbacks. All portions of building-mounted Solar Energy Systems shall comply with the generally applicable setback restrictions for the Zoning District or building setbacks lines as established in a

Planned Unit Development (PUD) in which the Solar Energy System is located.

(e) Height. The height of any building-mounted Solar Energy System shall not exceed the lesser of: (i) the height of the peak of that portion of the roof of the structure on which the System is mounted; and (ii) the generally applicable height restrictions for the Zoning District in which the Solar Energy System is located. For purposes of this section, "height" shall be measured vertically from the lowest edge of the panel to the highest edge of the Solar Energy System.

(f) Maximum Roof Coverage. No Solar Energy System shall occupy more than 80% of the cumulative area of the face of the structure on which the System is mounted, unless the System is incorporated into, and is an integral part of, the structural elements of the face on which it is mounted.

7. Ground-Mounted Solar Energy Systems. Ground mounted Solar Energy Systems shall be considered special uses in all zoning districts. Plans for ground mounted Solar Energy Systems (excepting portable energy systems for swimming pools listed in Section 5-9-14(B)8 below) shall be subject to the issuance of a special use permit as provided for in Section 5-11-17 of this title and well as review and approval by the Architectural Commission. In addition to all other requirements of the Special Use Permit application, all applications for ground mounted Solar Energy Systems shall include the Minimum Data Requirements identified in section 5-11-8(E)15 of this Code. In addition plans for ground mounted solar energy system shall comply with the minimum standards as follows:

(a) Location.

(i) No ground-mounted Solar Energy System constructed in a Residential District shall be located within any public or private right-of-way for street purposes.

(ii) No ground-mounted Solar Energy System may be constructed within any off-street parking or loading space required pursuant to this Code.

(iv) Ground mounted Solar Energy Systems shall be located on the same lot or parcel as the principal structure and within the rear yard of that lot or parcel.

(b) Installation Angle. All solar panels of a ground-mounted Solar Energy System shall be installed not greater than the maximum angle specified by the manufacturer.

(c) Setbacks. In all zoning districts, all portions of ground-mounted Solar Energy Systems shall comply with the generally applicable setback restrictions for the Zoning District or building setbacks

lines as established in a PUD in which the Solar Energy System is located, as measured from the property line to the closest edge of the system. Solar Energy Systems (and parts thereof) shall not be deemed a permitted obstruction in any required yard.

(d) Height. The height of a ground-mounted Solar Energy System shall not exceed the height limitation for accessory structures.

(e) Lot Coverage. The total solar panel surface area of each ground-mounted solar energy stem shall be included in the lot coverage calculations for the property on which the system is located.

(f) Screening and Bufferyards. Ground-mounted Solar Energy Systems shall be properly screened from adjacent lots. For the purpose of this subsection (f), proper screening shall be deemed to consist of permanent vegetative screening large enough and dense enough to totally screen the energy system from view from adjacent lots. .

(g) Rotation. Ground-mounted Solar Energy System panels may rotate not to exceed the maximum angle as specified by the manufacturer.

8. Portable Solar Energy Systems for Swimming Pools. Portable Solar Energy Systems for swimming pools may only be constructed and used within the Village in accordance with the following provisions:

(a) No portable Solar Energy System may be constructed or used prior to April 1 or after October 31 of any calendar year.

(b) No portable Solar Energy System may be used for any purpose other than the provision of heat for an outdoor swimming pool located within a Residential District.

(c) Portable Solar Energy Systems shall be constructed and used in accordance with the applicable provisions of Chapter 9, Section 5-9-1 (D) (3) of this Code.

9. Decommissioning.

(a) A Solar Energy System that is not capable of operating at full capacity for a period exceeding 30 consecutive days shall be deemed abandoned. The owner of an abandoned Solar Energy System and the owner of the property on which the Solar Energy System is located shall cause the removal of all Solar Energy System structures and facilities within 30 days after receipt of a notice of abandonment from the Village.

(b) Any abandoned Solar Energy System that is not removed within 30 days after receipt of a notice of abandonment shall be deemed a public nuisance, which nuisance the Village shall have the right, but not the obligation, to summarily abate by removing such System at the joint and several expense of the owners of the System and of the property on which the System is located. In the case of such removal, the Village shall have the right, but not the obligation, to file a lien for reimbursement of any and all expenses incurred by the Village in connection with the removal, including, without limitation, attorney fees and accrued interest.

(c) Upon removal of the Solar Energy System, the owner of record of the subject property shall restore that portion of the subject property on which the System was installed in accordance with the standards required by the Village's then-current applicable codes.

C. Geothermal Energy System Regulations. All Geothermal Energy Systems shall comply with the regulations set forth in this Section 5-9-14.

1. Compliance with Laws. All Geothermal Energy Systems shall comply with all applicable Village, county (including, without limitation, applicable regulations of the Lake County Health Department), state, and federal laws and regulations, including, without limitation, the provisions of this Code, and all Village building ordinances and regulations.

2. Compliance with Permits. All Geothermal Energy Systems shall obtain and comply with all applicable Geothermal Energy Systems permits including, without limitation, all conditions imposed by the Village as a condition of issuance of the permits.

3. Permitted Locations. Geothermal Energy Systems are allowed as a permitted use in any zoning district, but only upon issuance of applicable building permits in accordance with the following:

(a) The owner of the property on which the Geothermal Energy System is proposed to be installed shall submit an application for building permits, as applicable, pursuant to Title 4 of the Long Grove Village Code. Such application shall include the Minimum Data Requirements identified in section 5-11-8(E)19 of this Code.

(b) Upon receipt of a complete application pursuant to Title 4 of this Code, and upon review and determination by the Village that the application and the proposed Geothermal Energy System complies with the requirements set forth in this and the other applicable codes, the Village shall issue permits for the Geothermal Energy System.

4. Engineering Requirements. Geothermal Energy Systems shall conform to all applicable industry standards, including, without limitation, the standards developed by the American National Standards Institute.

5. Setbacks. All components of a Geothermal Energy System that are located above ground shall comply with the generally applicable setback restrictions for the Zoning District or building setbacks lines as established in a Planned Unit Development (PUD) in which the system is located.

6. Installation in Rights-of-Way Prohibited. No portion of a geothermal energy system shall be installed in any right-of-way or in any easement dedicated for roadway purposes.

D. Indemnification. The owner of each Solar or Geothermal Energy System, and the owner of the property on which the Solar or Geothermal Energy System is located, shall jointly and severally defend, indemnify and hold harmless the Village 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 any permit, approval, inspection, or other act or omission of the Village, or any acts or omissions of the owners concerning the operation of the Solar or Geothermal Energy System, including, without limitation, whether said liability is premised on contract or on tort."

SECTION FOUR: Amendment of Subsection 5-11-8(E) of the Village Code. Subsection E, entitled "Minimum Data Requirements," of Section 8, entitled "Applications," of Chapter 11, entitled "Zoning Administration and Enforcement," of Title 5, entitled "Zoning Regulations," of the Village Code is hereby amended to add new Paragraphs 14, 15, and 16, which Paragraphs 14, 15, and 16 shall hereafter be and read as follows:

"5-11-8 APPLICATIONS

* * *

E. Minimum Data Requirements.

* * *

14. Applications for Wind Energy Systems.

(a) Generally Applicable Requirements.

(i) Project Proposal.

(A) A project summary, including, without limitation, the manufacturer information and number of proposed turbines.

(B) Current photographs of the proposed location of the WES.

(C) A front elevation depiction of the subject property, showing the location and proposed height of the top of the turbine from top of the building.

(ii) Insurance. Proof of homeowner or business general liability insurance, as appropriate, with a minimum coverage level of $1,000,000 per occurrence.

(iii) Electric Utility. Approval letter from the local electric utility company, if the system is to be connected to the energy grid.

(iv) Manufacturer's Directions. A copy of the directions issued by the manufacturer of the proposed WES for the proper installation, operation, and maintenance of the WES.

(v) Certification of Design Compliance. A certification of design compliance for the proposed WES with respect to the applicable noise, structural, and safety regulations set forth in Section 5-9-13 of this Code, which certification must have been obtained from Underwriters Laboratories (UL), National Renewable Energy Laboratories (NREL), Det Norske Veritas (DNV), Germanischer Lloyd Wind Energie (GL), or an equivalent third party.

(vi) Maintenance Covenant. An executed maintenance covenant, on a form provided by the Village, providing that the owner and all subsequent owners of the subject property will maintain the WES in accordance and compliance with Section 5-9-13 of this Code and with the maintenance directions issued by the manufacturer of the WES.

(vii) Contact Information. The name of a local contact with authority to operate or repair the proposed WES as needed and at any time, and the telephone number at which such contact may be reached on a 24-hour basis. At all times during which the WES is in Operable Condition, the applicant shall have the duty to notify the Village of any changes to the information required pursuant to this Subparagraph (vii).

(b) Additional BWES Requirements.

(i) Engineering Plans. Engineering plans, which must include, without limitation, the manufacturer's engineering specifications of the turbine, nameplate wattage capacity, dimensions of the turbine unit, mounting mechanisms, expected load and expected sound level production.

(ii) Site Plan. A site plan, drawn to scale, signed and sealed by a Professional Engineer licensed in the State of Illinois, and including, without limitation, the following:

(A) The location of any overhead or underground power lines and utility easements; and

(B) The locations and the expected duration of shadow flicker caused by the BWES facility.

(c) Additional SWES Requirements.

(i) Engineering Plans. Engineering plans, which must include, without limitation, the manufacturer's engineering specifications of the tower, turbine and foundation, detailed drawing of electrical components and installation details, and expected sound level production (see Sound Level standards below). For turbines with a nameplate wattage capacity exceeding 20 kilowatts, the plans must be sealed by a Structural Engineer.

(ii) Site Plan. A site plan, drawn to scale, signed and sealed by a Professional Engineer licensed in the State of Illinois, and including, without limitation, the following:

(A) The existing and proposed contours, at a minimum of two foot intervals;

(B) The location, setbacks, exterior dimensions and square footage of all structures on the subject property and all nonparticipating properties located within 100 feet of the subject property if the proposed WES will be of a height not greater than 100 feet, and within 500 feet of the subject property if the proposed WES will be of a height greater than 100 feet;

(C) The location and size of existing waterways, wetlands, one hundred-year floodplains, sanitary sewers, field drain tiles, storm sewer systems, aquifers, and water distribution systems;

(D) The location of any overhead or underground power lines and utility easements; and

(E) The locations and the expected duration of shadow flicker caused by the SWES facility.

(iii) Soil Studies. For all proposed turbines to be constructed at a height greater than 100 feet, or of a structural weight greater than 5,000 pounds, the applicant shall submit a soil

analysis measured at the proposed location for the base of the proposed tower and a drawing stamped by a Structural Engineer, in order to demonstrate that the soils are able to support the structural weight of the proposed SWES. For purposes of this Subparagraph 5-11-8(E)(14)(c)(iii), structural weight shall include the tower, wind turbine generator, and any other components otherwise supported by the base foundation of the proposed SWES.

(iv) Environmental Impact Studies and Plans.

(A) For any proposed SWES in excess of 75 in height, the applicant shall request, and submit to the Village, evaluations regarding the impact of the proposed SWES on the local environment and local wildlife from the Illinois Department of Natural Resources, the United States Fish and Wildlife Service, and the Lake County Soil and Water Conservation District.

(B) Upon request of the Village, the applicant shall submit an environmental plan to mitigate or eliminate any adverse impact of the proposed SWES on the local environment and local wildlife, which plan shall be subject to the approval of the Village in consultation with the Illinois Department of Natural Resources and the United States Fish and Wildlife Service."

15. Applications for Solar Energy Systems.

(a) Generally Applicable Requirements.

(i) The name, address, and telephone number of the person, firm, or corporation that will construct or install the proposed Solar Energy System.

(ii) Elevation drawings and/or photographs, and a site plan, depicting the location, size, and design details of all existing structures on the subject property and of the proposed Solar Energy System, which materials shall set forth all applicable zoning compliance data.

(iii) The manufacturer's specifications of the solar collectors and other devices of the proposed system, including, without limitation, wattage capacity, the dimensions of the collectors, the mounting mechanisms, the foundation details, and the structural requirements for the System.

(iv) Plans and specifications showing the method of construction of the proposed system, including details

regarding the support of the system and its attachment to any structure.

(v) A copy of stress sheets and calculations prepared by a licensed professional engineer showing that the proposed system is designed for the deadload or windload, in the amount required by the manufacturer and all applicable law.

(vi) A line drawing of the electrical components, as supplied by the manufacturer, in sufficient detail to allow for a determination that the manner of installation conforms to this Code and other applicable law.

(vii) A certification of design compliance for the proposed Solar Energy System with respect to the applicable noise, structural, and safety regulations set forth in the Village Code, which certification must have been obtained from Underwriters Laboratories (UL) or an equivalent independent testing agency approved by the Building Commission.

(viii) A signed indemnification agreement in accordance with Subsection 5-9-14(D) of this Code.

(b) Ground-Mounted Systems - Site Plan. In addition to the requirements set forth in Section 5-11-8 "Applications" of this Code, for all ground-mounted Solar Energy Systems, the applicant shall submit a site plan, drawn to scale, signed and sealed by a Professional Engineer licensed in the State of Illinois, and including, without limitation, the following:

(i) The existing and proposed contours, at a minimum of two foot intervals;

(ii) The location, setbacks, exterior dimensions and square footage of all structures on the subject property and of all structures proposed as part of the ground-mounted solar energy system, as well as all applicable zoning compliance data; and

(iii) The location of any overhead or underground power lines and utility easements.

16. Applications for Geothermal Energy Systems.

(a) The name, address, and telephone number of the person, firm, or corporation that will construct or install the proposed Geothermal Energy System.

(b) A project summary and a site plan, which shall include, without limitation, information regarding the manufacturer of the system and the system specifications.

(c) The location and size of existing waterways, wetlands, one hundred-year floodplains, sanitary sewers, field drain tiles, storm sewer systems, aquifers, and water distribution systems.

(d) The location of any underground power lines and utility easements.

(e) A signed indemnification agreement in accordance with Subsection 5-9-14 (D) of this Code.

SECTION FIVE: **Amendment to Section 5-12-13 of the Village Code.** Section 13, entitled "Definitions," of Chapter 12, entitled "Applicability and Interpretation," of Title V, entitled "Zoning Regulations," of the Village Code is hereby amended to add the following seven defined terms to Section 5-12-13, which defined terms shall hereafter be and read as follows:

* * *

"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.

* * *

GEOTHERMAL ENERGY SYSTEM. A system or mechanism or series of mechanisms designed to provide heating or cooling or to produce electrical or mechanical power, or any combination of these, by a method that extracts or converts the energy naturally occurring beneath the earth's surface in rock, structures, water, or steam. Geothermal Energy Systems include, without limitation: vertical closed loop, horizontal closed loop, and body of water closed loop systems.

* * *

PHOTOVOLTAIC CELL. A semiconductor device that converts solar energy into electricity.

* * *

SMALL WIND ENERGY SYSTEMS (SWES). Free-standing, tower-mounted Wind Energy Systems with a system height measuring less than 175 feet from the ground.

* * *

SOLAR ENERGY SYSTEM. A system for which the primary purpose is to convert solar energy into thermal, mechanical or electrical energy for storage and use.

* * *

SOLAR PANEL. A group of photovoltaic cells that are assembled on a panel used as part of a Solar Energy System.

* * *

WIND ENERGY SYSTEM (WES). A wind energy production, conversion and distribution system consisting of a wind turbine, tower or other structure on which the turbine is mounted, and associated electronic, electric, or other mechanical equipment; provided, however, that such WES shall be limited to Building-Mounted Wind Energy Systems and Small Wind Energy Systems."

SECTION SIX: **Effective Date of Amendments.** Notwithstanding any moratorium adopted by the Village with respect to alternative energy devices, the amendments to the Zoning Code set forth in this Ordinance shall be in full force and effect upon the effective date of this Ordinance.

SECTION SEVEN: **Effective Date of Ordinance.** This Ordinance shall be in full force and effect upon its passage, approval, and publication in pamphlet form in the manner provided by law.

PASSED this 28th day of May, 2013.

AYES: ( )

NAYS: ( )

ABSENT: ( )

APPROVED this 28th day of May, 2013.

_____
Maria Rodriguez, Village President

ATTEST:

_____
David Lothspeich, Deputy Village Clerk