TOWNSHIP OF HERRICK
ORDINANCE NO. _____

AN ORDINANCE AMENDING CHAPTER IV, SUPPLEMENTARY REGULATIONS, SECTION 412 ENERGY USE OF THE ZONING ORDINANCE AND ASSOCIATED AMENDMENTS THERETO ON CHAPTER II DEFINITIONS AND SECTION 401 ACCESSORY USES OR STRUCTURES OF CHAPTER IV SUPPLEMENTARY REGULATIONS

The Board of Supervisors of the Township of Herrick does hereby amend the Zoning Ordinance as follows:

Section 1. That Article II – Definitions is hereby amended to add the following definitions:

Battery Grid Storage Is a type of energy storage technology that uses a group of batteries in the grid to store electrical energy. Also known as a battery energy storage system, battery storage power station, battery energy grid storage or battery grid storage.

Solar Generating Facility (Solar Farm or Field): A collection of interconnected solar panels and equipment that work together to capture sunlight and turn it into electricity. Such use can be publicly or privately owned and is intended to produce power solely or principally for sale. For the purposes of this Ordinance, a solar Generating Facility does not include any solar collection system of 12 square feet in size or less

Decommissioning: The removal and proper disposal of energy equipment, facilities, or devices on real property and the reasonable restoration of the real property upon which such equipment, facilities, or devices are located, including soil stabilization and revegetation of the ground cover of the real property disturbed by the installation of such equipment, facilities, or devices.

Geothermal Energy System: Equipment that transfers thermal energy to and/or from the ground for the purposes of heating and/or cooling a building. A geothermal energy system consists of a closed-loop system of pipes filled with liquid, a heat exchanger and heat pump.

Solar Energy System: Equipment that directly converts and then transfers or stores solar energy into usable forms of thermal, mechanical, chemical, or electrical energy. For the purposes of this Ordinance, a solar energy system does not include any solar collection system of 12 square feet in size or less.

Solar Panel: A device that collects sunlight and converts it into electrical current. Also referred to as photovoltaic (PV) panels.

Uniform Code: The Pennsylvania Uniform Construction Code, as currently in effect and as hereafter amended from time to time.

Wind Energy System: Equipment used to produce electricity by converting the kinetic energy of wind to rotational, mechanical and electrical energy. A wind energy system consists of the turbine apparatus (rotor, nacelle and tower) and any other buildings, support structures, or other related improvements necessary for the generation of electric power.

Wind Generating Facility (Wind Farm): A facility where one or more wind turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines and other appurtenant structures and facilities are located and are used for the generation of electricity which is sold on the open market.

Wind Turbine: A device that converts the kinetic energy of wind into electrical energy.

Wind Rotor: The propeller or blades, plus the hub to which the propeller or blades are attached, that are used to capture wind for the purpose of energy conversion.

Section 2. That Section 401 – Accessory Uses or Structures of Article IV – Supplementary Regulations is hereby amended as follows:

D. Accessory solar energy systems, wind turbines and geothermal energy systems shall be permitted by right as an accessory use in the ARR Zoning District but are subject to the bulk requirements in the zone, unless otherwise specified herein.

(1) Solar panels.

a. Roof- or building-mounted.

i. May be placed on a principal or accessory structure But must follow applicable zone bulk and height requirements of the zoning, except as follows:

1. Sloped roof. The highest point of the system shall not exceed the highest point of the roof to which it is attached as allowed by the setback requirements of the respective zoning district.
2. Flat roof. The highest point of the system shall not exceed four (4) foot above that permitted in the zone.

ii. The height of the solar panel shall be the minimum necessary to generate usable energy but shall not exceed the height limitations for any structure to which it is attached, provided that structures intended solely for purposes of supporting such solar equipment shall not exceed 35 feet, and any placements on existing structures at a height of more than 35 feet shall be subject to Conditional Use. The height of the equipment or the building and equipment combined shall, in all instances, be measured with the solar panel oriented toward a full tilt, where applicable. A solar panel shall, where attached to an existing structure, comply with the required setbacks for such structure, provided that attachments to existing

nonconforming structures shall not further encroach on such setbacks where already exceeded.

iii. Under no circumstance shall the solar energy system extend beyond the edge of the roof.

iv. Roof-mounted systems on a flat roof shall not be visible from the public right-of-way. Screening shall be provided such as architectural screening, or such energy system be setback from the roof edge in such a manner that the system is not visible from the public right-of-way when measured at a distance of 5 feet from the ground to determine the typical line of sight.

v. Roof-mounted solar energy systems on a sloped roof shall not be required to be screened.

vi. Rooftop installations must not interfere with any operation of plumbing or mechanical fixtures protruding from the rooftop level.

vii. Roof-mounted solar energy system shall be located only on rear or side-facing roofs as viewed from any adjacent street unless the applicant demonstrates that, due to solar access limitations, no location exists other than the street-facing roof, where the solar energy system can perform effectively.

viii. Evidence shall be provided illustrating that the plans comply with the Uniform Construction Code and adopted building code of the Township that the roof or wall is capable of holding the load imposed on the structure. A certification of its structural integrity, prepared by a professional(s) acceptable to the Township, shall be submitted with the permit application.

ix. For roof-mounted systems, an effort shall be made to make the wiring and hardware blend in with the roof and building facade.

b. Ground-mounted (freestanding).

i. The total surface area of all ground-mounted (freestanding) solar panels on a lot shall not exceed 1,200 square feet, provided that nonresidential placements exceeding this size may be approved by Conditional Use.

ii. Must meet all setback and height requirements of the zoning district and shall not be installed within the required front yard setback and shall not be located along any street frontage (e.g., in a side yard abutting a street).

iii. All equipment shall be fully screened from view. Screening may be accomplished by vegetation, fences, or walls in accordance with the terms of this chapter.

iv. All wiring shall, to the maximum extent practicable, be buried underground to ensure safety. All wiring shall comply with the appropriate version of the National Electric Code.

v. The surface area of any ground-mounted system shall be considered impervious, and district coverage limits shall apply.

vi. If a solar collector ceases to perform its originally intended function for more than 24 consecutive months, the property owner shall remove the collector, mount and associated equipment and facilities within 90 days of a Township order for such removal.

vii. No homeowners' or property owners' association shall prohibit solar energy systems. Covenants and restrictions connected with projects requiring special use permits, site plan review or subdivision approval shall be reviewed for purposes of ensuring there are no such prohibitions.

c. Solar panels shall be placed such that concentrated solar radiation or glare shall not be directed onto nearby properties or roadways. The applicant has the burden of proving that any glare produced does not have significant adverse impact on neighboring or adjacent uses whether through siting or mitigation.

(2) Wind-Turbine

a. Height. The height of a wind turbine shall be the minimum necessary to produce usable power. No part of a turbine, including the rotor blades while in operation, shall exceed 75 feet above ground level or 20 feet above the base height limit of the underlying zone, whichever is greater. The height may be increased to a maximum of 150 feet on parcels of five (5) or more acres by Conditional Use and findings that granting of the additional height would allow use of a wind turbine where none would otherwise be practical and the support structures are designed to blend in with the architectural character and/or landscape of the surrounding area.

b. Length. The maximum length of rotor blades shall be no more than 10 feet, provided that this length may be increased to a maximum of no more than 15 feet where such increased rotor length is documented as the minimum necessary to produce usable power. Longer length rotor blades may be permitted on properties of three (3) acres or more in lot area, subject to Conditional Use and findings that granting of the additional length would allow use of a wind energy system where none would otherwise be practical and the support structures are designed to blend in with the architectural character and/or landscape of the surrounding area.

c. Setbacks and clearances.

i. Setback from all property lines shall not be less than the principal building setback requirement in the zone, or 1.1 times the height of the turbine, whichever is greater. The setback distance shall be measured from the end of the rotor blade to the nearest point of the property line. No part of the wind turbine structure, including guy wire anchors, may extend within ten (10) feet of the property boundaries of the installation site.

ii. Wind turbines shall be set back a distance equal to the total height of the wind turbine from all inhabited structures off-site, overhead utility lines, and public roads or rights-of-way.

iii. Noise generated from the turbine shall not exceed 60 dBA as measured at the nearest adjacent property or easement line. A noise study verifying that the maximum level is not being exceeded may be required to be submitted where equipment is to be located within 100 feet of a property line. An easement granted by an adjoining landowner shall suffice as a setback.

iv. There shall be a minimum of thirty (30) feet between the ground and the lowest point of the rotor blade. No blades may extend over parking areas, driveways, or sidewalks.

d. Power transmission lines from the tower to any building or other structure shall, to the maximum extent practicable, be located underground.

e. No television, radio or other communications antennas may be affixed or otherwise made part of any wind turbine, except with approval by Herrick Township to ensure such equipment will not interfere with existing communications equipment or overwhelm the primary purpose of generating energy.

f. No advertising signs are allowed on any part of the wind energy facility, including fencing and support structures. Other measures to reduce the visual impact of wind turbines shall also be employed to the maximum extent practicable. Monopole towers shall be used wherever practicable. All structures in a project shall be finished in a single, non-reflective matte-finished color or a camouflage scheme. Except for danger warnings, no lettering, company insignia, advertising or graphics shall be on any part of the tower, hub or blades.

g. An automatic brake shall be integrated to prevent over-speeding and excessive pressure on the wind energy system tower structure.

(3) Geothermal Energy System.

a. Geothermal energy system standards: Ground-source geothermal energy systems shall be located entirely within the subject property or within appropriate easements secured for this particular purpose. No part of any

such system shall be located within public rights-of-way. The heat-exchanger part of a geothermal system may also be located within a pond or lake on the landowner's property, subject to the requirements herein, but no portion of a geothermal system shall be located within a stream. Fluids used shall be identified.

b. Vertical or deep-bore geothermal systems are not permitted within designated water well protection zones.

c. Open-loop geothermal systems that include one or more supply wells and one or more diffusion, recharge, return or injection wells shall comply with any Pennsylvania DEP standards. Water removed from an aquifer must be returned to that same aquifer and within 50 feet vertically, in either direction, of the withdrawal point.

(4) Battery Grid Storage. May be permitted as an accessory use in the ARR Zoning District when part of an accessory wind, solar or geothermal facility associated with a permitted principal use, subject to the setbacks and height provisions set forth in the zoning district in which they are located, unless otherwise specified herein.

a. All associated equipment shall be fully enclosed or shall not be visible from adjacent properties or public street.

b. Such equipment shall not be located within the minimum front, side, or rear yard setback requirements of the zoning district in which it is located.

c. All batteries must be placed in a secure container or enclosure, meeting building code requirements. When no longer used, such devices shall be safely disposed of in accordance with the laws and regulations of Pennsylvania and the Herrick Township.

(5) General standards for accessory solar panels, wind turbines or geothermal energy systems.

a. Accessory uses may be placed on a lot separate from the principal use they serve, provided such principal use is located on an adjoining parcel in Herrick Township.

b. Not permitted within the required yard setbacks indicated for principal use in the zoning district it is located, except for underground systems, which may extend to within five (5) feet of a property line. No component of an accessory solar panel, wind turbine or geothermal energy system or structure shall block the majority of sunlight from entering the window of any structure on an adjoining property. An easement granted by an adjoining landowner shall suffice as a setback.

c. Any installation shall comply with any and all applicable building code requirements.

d. Shall not be installed unless evidence has been provided that the utility company has been informed of the customer's intent to install an interconnected customer-owned power generation system. Off-grid systems shall be exempt from this requirement.

e. Building permits are required.

f. Must be installed by a qualified professional, and all electrical connections inspected by Township building code enforcement officials. The Township reserves the right to deny a building permit for a proposed installation deemed to have inadequate certification. Applicable manufacturer specifications shall be submitted as part of the application for any permit.

g. All exterior electrical lines must be buried beneath the surface of the ground where possible or otherwise placed in a conduit.

h. Advertising on the energy systems, other than reasonable identification of manufacturer and operator and safety, is prohibited.

i. All mechanical equipment shall be screened from any adjacent property. The screen shall consist of shrubbery, trees, or other plant materials which provides a visual screen. Minimum screen height will be the same as the mechanical equipment but no less than 6 feet in height. In lieu of a planting screen, a decorative screening fence may be used.

j. Mechanical or electrical equipment associated with accessory solar panels, wind turbines or geothermal energy systems shall not be located within the minimum front, side, or rear yard setbacks.

k. No surrounding trees and vegetation on any adjoining property shall be removed to increase direct sunlight to the solar energy facility. Likewise, nothing in this section shall be deemed a guarantee against any future construction or Township approvals of future construction that may in any way impact the sunlight flow to any solar energy facility. It shall be the sole responsibility of the facility operator or owner to acquire any necessary solar energy easements, or rights to remove vegetation.

l. The design of the commercial solar energy system shall conform to applicable industry standards. To the extent reasonably possible, the design shall use materials, colors, textures, screening and landscaping that will blend the system into existing structures and environment.

Section 3. That Section 412 – Reserved is hereby amended as follows:
§ 412. Renewable Energy Systems.

A. Solar Generating Facility

(1) Permitted use. A solar generating facility shall be permitted as conditional use in the Agricultural Rural Residential (ARR) District subject to conditional use standards described herein.

a. Facilities engaged in production and sale of electricity are "industrial facilities" and should be considered a conditional use in limited situations where the facility does not adversely impact the community nor residents. Therefore, it shall be a permitted conditional use if it demonstrates that the proposed operation preserves the rural nature of the community and protects residential properties within close proximity from negative consequences that without regulation could negatively impact their quality of life from such industrial non-farming operation.

b. Solar generating facility with nameplate capacity of 25kW or encompassing more than one (1) acre of land, whichever is less, for sale to utility companies or other commercial use shall, notwithstanding any other provisions of this section, be permitted Conditional Uses in ARR Zoning District subject to the following additional standards and review criteria.

c. All other uses ancillary to the solar generating facility (including a business office, maintenance depot, etc.) greater than 1,000 square feet are prohibited from the solar energy facility, unless otherwise permitted in the zoning district in which the solar generating facility is located. This shall not prohibit the installation, as accessory structures, of equipment containers not intended for human occupancy to house only equipment necessary for the operation of the solar farm.

(2) Conditional Standards:

a. Setback. All solar generating facility components shall have a minimum setback of 350 feet from all external property lines and 750 feet from any adjoining residences.

b. Buffering. A vegetated perimeter buffer shall be installed and maintained throughout the term of the lease with the landowner and to the satisfaction of the Board of Supervisors, to provide year-round screening of the system from adjacent properties.

i. The vegetative buffer shall provide a complete visual barrier from adjoining residences and public roads and shall consist of at least four (4) alternating rows of Norway Spruce. Such buffer shall also include a naturalized mix of shrubs and ground cover designed to provide year-round screening. All new trees shall be no less in height than the solar panels to be buffered. An earthen berm may also be required

ii. The Township may waive such requirements where adequate vegetative buffers already exist, provided they are maintained so as to fully accomplish the intended screening.

iii. Regardless, all commercial solar systems shall, under any circumstance, be designed and located so as to prevent reflective glare toward any habitable buildings, as well as public streets within one-fourth (1/4) mile of any solar panels. Determination of compliance with this requirement shall also consider the impact of topography in obscuring or highlighting views of solar panels.

c. Impervious Coverage. The total surface area of all ground-mounted and freestanding solar panels and impervious surfaces associated with the solar energy facility system, regardless of tilt, shall not exceed 30% of the land area used for the commercial solar energy facility . Other impervious surfaces on the lot shall be limited to such proportion of the lot area as normally permitted for the zoning district.

d. Height. All ground-mounted panels shall not exceed 10 feet in height and shall be certified by a recognized U.S. authority as meeting all applicable Federal, State and American National Standards Institute (ANSI) standards governing manufacture and installation. The applicant shall also provide documentation indicating that solar panels utilized are the minimum practicable size required to generate the energy proposed.

e. General Standards

i. Each solar generating facility shall be accompanied by a minimum of six (6) acres of land per megawatt of rated nameplate capacity and no more than six (6) megawatts of such capacity shall be concentrated in one area of land, regardless of ownership, without a separation of one-half (1/2) mile between facilities. The Township may, in its sole discretion, modify this standard if the facilities being concentrated are not visible or only minimally visible from existing residences or publicly travelled roads.

ii. Nothing in this section shall be deemed to give any applicant the right to cut down surrounding trees and vegetation on any adjoining property to increase direct sunlight to the solar energy facility. Likewise, nothing in this section shall be deemed a guarantee against any future construction or Township approvals of future construction that may in any way impact the sunlight flow to any solar energy facility. It shall be the sole responsibility of the facility operator or owner to acquire any necessary solar energy easements, or rights to remove vegetation.

iii. All associated mechanical or electrical equipment, , shall be completely enclosed by a high-quality fence that is a minimum of eight (8) feet high with a self-locking gate, provided that such facilities shall be buffered with natural materials so as to preserve the character of the location.

iv. All solar generating facility systems shall be placed such that concentrated solar radiation or glare does not project onto nearby lots or roadways. The applicant has the burden of proving that any glare produced does not have significant adverse impact on neighboring or adjacent uses whether through siting or mitigation. An analysis regarding reflectivity of solar panels and any potential impacts on adjoining or nearby property owners shall be provided.

v. All on-site utility and transmission lines shall, to the extent feasible, be placed underground. No facility shall be located more than 1,200 feet from 3-phase electric service connection or require an upgrade of existing 2-phase electric service.

vi. A clearly visible warning sign concerning voltage shall be placed at the base of all pad-mounted transformers and substations.

vii. Solar panels shall not contain hazardous materials or shall be designed in such fashion that any such materials shall be confined and protected from the possibility of any spills in the event of panel damage from normal wear and tear or due to weather. The applicant shall provide certification with respect to the same from a certified U.S. materials testing agency. The applicant shall also provide a plan for disposal of old or damaged panels, including the identification of and agreements with proposed disposal facilities.

viii. Certification that the installer is on the Pennsylvania Department of Environmental Protection's (DEP) list of registered installers for the DEP Solar Sunshine program or shall establish to the satisfaction of the code official that they meet the certification standards of the North American Board of Certified Energy Practitioners (NABCEP).

ix. Noise from the facility shall not exceed 45 dBA at the lot line, unless the adjacent property owner shall have executed a nondisturbance easement, covenant, or consent which has been recorded in the office of the Recorder of Deeds of Susquehanna County. Measuring and reporting acoustic emissions shall be equal to or exceed the minimum acceptable national standards.

B. Wind Energy Generating Facility

(1) Permitted Use. A wind energy generating facility system shall be permitted as conditional use in the Agricultural Rural Residential (ARR) District subject to conditional use standards described herein.

a. All other uses ancillary to the wind energy generating facility, including a business office, maintenance depot, etc., greater than 1,000) square feet, are prohibited from the wind energy facility, unless otherwise permitted in the District in which the wind energy facility is located. This shall not prohibit the installation, as accessory structures, of equipment containers not

intended for human occupancy to house only equipment necessary for the operation of the wind energy facility.

b. Temporary wind test towers, as a second principal use, may be erected as a conditional use in Districts where wind energy facilities are permitted in accordance with other applicable requirements of this Zoning Ordinance. Either such towers or the existing principal use shall be removed within eighteen (18) months of installation.

(2) Conditional Standards

a. Setbacks.

i. No wind turbine shall be located closer to any property line (not lease, license or easement line) than one and one tenth (1.1) times the height of the turbine, including the rotor plane.

ii. No wind turbine shall be located less than 1,000 feet from any principal structures existing on any other parcel prior to the erection of the wind turbine, as measured from the center point of the turbine base to the nearest point of the principal structure, unless the owner of such existing principal structure shall have executed a written waiver or non-disturbance easement, covenant or consent, any of the aforementioned that has been recorded in the Office of the Recorder of Deeds of Susquehanna County, Pennsylvania. Such easement or covenant shall run with the land and, at a minimum, provide that the said property owner waives and releases any and all claims, damages and/or losses resulting from higher noise levels, visual impacts or flickering reflections and/or shadows which may arise as a result of the location of a wind turbine generator within the established setback distance of an existing principal structure on the property of the owner executing same. Such easement, covenant or consent shall meet such requirements as to form and content as may be required by the Township. In no event shall the setback distance be less than one and one tenth (1.1) times the total height of the wind turbine as measured from the highest point of the turbine, including the rotor plane.

(3) General Standards

a. Wind turbines shall not be climbable up to fifteen (15) feet above ground surface and all access doors to wind turbines and electrical equipment shall be locked or fenced, as appropriate, to prevent entry by non-authorized persons.

b. Audible sound from a wind energy facility shall not exceed forty-five (45) dBA as measured at the exterior of any occupied building on any other parcel. Methods for measuring and reporting acoustic emissions from wind turbines and the wind energy facility shall be equal to or exceed the

minimum standards for precision described in AWEA Standards for such turbines.

c. The facility owner and operator shall use best efforts to minimize shadow flicker to any occupied building on any other parcel. For the purposes of this subsection, occupied building shall mean a residence, school, hospital, church, public library or other building used for public gathering that is occupied or in use when the permit application is submitted

d. Wind turbines, including rotors, shall be a non-obtrusive color such as white, off-white or gray. Wind turbines shall comply with all applicable Federal Aviation Administration (FAA) and PA DOT Bureau of Aviation regulations. No wind turbine may be artificially lighted, except as required by FAA requirements. If lighting is required, the lighting alternatives and design chosen shall minimize the disturbance to the surrounding views.

e. An automatic brake shall be integrated to prevent over-speeding and excessive pressure on the wind energy system tower structure.

f. No artificial light shall be used unless required by the Federal Aviation Administration (FAA) or other applicable regulatory authority. If the FAA requires safety lighting, the use of red beacons is preferred to flashing strobe lights. Illumination of the wind energy facility shall be avoided.

C. Battery Grid Storage

(1) Applicability. The requirements of this section shall apply to all battery energy storage systems permitted, installed, or modified in Herrick Township after the effective date of this amendment, excluding general maintenance and repair, which systems shall be subject to annual inspection.

(2) Permitted Use. Battery energy storage systems shall be permitted as Conditional Uses in the ARR Zoning District.

(3) Conditional Standards

a. Setback shall be a minimum of 500 feet from any property line and otherwise comply with general development standards for the underlying zoning district.

b. Areas within 10 feet on each side of any battery energy storage system shall be cleared of combustible vegetation and growth.

c. All systems, all dedicated use buildings, and all other buildings or structures that contain or are otherwise associated with a battery energy storage system shall comply with all applicable provisions of the Uniform Code and related codes.

d. The 1-hour average noise generated from the battery energy storage systems, components, and associated ancillary equipment shall not

exceed a noise level of 45 dBA, as measured at the property line. Applicants may submit equipment and component manufacturers' noise ratings to demonstrate compliance. The applicant may be required to provide Operating Sound Pressure Level measurements from a reasonable number of sampled locations at the perimeter of the battery energy storage system to demonstrate compliance with this standard.

e. All applications for battery energy storage systems shall be accompanied by a decommissioning plan to be implemented upon abandonment and/or in conjunction with removal of the facility, as provided for solar and wind energy systems above.

f. System and all mechanical equipment, shall be enclosed by an eight (8) feet high chain-link fence with a self-locking gate to prevent unauthorized access unless housed in a building dedicated for the storage system equipment.

g. Views shall be minimized from adjacent properties to the extent reasonably practicable using architectural features, earth berms, landscaping, or other screening methods that will harmonize with the character of the property and surrounding area.

D. Decommissioning.

(1) A decommissioning plan detailing the expected duration of the commercial solar and wind energy facilities and how the facility will be deconstructed once it is no longer in use, shall accompany the application. The applicant shall provide financial security in a form and amount suitable to the Township to guarantee the removal of the equipment when its useful lifespan has been reached.

(2) The facility owner and operator shall, at its own expense, complete decommissioning of the facility, or individual components, within (12) twelve months after the end of the useful life of the facility or individual components.

a. For solar energy system, any commercial solar energy system that is not operated for a continuous period of six (6) months shall be considered abandoned, and the owner of such system shall remove the same within 90 days of receipt of notice from the Township notifying the owner of such abandonment. Failure to remove an abandoned system within said 90 days shall be grounds to remove the system at the owner's expense and constitute a violation, subject to fines.

b. For wind energy system, the facility or individual components shall be presumed to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months.

(3) Hours of operation for construction and decommissioning shall be limited, except in the case of an emergency, to the hours of 7 AM to 6 PM. Monday through Friday and shall not take place on national holidays.

(4) Decommissioning shall include removal of collectors, buildings, cabling, electrical components, roads, foundations to a depth of thirty-six (36) inches, and any other associated facilities.

(5) Disturbed earth shall be graded and re-seeded unless the landowner requests in writing that the access roads or other land surface areas not be restored.

(6) The facility owner or operator, prior to the issuance of a zoning permit, shall provide a financial security bond with the Township as payee in an amount approved by the Board of Supervisors. An estimate for the total cost of decommissioning (Decommissioning Costs) without regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment (Net Decommissioning Costs) shall be submitted to the Township for review and approval after the first year of operation and every fifth year thereafter. The facility owner or operator shall post and maintain Decommissioning Funds in an amount equal to Net Decommissioning Costs; provided that at no point shall Decommissioning Funds be less than 25% of Decommissioning Costs. The Decommissioning Funds shall be posted and maintained with a bonding company or Federal or Commonwealth chartered lending institution chosen by the facility owner or operator and participating landowner posting the financial security, provided that the bonding company or lending institution is authorized to conduct such business within the Commonwealth and is approved by the Township.

(7) An independent and certified Professional Engineer shall be retained to estimate the total cost of decommissioning without regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment. Said estimates shall be submitted to the Township with the Conditional Use application and every fifth year following approval, with an update of the bond or other financial security to this amount being required to continue operation.

(8) Decommissioning funds may be in the form of a performance bond, surety bond, letter of credit, corporate guarantee or other form of financial assurance as may be acceptable to the Township.

(9) If the facility owner or operator fails to complete decommissioning within the prescribed time period, then the landowner shall have eighty (180) days to complete decommissioning.

(10) If neither the facility owner nor operator, nor the landowner complete decommissioning within the prescribed periods, then the Township may take such measures as necessary to complete decommissioning. The entry into the record and submission of evidence of a participating landowner agreement to the Township shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors and assigns that

the Township may take such action as necessary to implement the decommissioning plan.

(11) The escrow agent shall release the decommissioning funds when the facility owner or operator has demonstrated and the Township concurs that decommissioning has been satisfactorily completed, or upon written approval of the Township to implement the decommissioning plan.

(12) The developer and landowner shall enter into a Developer Agreement with the Township incorporating any conditions of approval and further providing that any transfer of ownership or control of the facility shall be presented to the Township Board of Supervisors for review and consent. Prior to formal action, the Township shall be notified of the intent to transfer ownership or change in control shall be provided at least 120 days in advance of the transfer such that the Township may ensure the proposed new owner has the appropriate experience and can satisfy all financial guarantee obligations are also transferred and updated as may be necessary. Prior defaults and complaints from communities where the proposed new operator has operated shall be considered. Notice shall be provided to the public and letters sent by Developer to all adjoining property owners in advance of at least 30 days prior to being considered by the Township. Notice shall include details of the proposed transfer of ownership or change in control being proposed. Approval or disapproval of any transfer or change in control shall be in the sole discretion of the Supervisors but shall not be unreasonably withheld.

E. General Standards for energy facilities and battery grid storage.

(1) All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility.

(2) As required by the National Electrical Code, disconnect and other emergency shutoff information shall be clearly displayed on a light reflective surface. A clearly visible warning sign concerning voltage shall be placed at the base of all pad-mounted transformers and substations.

(3) Lighting shall be limited to that minimally required for safety and operational purposes and shall be reasonably shielded and downcast from abutting properties.

(4) Shall conform to all applicable industry standards. To the extent that is reasonably possible, the design shall use materials, colors, textures, screening and landscaping that will blend the facility into existing structures and environment.

(5) Shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department and Emergency Medical Services.

(6) All components and associated ancillary equipment shall have required working space clearances, and electrical circuitry shall be within weatherproof enclosures marked with the environmental rating suitable for the type of exposure in compliance with National Fire Protection Association Publication 70.

(7) Signage shall be in compliance with American National Standards Institute Publication Z535 and shall include the type of technology associated with the battery energy storage systems, any special hazards associated, the type of suppression system installed , and 24-hour emergency contact information, including reach-back phone number.

(8) All equipment shall be listed by a Nationally Recognized Testing Laboratory t or approved equivalent.

(9) 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 planting screen a fence meeting the requirements of the governing ordinance may be used. Mechanical or electrical equipment associated with a facility or battery grid storage shall not be located within the minimum front, side, or rear yard setbacks.

(10) All equipment or components of any facilities shall incorporate the latest technology for producing low ambient noise levels.

(11) The design of the facility or battery grid storage shall conform to applicable industry standards, including those of the American National Standards Institute. The Applicant shall submit certificates of design compliance obtained by the equipment manufacturers from certifying organizations.

(12) A clearly visible warning sign concerning voltage shall be placed at the base of all pad-mounted transformers and substations. Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of ten (10) feet from the ground.

(13) No advertising material or signs other than warning, equipment information or indication of ownership shall be allowed on the facility or battery grid storage . This prohibition shall include the attachment of any flag, decorative sign, streamers, pennants, ribbons, spinners, or waiving, fluttering or revolving devices, but not including weather devices.

(14) The facility shall comply with all applicable local, state and federal fire code and emergency services guidelines and all other all applicable state and federal regulations.

(15) Access to the facility shall be provided by means of a public street or easement to a public street. The easement shall be a minimum of twenty (20) feet in width and shall be improved to a width of at least ten (10) feet

with a dust-free, all weather surface for its entire length and comply with stormwater management and erosion control standards.

(16) The applicant shall cooperate with emergency services to develop and coordinate implementation of an emergency response plan.

(17) The applicant shall document that the radio, television, telephone or reception of similar signals for nearby properties shall not be disturbed or diminished; and, this may be accomplished by remedial measures instituted by the facility operator. The operator shall utilize Good Utility Practice to minimize the impact, if any, of stray voltage and/or electromagnetic field (EMF).

(18) The applicant shall submit certification from a Pennsylvania registered professional engineer that a proposed facility and support structures shall be designed and constructed in accord with accepted engineering practices and all requirements of this Ordinance. Within forty-five (45) days of initial operation, the owner and/or operator of the wind energy facility shall provide a certification from a Pennsylvania registered professional engineer that the facility and all structures comply with all applicable regulations.

(19) The facility owner and operator shall maintain a phone number and identify a responsible person for the public to contact with inquiries and complaints throughout the life of the project, and the facility owner and operator shall make reasonable efforts to respond to the public's inquiries and complaints.

(20) All construction related to the installation of new facilities, battery grid storage, or the addition or expansion thereof, shall require a permit.

F. Application Submission Requirements. The following additional materials shall be submitted as part of the conditional use application:

(1) A narrative which provides a description of the project, a description of operations, the approximate generating capacity of the proposed facility or capacity of the proposed battery grid storage, the approximate number of employees on site, height, setbacks, parking demand, an indication of zoning compliance, equipment type and manufacturer, and the technical, economic and any other reason for the proposed location and design. Conformation should also be provided, by a licensed professional that the project will comply with all applicable federal and state standards.

(2) A site plan showing the planned location of each structure in the facility or battery grid storage, property lines, setback lines, access road and turnout locations, substation(s), electrical cabling from the proposed facility to the substation(s), ancillary equipment, buildings, and structures, including associated transmission lines and layout of all structures within the geographical boundaries of any applicable setback.

(3) Evidence of approval for connection to the electrical grid and an indication that the project will meet all applicable standards for such interconnection.

(4) Signed and sealed drawings of the solar installation prepared by a licensed professional engineer showing the proposed layout of the system. Drawings should indicate zoning compliance, and include an electrical diagram detailing the system layout, associated components, and electrical interconnection methods, as well as a preliminary equipment specification sheet that documents the proposed system components, inverters and associated electrical equipment that are to be installed.

(5) Proposed changes to the site landscape, grading, vegetation clearing and planting, exterior lighting (which shall be limited), screening vegetation, fencing details and any other structures. This shall include a visual analysis depicting prospective views from key observation points, including 3D rendering perspectives to demonstrate the prospective view from any major public viewing point including public roads and any residential structure within 1500 feet of the property line.

(6) An operation and maintenance plan which shall include measures for maintaining safe access to the installation as well as general procedures for operational maintenance.

(7) An analysis of noise levels at the property line and residences of adjacent landowners regarding noise from tracking motors, inverters, transformers, battery storage systems and the like shall be provided. There shall be no increase in the ambient noise level measured at any adjoining residential property boundary. A Noise Management Plan that addresses noise produced during construction and during the facilities operation, to be approved by the Supervisors, shall be included with the Conditional Use application.

(8) Location of the nearest existing structure(s) on and off the site, and the distance of said structures from the nearest equipment or component of the proposed facility or battery grid storage as measured from the equipment to the closest residential structure.

(9) An emergency response plan prepared by a qualified emergency services professional in consultation with emergency service providers. The commercial solar system owner or operator shall provide a copy of the electrical schematic and final site plan to the local fire department and other local emergency service providers.

(10) A fire safety compliance plan shall be submitted to document and verify the system and its associated controls and safety systems are in compliance with the Uniform Code, including an emergency operations plan to be shared with the local fire department. A permanent copy shall also be placed in an approved location to be accessible to facility personnel, fire code officials, and emergency responders. The emergency operations plan shall include, but not be limited to, procedures for safe

shutdown, de-energizing, or isolation of equipment and systems under emergency conditions to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessation of emergency conditions as well as other procedures as determined necessary by the Township to provide for the safety of occupants, neighboring properties, and emergency responders.

(11) Documentation regarding Township-wide cumulative impacts from multiple facilities developed, proposed or projected by the applicant, a full visual impact analysis the scope of which shall be subject to the Township review and approval, and a study of potential property value and other economic impacts based upon experience with other similar facilities. Property value impacts shall be evaluated by a professional appraiser and specifically address impacts on adjoining properties and those properties within one-quarter (¼) mile of the facility, as measured from the exterior property lines of the proposed facility.

(12) Documentation of site-specific baseline testing of air, noise and water quality and electro-magnetic interference from existing electrical infrastructure, which testing shall be done by qualified independent professionals. Post-construction impacts compared to these baselines shall also be provided on an annual basis and be submitted to the Township.

(13) All developers shall be required to execute a Developers Agreement incorporating all approved requirements required herein. The Developers Agreement shall be recorded and shall follow the land, the owner and any potential future owner or other party where ownership does not transfer while controlling interest does.