

ORDINANCE NO. 2022-04

AN ORDINANCE OF THE TOWNSHIP OF EAST HANOVER, LEBANON COUNTY, PENNSYLVANIA, MODIFYING CHAPTER 250, ZONING, TO ALLOW FOR SOLAR ENERGY SYSTEMS AND AMENDING §250-51F SET BACK REQUIREMENTS FOR THE KEEPING OF LIVESTOCK OR FOWL IN LOW DENSITY RESIDENTIAL DISTRICTS, OF THE EAST HANOVER TOWNSHIP ZONING ORDINANCE.

WHEREAS, the Board of Supervisors of East Hanover Township, Lebanon County, Pennsylvania deem it to be in the best interest and general welfare of the citizens and the residents of this Township to amend Chapter 250, Zoning to update the requirements for solar energy systems in the Township; and

WHEREAS, at direction of the Board of Supervisors of East Hanover Township, the East Hanover Township Planning Commission has prepared certain amendments to Chapter 250, Zoning; and

WHEREAS, the Board of Supervisors of East Hanover Township has conducted a public hearing to consider certain amendments to Chapter 250, Zoning; and

WHEREAS, prior to the public hearing regarding solar energy systems, the proposed amendments were provided to the Lebanon County Planning Department for comments as provided by law; and

WHEREAS, after a public hearing regarding solar energy systems and after consideration of all information, comments and questions, members of the Board of Supervisors have deemed it beneficial to the residents of East Hanover Township and to the promotion of the health, safety, morals, convenience, order and welfare of present and future inhabitants of East Hanover Township to amend said Chapter 250, Zoning; and

WHEREAS, the Board of Supervisors and Planning Commission of East Hanover Township determined it is necessary to make certain amendments to the setback requirements for the keeping of livestock or fowl in Low Density Residential Zoning District.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED, by the Board of Supervisors of East Hanover Township as follows:

1. ARTICLE XX, §250-197, DEFINITIONS. IS HEREBY AMENDED TO ADD THE FOLLOWING NEW DEFINITIONS TO READ AS FOLLOWS:

ACCESSORY SOLAR ENERGY SYSTEM - An area of land or other area used for a solar collection system used to capture solar energy, convert it to electrical energy or thermal power and supply electrical or thermal power primarily for on-site use. An accessory solar energy system consists of one or more free-standing ground, or roof mounted solar arrays or modules, or solar related equipment and is intended to primarily reduce on-site consumption of utility power or fuels.

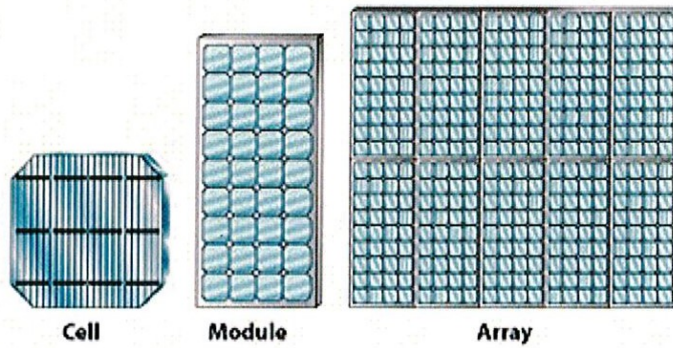
GLARE - The effect produced by light with an intensity sufficient to cause annoyance, discomfort, or loss in visual performance and visibility.

PRINCIPAL SOLAR ENERGY SYSTEM - An area of land or other area used for a solar collection system principally used to capture solar energy, convert it to electrical energy or thermal power and supply electrical or thermal power primarily for off-site use. Principal solar energy systems consist of one or more free-standing ground, or roof mounted solar collector devices, solar related equipment and other accessory structures and buildings including light reflectors, concentrators, and heat exchangers, substations, electrical infrastructure, transmission lines and other appurtenant structures.

SOLAR PANEL - That part or portion of a solar energy system containing one or more receptive cells or modules, the purpose of which is to convert solar energy for use in space heating or cooling, for water heating and/or for electricity.

SOLAR RELATED EQUIPMENT - Items including a solar photovoltaic cell, module, panel, or array, or solar hot air or water collector device panels, lines, pumps, batteries, mounting brackets, framing and possibly foundations or other structures used for or intended to be used for collection of solar energy.

- A. **SOLAR ARRAY:** A grouping of multiple solar modules with purpose of harvesting solar energy.
- B. **SOLAR CELL:** The smallest basic solar electric device which generates electricity when exposed to light.
- C. **SOLAR MODULE:** A grouping of solar cells with the purpose of harvesting solar energy.



D.

2. ARTICLE VI, §250-200, SOLAR, WIND AND ALTERNATE ENERGY STANDARDS, IS HEREBY AMENDED TO READ AS FOLLOWS:

§ 250-200. Solar, wind and alternate energy standards.

The use of solar wind and alternate energy systems is encouraged within these regulations and permitted within any zoning district. Although the installation of such systems is not mandatory, where they are utilized, the following standards shall apply:

A. Solar energy systems — general requirements.

- (1) The local utility provider shall be contacted to determine grid interconnection and net metering policies. The applicant shall submit written confirmation to the Township that the utility company has been informed of the owner's intent to install a grid connected system and has approved of such connection. The applicant also shall submit certificates of design compliance obtained by the equipment manufacturers from a certifying organization and any such design shall be certified by an Engineer registered in the Commonwealth of Pennsylvania.
- (2) The solar energy system layout, design, installation, and ongoing maintenance shall conform to applicable industry standards, such as those of the American National Standards Institute (ANSI), Underwriters Laboratories (UL), the American Society for Testing and Materials (ASTM), Institute of Electrical and Electronics Engineers (IEEE), Solar Rating and Certification Corporation (SRCC), Electrical Testing Laboratory (ETL), Florida Solar Energy Center (FSEC) or other similar certifying organizations, and shall comply with the PA Uniform Construction Code as enforced by East Hanover Township, and with all other applicable fire and life safety requirements and shall not conflict with Federal Aviation Administration regulations. The manufacturer specifications for the key components of the system shall be submitted as part of the application.
- (3) The systems installed shall provide for the ability to disconnect the system and disable the production of electricity to avoid potentially hazardous conflicts between the system and firefighters and their respective firefighting apparatuses. The manufacturer specifications and a detailed sketch showing the location of all

disconnects shall be submitted to the Township with a copy to the local fire department responsible for coverage of the site as part of the application. The systems shall be subject to the review of the local Fire Chief/marshal prior to the issuance of a building permit.

- (4) Prior to the issuance of a zoning permit, applicants must acknowledge in writing that the issuance of said permit for a solar energy system shall not and does not create in the property owner, its, his, her or their successors and assigns in title or, create in the property itself:
 - (a) the right to remain free of shadows and/or obstructions to solar energy caused by development of adjoining or other property or the growth of any trees or vegetation on such property; or
 - (b) the right to prohibit the development on or growth of any trees or vegetation on such property.
- (5) All on-site utility, transmission lines, and plumbing shall be placed underground to the extent feasible.

- (6) Glare - Glare from ground-mounted solar collectors shall be directed away from adjoining properties or street rights-of-way. Fences or vegetative screens may be utilized to prevent glare from impacting adjoining properties or street rights-of-way. The Applicant has the burden of proving that any glare produced does not have significant adverse impact on neighboring or adjacent uses either through siting or mitigation.
- (7) Exemptions - Solar energy systems constructed prior to the effective date of this Article shall not be required to meet the terms and conditions of this Chapter. Any physical modification to an existing ASES whether or not existing prior to the effective date of this Section that materially alters the ASES shall require approval under this chapter. Routine maintenance or like-kind replacements do not require a permit.

B. Regulations Applicable to All Accessory Solar Energy Systems.

- (1) ASES shall be permitted as a use by right in all zoning districts.
- (2) Upon completion of installation, the ASES shall be maintained in good working order in accordance with standards of the Township codes under which the ASES was constructed. Failure of the property owner to maintain the ASES in good working order is grounds for appropriate enforcement actions by the Township in accordance with applicable Township ordinances.
- (3) The display of advertising is prohibited except for reasonable identification of the manufacturer of the system.
- (4) Decommissioning.
 - (a) Each ASES and all solar related equipment shall be removed within six (6) months of the date when the use has been discontinued or abandoned by system owner and/or operator, or upon termination of the useful life of same.
 - (b) The ASES shall be presumed to be discontinued or abandoned if no electricity is distributed by such solar collector for a period of twelve continuous months.
 - (c) The ASES owner shall, at the request of the Township, provide information concerning the amount of energy generated by the ASES in the last 12 months.
- (5) Permit Requirements.
 - (a) Zoning /building permit applications shall document compliance with this Section and shall be accompanied by drawings showing the location of the

system on the building or property, including property lines. Permits must be kept on the premises where the ASES is constructed.

- (b) The zoning/building permit shall be revoked if the ASES, whether new or pre-existing, is moved or otherwise altered, either intentionally or by natural forces, in a manner which causes the ASES not to be in conformity with this Ordinance.
- (c) The ASES must be properly maintained and be kept free from all hazards, including, but not limited to, faulty wiring, loose fastenings, being in an unsafe condition or detrimental to public health, safety or general welfare. In the event of a violation of any of the foregoing provisions, the Zoning Officer shall give written notice specifying the violation to the owner of the ASES to conform or to remove the ASES.

C. Roof Mounted and Wall Mounted Accessory Solar Energy Systems.

- (1) A roof mounted or wall mounted ASES may be located on a principal or accessory building.
- (2) ASES mounted on roofs or walls of any building shall be subject to the maximum height regulations specified for principal and accessory buildings within each of the underlying zoning districts.
- (3) Wall mounted ASES shall comply with the setbacks for principal and accessory structures in the underlying zoning districts.
- (4) On pitched roofs, roof mounted solar collectors shall be installed as close to parallel as possible to the pitch of the roof while not sacrificing the efficiency of the solar collector.
- (5) On flat roofs, roof-mounted solar collectors may be installed at an angle to improve the efficiency of the solar collector with regard to the predominant sun angle, provided that the solar collector is placed in a manner to minimize its visibility from street level.
- (6) For roof and wall mounted systems, the Applicant shall provide evidence 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.

D. Ground Mounted Accessory Solar Energy Systems.

- (1) Setbacks.

- (a) The minimum yard setbacks from side and rear property lines shall be equivalent to the accessory structure setback in the zoning district.
 - (b) The Township may authorize the installation of a ground mounted ASES in front of the principal building, outside the required front yard, if the Applicant demonstrates that, due to solar access limitations, no location exists on the property other than the front yard where the solar panel can perform effectively.
- (2) Height - Ground mounted ASES shall not exceed 20 feet in height above the ground elevation surrounding the systems.
- (3) Coverage.
- (a) The following components of a ground mounted ASES shall be considered impervious coverage and calculated as part of the impervious coverage limitations for the underlying zoning district:
 - [1] Foundation systems, typically consisting of driven piles or monopoles or helical screws with or without small concrete collars.
 - [2] All mechanical equipment of the system including any structure for batteries or storage cells.
 - (b) The total surface area of the arrays of ground mounted ASES on the property shall not exceed more than 15 percent of the lot area.
 - (c) The Applicant shall demonstrate compliance with the Township's Stormwater Management Ordinance.
- (4) Appropriate safety/warning signage concerning voltage shall be placed at ground mounted electrical devices, equipment, and structures. All electrical control devices associated with the ASES shall be locked to prevent unauthorized access or entry.
- (5) Ground-mounted ASES shall not be placed within any legal easement or right-of-way location or be placed within any storm water conveyance system or in any other manner that would alter or impede storm water runoff from collecting in a constructed storm water conveyance system.

E. Regulations Applicable to All Principal Solar Energy Systems.

- (1) PSES shall be permitted by special exception in the Industrial, Limited Industrial, and Institutional Zoning Districts. In addition, roof mounted and wall mounted Principal Solar Energy Systems shall be permitted by special exception on principal and accessory buildings in the Agricultural Zoning District.

- (2) No portion of the PSES shall contain or be used to display advertising. The manufacturer's name and equipment information or indication of ownership shall be allowed on any equipment of the PSES provided they comply with the prevailing sign regulations.
- (3) Noise generated by a PSES and its associated equipment shall not produce any vibration, harmonics, or other interference which would be perceived or negatively impact people, animals or the normal functions of electronic equipment off site. Prior to the issuance of a building permit, the applicant shall conduct a test of ambient noise conditions prior to startup operations and provide a written report of noise decibel levels. The solar facility and its associated equipment shall not produce a noise level that exceeds 50 dBA, as measured at the property line. The ambient noise level shall be evaluated at the property line and at the nearest inhabited residence or other sensitive land use boundary. "Ambient" shall mean the background A-weighted sound level that is exceeded 90% of the time as measured during equipment operating hours.
- (4) No trees or other landscaping otherwise required by the Township ordinances or attached as a condition of approval of any plan, application, or permit may be removed for the installation or operation of a PSES.
- (5) Permit Requirements.
 - (a) An affidavit or evidence of agreement between lot owner and the facility owner or operator, if not the same person or entity, shall be provided confirming that the facility owner or operator has permission of the property owner to apply for the necessary permits for construction and operation of the PSES.
 - (b) A noise study shall be performed and included in the application. The noise study will be performed by an independent noise study expert and paid for by the Applicant. Noise from a PSES shall not exceed 50 dBA, as measured at the property line.
 - (c) An operations agreement which shall set forth operations parameters, the name and contact information of the certified operator, inspection protocol, emergency procedures, measures for maintaining safe access, stormwater controls, and general procedures for operating and maintaining the facility.
 - (d) Emergency services: The operator shall provide a copy of the operation and maintenance plan, electrical schematic, and site plan to the Fire Chief, Police Chief, EMS (emergency medical service). The operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the facility shall be clearly marked. The premises shall identify a qualified contact person available 24 hours per day/seven days per week to provide assistance during an

emergency; the operator shall change the contact information immediately whenever a change in personnel occurs.

- (e) The PSES owner and/or operator shall maintain a phone number and identify a person responsible for the public to contact with inquiries and complaints throughout the life of the project and provide this number and name to the Township. The PSES owner and/or operator shall make reasonable efforts to respond to the public's inquiries and complaints.
 - (f) The Applicant shall demonstrate that it has adequate liability insurance in minimum amounts of one million dollars (\$1,000,000) per incident and two million dollars (\$2,000,000) in aggregate; or \$5,000,000 excess liability (umbrella policy).
 - (g) The PSES shall comply with the Township's subdivision and land development requirements. The installation of PSES shall be in compliance with all applicable permit requirements, codes, and regulations.
 - (h) The PSES owner and/or operator shall repair, maintain and replace the PSES and related solar equipment during the term of the permit in a manner consistent with industry standards as needed to keep the PSES in good repair and operating condition.
- (6) Discontinued Use/Decommissioning.
- (a) The facility owner or operator shall, at its expense, complete decommissioning of the PSES within 6 months after the end of the useful life of the facility. The PSES will be presumed to be at the end of its useful life if no electricity is generated for a continuous period of 12 months. Decommissioning shall include removal of solar arrays, support equipment, buildings, electrical components and lines, roads, foundations to a depth of 36 inches, and any other associated facilities. Disturbed earth shall be graded and re-seeded, including forestry plantings of the same type/variety and density as the original, unless the landowner requests in writing and the Board of Supervisors approves that the access roads or other land surface areas not be restored.
 - (b) 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 as part of the application 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. 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. If the facility owner or operator fails to complete decommissioning within the required period, then the landowner shall within 6 months complete decommissioning.

- (c) If neither the facility owner or operator, nor the landowner complete decommissioning within the required periods, then the Township may take such measures as necessary to complete decommissioning. The entry into and submission of evidence of a 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. To the extent the Township incurs costs to rightfully perform any act in furtherance of decommissioning, it shall submit documentation of such costs to the escrow agent, and the escrow agent shall release sufficient escrow funds to the Township to cover such costs. The escrow agent shall release any remaining Decommissioning Funds to the facility owner or operator 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 in order to implement the decommissioning plan.

F. Additional Requirements for Ground Mounted Principal Solar Energy Systems.

- (1) A minimum lot size of 5 acres is required in the Industrial, Limited Industrial, and Institutional Zoning Districts.
- (2) The solar panels and/or other implements, including power lines, used in the construction and structure of the PSES shall be set back a minimum of 50 feet from any nonresidential property line and 150 feet from any residentially zoned property line or residentially zoned area or any occupied structure. Additionally, any implements related to the solar use shall be set-back a minimum of 100 feet from any public right of way. Any substation or switching station associated with the solar use shall be set back a minimum of 500 feet from any occupied residential structure. The use shall be setback a minimum of 150 feet from any public or private cemetery.
- (3) Ground mounted PSES shall not exceed 20 feet in height.
- (4) Impervious Coverage.

- (a) The following components of a PSES shall be considered impervious coverage and calculated as part of the impervious coverage limitations for the underlying zoning district:
 - [1] Foundation systems, typically consisting of driven piles or monopoles or helical screws with or without small concrete collars.
 - [2] All mechanical equipment of PSES including any structure for batteries or storage cells.
 - [3] Gravel or paved access roads servicing the PSES.
- (b) The Applicant shall provide information as to how the requirements of the Township Stormwater Management Ordinance will be met. After zoning approval, the Applicant shall submit a Stormwater Management Plan that demonstrates compliance with the Township Stormwater Management Ordinance.
- (c) PSES owners shall use low maintenance and low growing vegetative surfaces under the system as a best management practice for storm water management.
- (5) Ground mounted PSES shall be screened from adjoining residential uses or residential districts. A permanent evergreen vegetative buffer must be provided around the implements of the solar use including but not limited to the solar panels associated with the use. Any evergreen buffer installed shall consist of two evenly spaced rows, with the latter row being calculated to grow higher than the front row. The screen can be either a hedge (planted 3 feet on center maximum) or a row of evergreen trees (planted height 8 feet on center maximum). The evergreen screen shall be a minimum height of 6 feet at planting and shall grow to minimum of 15 feet at maturity. A maintenance bond shall be supplied to the township for maintenance of the evergreen buffer in an amount estimated by a professional engineer to be in an amount appropriate for the maintenance and/or replacement of the evergreen buffer if necessary.
- (6) Ground-mounted PSES shall not be placed within any legal easement or right-of-way location or be placed within any storm water conveyance system or in any other manner that would alter or impede storm water runoff from collecting in a constructed storm water conveyance system.
- (7) Security.
 - a. All ground-mounted PSES shall be completely enclosed by a minimum 8 foot high fence with a self-locking gate.

b. A clearly visible warning sign shall be placed at the base of all pad-mounted transformers and substations and on the fence on the surrounding the PSES informing individuals of potential voltage hazards.

(8) Access.

(a) At a minimum, a 25-foot wide access road must be provided from a state or township roadway into the site.

(b) At a minimum, a 10-foot wide unobstructed access lane shall be provided between the solar arrays to allow access for maintenance vehicles and emergency management vehicles including fire apparatus and emergency vehicles. The access lane width is the distance between the bottom edge of a solar panel to the top edge of the solar panel directly across from it.

(c) Access to the PSES shall comply with the Township access requirements in the Subdivision and Land Development Ordinance.

(9) The ground mounted PSES shall not be artificially lighted except to the extent required for safety or applicable federal, state, or local authority.

(10) If a ground mounted PSES is removed, any earth disturbance resulting from the removal must be graded and reseeded.

G. Additional Requirements for Roof and Wall Mounted Principal Solar Energy Systems.

(1) A roof mounted or wall mounted PSES may be located on a principal or accessory building.

(2) PSES mounted on roofs or walls of any building shall be subject to the maximum height regulations specified for principal and accessory buildings within each of the underlying zoning districts.

(3) Wall mounted PSES shall comply with the setbacks for principal and accessory structures in the underlying zoning districts.

(4) For roof and wall mounted systems, the Applicant shall provide evidence 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.

(5) On pitched roofs, roof mounted solar collectors shall be installed as close to parallel as possible to the pitch of the roof while not sacrificing the efficiency of the solar collector.

(6) On flat roofs, roof-mounted solar collectors may be installed at an angle to improve

the efficiency of the solar collector with regard to the predominant sun angle, provided that the solar collector is placed in a manner to minimize its visibility from street level.

H. Small wind energy systems. Small wind energy systems shall be permitted as an accessory use to a principal use within any zoning district by right in accordance with the following standards:

- (1) The design and installation of all small wind energy systems shall conform to applicable industry standards, including those of the ANSI, Underwriters Laboratories (UL), Det Norske Veritas, Germanischer Lloyd Wind Energies, the ASTM, or other similar certifying organizations, and shall comply with the Building Code and with all other applicable fire and life safety requirements. The manufacturer specifications shall be submitted as part of the application.
- (2) No more than one small wind energy system shall be permitted per lot.
- (3) Small wind energy systems shall not generate noise which exceeds 55 decibels measured at any property line.
- (4) Small wind energy systems shall not be artificially lighted, except to the extent required by the FAA.
- (5) All on-site utility and transmission lines extending to and from the small wind energy system shall be placed underground.
- (6) No part of any small wind energy system shall be located within or above any front yard, along any street frontage, nor within any required principal building setback of any lot.
- (7) Structure-mounted small wind energy systems shall comply with all applicable provisions of this section.
- (8) All small wind energy systems that are independent of any other structure shall be located a minimum distance of 1.1 times the turbine height from any inhabited structure, property line, street right-of-way, or overhead utility line. This setback requirement shall not apply to inhabited structures when located on the same lot as the small wind energy system.
- (9) The maximum height of any small wind energy system shall not exceed 50 feet from the finished grade elevation.
- (10) No portion of any small wind energy system shall extend over parking areas, access drives, driveways or sidewalks.
- (11) The minimum height of the lowest position of the wind turbine shall be 15 feet

above the ground.

- (12) Small wind energy systems shall not display advertising, except for reasonable identification of the small wind energy system's manufacturer. Such sign shall have an area of less than four square feet.
 - (13) When an accessory building is necessary for storage cells or related mechanical equipment, the accessory building shall not have a floor area exceeding 200 square feet and shall comply with the accessory building requirements specified within each zoning district. Accessory buildings shall not be located within any front yard or along any street frontage, nor within any required setback of any lot.
 - (14) The owner shall provide a copy of the letter from the electric utility company indicating that it has received and processed an application for interconnection of renewable generation equipment with the application for a zoning permit. The owner shall provide a copy of the final inspection report or other final approval from the electric utility company to the Township prior to the issuance of a certificate of use and occupancy for the small wind energy system. Off-grid systems shall be exempt from this requirement.
 - (15) The owner of the small wind energy system shall, at the owner's expense, complete decommissioning within 12 months after the end of the useful life of the small wind energy system. It shall be presumed that the wind turbine is at the end of its useful life if no electricity is generated for a continuous period of 12 months.
 - (16) The owner of the small wind energy system shall provide evidence that the owner's insurance policy has been endorsed to cover damage or injury that might result from the installation and operation of the small wind energy system.
- I. Large wind energy production facilities. Large wind energy production facilities shall be permitted by special exception, subject to the following regulations:
- (1) The layout, design, and installation of large wind energy production facilities shall conform to applicable industry standards, including those of the ANSI, Underwriters Laboratories (UL), Det Norske Veritas, Germanischer Lloyd Wind Energies, the ASTM, or other similar certifying organizations, and shall comply with the Building Code and with all other applicable fire and life safety requirements. The manufacturer specifications shall be submitted as part of the application.
 - (2) Large wind energy production facilities shall not generate noise which exceeds 55 decibels measured at any property line.
 - (3) All on-site utility and transmission lines extending to and from the large wind energy production facility shall be placed underground.

- (4) All large wind energy production facilities shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Staff regulation shall not be considered a sufficient braking system for overspeed protection.
- (5) Large wind energy production facilities shall not be artificially lighted, except to the extent required by the FAA.
- (6) Wind turbines and towers shall not display advertising, except for reasonable identification of the large wind energy production facility's manufacturer. Such sign shall have an area of less than four square feet.
- (7) Wind turbines and towers shall be a non-obtrusive color such as white, off-white or gray.
- (8) All large wind energy production facilities shall, to the extent feasible, be sited to prevent shadow flicker on any occupied building on adjacent lot.
- (9) A clearly visible warning sign concerning voltage shall be placed at the base of all pad-mounted transformers and substations or fence.
- (10) All access doors to wind turbines and electrical equipment shall be locked or fenced, as appropriate, to prevent entry by non-authorized persons.
- (11) No portion of any large wind energy production system shall extend over parking areas, access drives, driveways or sidewalks.
- (12) All large wind energy production facilities shall be independent of any other structure and shall be located a minimum distance of 1.1 times the turbine height from any inhabited structure, property line, street right-of-way, or overhead utility line.
- (13) The minimum height of the lowest position of the wind turbine shall be 30 feet above the ground.
- (14) All large wind energy production facilities shall be completely enclosed by a minimum eight-foot high fence with a self-locking gate, or the wind turbines' climbing apparatus shall be limited to no lower than 12 feet from the ground, or the wind turbines' climbing apparatus shall be fully contained and locked within the tower structure.
- (15) The large wind energy production facility owner is required to notify the Township immediately upon cessation or abandonment of the operation. The large wind energy production facility owner shall then have 12 months in which to dismantle

and remove the large wind energy production facility from the lot. At the time of issuance of the permit for the construction of the large wind energy production facility, the owner shall provide financial security in form and amount acceptable to the Township to secure the expense of dismantling and removing said structures.

- (16) The owner of the large wind energy production facility shall be required to provide a certificate of insurance to the Township providing evidence of liability insurance of not less than \$1,000,000 and naming the Township as an additional insured on the policy or policies of the owner and/or lessee.

J. Geothermal energy systems. Geothermal energy systems shall be permitted as an accessory use to a principal use within any zoning district by right in accordance with the following standards:

- (1) Only closed loop geothermal energy systems shall be permitted. Open-loop geothermal energy systems are prohibited within the Township.
- (2) For all closed loop geothermal systems relying upon circulating fluids, only nontoxic, biodegradable circulating fluids such as food-grade propylene glycol shall be permitted.
- (3) Geothermal systems shall not encroach on public drainage, utility roadway or trail easements of any nature.
- (4) All horizontal closed loop systems shall be no more than 20 feet deep.
- (5) All vertical closed loop geothermal energy systems shall have proper grout sealing with the following properties:
 - (a) High thermal conductivity to allow heat transfer;
 - (b) Low viscosity to allow the grout to wrap around the pipe;
 - (c) Low shrinkage volume to ensure that the grout will not pull away from the pipe; and
 - (d) Low permeability to prevent the migration of antifreeze solution in the event of a line breakage.
- (6) Geothermal energy systems shall be located a minimum distance of 25 feet from any property line, unless documentation in the form of a written agreement with the adjoining property owner(s) is provided.
- (7) Geothermal energy systems shall be located a minimum distance of 100 feet from existing potable water wells and a minimum distance of 25 feet from any existing septic system.

- (8) Above-ground equipment associated with geothermal pumps shall not be installed in the front yard of any lot or the side yard of a corner lot adjacent to a public right-of-way and shall meet all required setbacks for the applicable zoning district.
 - (9) All horizontal closed-loop geothermal energy systems shall be properly backfilled, including the removal of sharp-edged rocks before backfilling in order to prevent such rocks from coming into contact with the system pipe.
 - (10) The design and installation of geothermal systems and related boreholes for geothermal heat pump systems shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI), the International Ground Source Heat Pump Association (IGSHPA), the American Society for Testing and Materials (ASTM), the Air-Conditioning and Refrigeration Institute (ARI), or other similar certifying organizations, and shall comply with the East Hanover Township Building Code, and with all other applicable Township requirements. The manufacturer specifications shall be submitted as part of the application.
 - (11) Abandonment. If the geothermal system remains nonfunctional or inoperative for a continuous period of one year, the system shall be deemed to be abandoned and shall constitute a public nuisance. The owner shall remove the abandoned system at their expense after a demolition permit has been obtained in accordance with the following:
 - (a) The heat pump and any external mechanical equipment shall be removed.
 - (b) Pipes or coils below the land surface shall be filled with grout to displace the heat transfer fluid. The heat transfer fluid shall be captured and disposed of in accordance with applicable regulations. The top of the pipe, coil or boring shall be uncovered and grouted.
- K. Building permit required. The installation of solar energy systems, wind energy facilities, and/or geothermal energy systems shall be subject to all permitting and inspections with regard to applicable provisions of the Pennsylvania Uniform Construction Code (UCC) and the National Electric Code (NEC), in addition to any other Township ordinances and/or regulations required to demonstrate compliance with the provisions of this chapter.
- L. Protection. Where a solar or wind energy system has been installed, it shall be the responsibility of the property owner to secure any easements or restrictive covenants necessary to protect the skyspace affecting the solar or wind system. Such an agreement shall be negotiated between owners of affected properties, but it is not a requirement for approval of a building and zoning permit for the solar or wind energy system.

3. ARTICLE IX, §250-51F(3), LOW DENSITY RESIDENTIAL ZONING DISTRICT IS HEREBY REPEALED AND REPLACED WITH THE FOLLOWING:

(3) Buildings in which livestock, fowl, or other than customary household pets are kept shall be located no closer than one hundred (100) feet from the nearest dwelling other than that of the owner, nor within fifty (50) feet of any property line. Any pasture fence shall be located a minimum distance of ten (10) feet from the property line of an adjacent parcel in a Residential Zoning District or the property line of an adjacent parcel in residential use.

4. If any sentence, clause, section or part of this Ordinance is for any reason found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections, or parts of this Ordinance. It is hereby declared as the intent of the East Hanover Township Board of Supervisors that this Ordinance would have been adopted had such unconstitutional, illegal, or invalid sentence, clause, section, or part thereof not been included therein.

5. All Ordinances or parts of Ordinances which are inconsistent herewith are hereby repealed.

6. This Ordinance shall become effective five (5) days after enactment by the Board of Supervisors.

Ordained and enacted this 29th day of August, 2022.

Board of Supervisors
East Hanover Township

Edward Heagy
Edward Heagy, Chairman

[TOWNSHIP SEAL]

Attest:

Dennis Grubb
Dennis Grubb, Township Secretary

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