Zoning Revisions Regarding Wind Energy Systems

WILLIAMSTOWN TOWNSHIP, INGHAM COUNTY, MICHIGAN

DRAFT PREPARED ON SEPTEMBER 30, 2023 BY

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Proposed Revisions to the Williamstown Township Zoning Ordinance Regarding Wind Energy Systems

PROPOSED REVISIONS TO SECTION 8.02

Amend Section 8.02 by replacing the existing text in subsection KK in its entirety with the following:

Section 8.02, subsection KK

KK. Wind Energy Systems

1. Purpose.
   There is growing interest in the development of wind energy systems to reduce reliance on fossil fuels for the purpose of generating electricity. Although wind energy systems can be a desirable renewable energy source that is healthy for the climate, these systems can generate harmful and annoying impacts if they are not properly designed and located within the community. The purpose of the regulations in this subsection is to allow wind energy systems to be developed in Williamstown Township within guidelines that will minimize adverse impacts on residents, wildlife, and the environment.

2. Definitions.
   The following words, terms, and phrases, when used in this subsection, shall have the meanings ascribed to them, except where the context clearly indicates a different meaning:

   A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighting network, expressed as dBA.

   Anemometer Tower: A freestanding tower containing instrumentation, such as anemometers that are designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system (may also be called a Meteorological Tower or Testing Tower).

   ANSI: The American National Standards Institute.

   Background Sound: Sound from all sources except the source of interest.

   Decibel: A unit used to measure the intensity of sound, equal to twenty (20) times the common logarithm of the ratio of the pressure produced by the sound to a reference pressure, usually 0.0002 microbar.

   End of Useful Life: The end of the manufacturer's recommended useful life of the product, when leases or easements expire, when a wind energy system or parts of a wind energy system are abandoned for twelve (12) consecutive months or more, or when power purchase agreements expire.

   Height: For a horizontal axis wind turbine: The distance between the base of a wind turbine tower at grade to the tip of the blade at its highest reach. For a vertical axis wind turbine: The distance between the base of the wind turbine tower at grade and highest point of the tower.

   Horizontal Axis Wind Turbine: A wind turbine that utilizes a main rotor shaft and electrical generator at the top of the tower and points into the wind for optimal operation.

   IEC: The International Electrotechnical Commission.

   ISO: The International Organization for Standardization.

   Laydown Yard: A designated area where turbine components are temporarily stored prior to erection. A central laydown yard may be used for the project or there may be several laydown yards. A laydown yard may be used temporarily during construction or may be a permanent feature of the wind energy system development.

   L_{eq}: The equivalent average sound level for the measurement period.

L_{den}: An equivalent sound level, day-evening-night average, over a 24-hour period at the most exposed façade, outdoors; a 10 dB penalty is added to nighttime sound (10:00 p.m. to 7:00 a.m.) and a 5 dB penalty is added to evening sound (7:00 p.m. to 10:00 p.m.).

Nacelle: A cover that houses all the generating components in a wind turbine, including the generator, gearbox, drive train, and brake assembly.

Participating Parcel: A parcel that is under a lease or easement for development of a utility-scale wind energy system.

Non-participating Parcel: A parcel for which there is not a signed leased or easement for development of a proposed utility-scale wind energy system.

On-Site Wind Energy System: A land use for generating electric power from wind that is intended to serve the needs of the consumer on-site.

SCADA: Supervisory Control And Data Acquisition, a control system architecture comprising computers, networked data communications, and graphical user interfaces for high-level supervision of machines and processes.

Shadow Flicker: Alternating changes in light intensity caused by the moving blade of a wind turbine casting shadows on the ground or on stationary objects, such as a window or face of a dwelling unit.

Utility-Scale Wind Energy System: A land use for generating electric power by use of wind at multiple wind turbine locations, including accessory structures and uses, such as but not limited to an anemometer tower, electric substation, and laydown yard. A utility-scale wind energy system is designed to provide electricity to an electric utility.

Vertical Axis Wind Turbine: A wind turbine that uses a vertical rotor shaft and is often mounted on the ground or a building. A vertical axis wind turbine does not need to point into the wind to be effective.

WES: Wind Energy System.

Wind Turbine: A group of component parts used to convert wind energy into electricity, including the tower, base, rotor, nacelle, and blades.

3. <u>On-Site Wind Energy Systems</u>
On-site wind energy systems designed to serve the needs of a single home, farm, or small business are permitted subject to the following regulations:

    a. **Site Plan Approval**. On-site wind energy systems require site plan approval, pursuant to Section 29.02.

    b. **Permitted Height**. The maximum height of an on-site wind energy system serving a home or small business shall be sixty (60) feet. The maximum height of an on-site wind energy system serving a commercial farm shall be one hundred twenty (120) feet.

    c. **Required Setbacks**. The minimum distance between an on-site wind energy system and any property line shall be equal to 1.1 times the height of the wind energy system. Accessory structures associated with an on-site wind energy system shall comply with the minimum setbacks for the district in which they are located.

    d. **Accessory Structures**. On-site wind energy systems and accessory structures related thereto shall not count toward the maximum number of accessory structures on a given lot.

    e. **Minimum Ground Clearance**. The minimum vertical blade tip clearance from grade level shall be twenty (20) feet for a horizontal axis wind turbine. Twenty (20) feet of clearance shall be provided under or around any moving parts of a vertical axis wind turbine.

    f. **Maximum Sound Pressure Level**. The audible sound from an on-site wind energy system shall not exceed 45 dBA L_{den}, measured at the property line closest to the wind energy system.

g. **Construction Codes and Interconnection Requirements**. On-site wind energy systems shall comply with all applicable state construction and electrical codes and Township building code requirements. An on-site wind energy system that is interconnected with the public utility system shall comply with Michigan Public Service Commission and Federal Energy Regulatory Commission requirements.

h. **Aviation and Airport Requirements**. If applicable, on-site wind energy systems shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950, as amended), and the Michigan Tall Structures Act (Public Act 259 of 1959, as amended).

i. **Safety Requirements**. On-site wind energy systems shall comply with the following safety requirements:

   i. An on-site wind energy system shall have an automatic braking, governing, or feathering system to prevent uncontrolled rotation or over speeding.

   ii. All wind towers shall have lightning protection.

   iii. On-site wind energy systems shall be designed to prevent unauthorized access to electrical and mechanical components and to prevent unauthorized climbing on the tower.

   iv. If a tower is supported by guy wires, the wires shall be clearly visible to a height of at least six (6) feet above the guy wire anchors.

j. **Shadow Flicker**. On-site wind energy systems shall produce no off-site shadow flicker on occupied structures. Measures to eliminate shadow flicker, such as programming the wind turbine to stop rotating during times when shadows would cross neighboring occupied structures, may be required.

k. **Temporary Testing Towers for On-site Systems**. Temporary testing towers for on-site wind energy systems (e.g., anemometers, bat testing towers) shall be permitted for a specific period of time not to exceed two (2) years, subject to site plan review and subject to the requirements specified above regarding height, setbacks, construction codes, and aviation and airports. In addition, the Planning Commission shall require a performance guarantee, pursuant to Section 2.18, in an amount sufficient to cover the removal of the tower and restoration of the site.

l. **Removal**. If an on-site wind energy system ceases to generate electricity for twelve (12) or more consecutive months, the owner shall be responsible for removing the tower and associated equipment no later than ninety (90) days after the end of the twelve (12) month period. Where the removal has not been completed as required, after giving thirty (30) days written notice the Township may initiate the removal of the wind energy system. The Township's actual cost and reasonable administrative charges related to removal shall become a lien on the property and the charges shall be placed on the next general assessment roll of the Township to be collected in the same manner as other taxes are collected.

4. Utility-Scale Wind Energy Systems
Utility-scale wind energy systems shall be permitted subject to the following regulations:

a. **Special Land Use and Site Plan Approval Required**. Utility-scale wind energy systems shall require special land use approval, pursuant to Section 29.03, and site plan approval, pursuant to Section 29.02, except that planned development approval shall be required in the Green Zone Planned Development District.

b. **Permitted Height**. The maximum height of a utility-scale wind energy system shall be five hundred (500) feet.

c. **Required Setbacks**. Utility-scale wind turbines shall comply with the following minimum setback requirements (measured from the closest point at the base of the tower):

   i. **From Any Road Right-of-Way**. The minimum setback from any road right-of-way shall be equal to 1.1 times the height of the wind energy system.

ii. **From Any Non-Participating Property**. The minimum setback from the property line of a non-participating property shall be equal to 3.0 times the height of the wind energy system.

iii. **From Any Participating Property**. The minimum setback from the property line of any participating property shall be equal to 1.1 times the height of the wind energy system. This setback shall not be required where there is a common property line between two participating properties under the same ownership.

iv. **From Any Occupied Dwelling Unit**. The minimum setback from any occupied dwelling unit (on a participating or non-participating property) shall be equal to 3.0 times the turbine height.

v. **From Any Railroad, Major Gas Line, or Electric Transmission Line**. The minimum setback from any railroad right-of-way, gas transmission line easement, electric transmission line easement shall be equal to 1.1 times the height of the wind energy system.

d. **Laydown Yard**. The temporary laydown yard shall be subject to special land use and site plan review and approval. Structures and uses within the laydown yard shall comply with the minimum setback requirements for the district in which they are located. The Planning Commission shall require a performance guarantee, pursuant to Section 2.18, in an amount sufficient to cover the removal of the structures and uses within the laydown yard and restoration of the site upon completion of construction.

e. **Temporary Testing Towers for Utility-Scale Systems**. Temporary testing towers for utility-scale energy systems (e.g., anemometers, bat testing towers) shall be permitted for a specific period of time not to exceed two (2) years, subject to site plan review and subject to the requirements specified in subsection 4 regarding height, setbacks, construction codes, and aviation and airports. In addition, the Planning Commission shall require a performance guarantee, pursuant to Section 2.18, in an amount sufficient to cover the removal of the tower and restoration of the site.

f. **Minimum Ground Clearance**. The minimum vertical blade tip clearance from grade level shall be seventy-five (75) feet.

g. **Sound Requirements**. Utility-scale wind energy systems shall comply with the following sound requirements:

i. **Maximum Sound Pressure Level—Non-Participating Property**. The audible sound from a utility-scale wind energy system shall not exceed 45 dBA L_{den}, measured at the property line closest to the wind energy system.

ii. **Maximum Sound Pressure Level—Participating Property**. The audible sound from a utility-scale wind energy system shall not exceed 45 dBA L_{den}, measured at the closest exterior wall of the occupied dwelling unit to the wind energy system. If an occupied dwelling unit does not exist, then the measurement shall be made at the property line closest to the wind energy system.

iii. **Sound Measurement**. Sound pressure level measurements shall be performed by a qualified third party professional approved by the developer and the Planning Commission. Testing shall be performed according to the procedures in the most current version of ANSI S12.18 and ANSI S12.9 Part 3. All sound pressure levels shall be measured with a sound meter that meets or exceeds the most current version of ANSI S1.4 specifications for a Type II sound meter. A combination of attended and unattended sound measurement is required for compliance testing.

iv. **Post-Construction Sound Survey**. The developer shall initiate a post-construction sound survey immediately after twelve (12) months of operation to document the levels of sound being emitted by the wind turbines. The study shall be designed to verify compliance with the sound requirements of this ordinance. The wind energy system owner shall provide SCADA data during the testing period to the testing consultant

completing the sound survey. Upon completion, the results of the survey shall immediately be submitted to the Township Supervisor.

h. **Vibration**. Utility-scale wind energy systems shall not create any vibrations that are detectable by humans on non-participating parcels.

i. **Shadow Flicker**. There shall be no shadow flicker on a non-participating parcel. The site plan application shall include a Shadow Flicker Analysis, which shall identify specific mitigation measures to be used to eliminate shadow flicker on non-participating parcels, which may include any of the following:

   i. Change in the proposed location of the wind turbine.

   ii. The wind turbine may be turned off by a manufacturer-approved system during the period a non-participating parcel would receive shadow flicker.

j. **Construction Codes**. Utility-scale wind energy systems shall comply with all applicable state construction and electrical codes and Township building code requirements.

k. **Permit Requirements**. Utility-scale wind energy systems shall comply with all applicable federal, state, local, and utility requirements. Copies of required permits shall be submitted to the Township with the site plan review application. Required permits and approvals include, but may not be limited to the following:

   i. **Aviation and Airport Requirements**. Utility-scale wind energy systems shall comply with Federal Aviation Administration (FAA) requirements. The minimum FAA lighting requirements shall not be exceeded. The lighting plan submitted to the FAA shall propose an Aircraft Detection Lighting System (ADLS) alternative. The tower shall not be illuminated unless required by the FAA. In addition, utility-scale wind energy systems shall comply with Michigan Airport Zoning Act (Public Act 23 of 1950, as amended), and the Michigan Tall Structures Act (Public Act 259 of 1959, as amended).

   ii. **Environmental Requirements**. The Environmental Analysis required in site plan review (see subsection 5) shall demonstrate mitigation measures to minimize impacts on natural and cultural resources. Furthermore, the Environmental Analysis shall demonstrate compliance with the Michigan Natural Resources and Environmental Protection Act (Public Act 451 of 1994, as amended), including but not limited to:

      a) Part 31, Water Resources Protection
      b) Part 91, Soil Erosion and Sedimentation Control
      c) Part 301, Inland Lakes and Streams
      d) Part 303, Wetlands

   iii. **Avian and Wildlife Impacts**. The Avian and Wildlife Impact Analysis required in site plan review (see subsection 5) shall demonstrate mitigation measures to minimize potential impacts on avians and wildlife.

      a) The Analysis, which shall be based on published peer-reviewed scientific data, shall demonstrate compliance with the U. S. Fish and Wildlife Service's Land-Based Wind Energy Guidelines.
      b) The Analysis shall demonstrate compliance with applicable sections of the Federal Endangered Species Act and Michigan's endangered species protection laws, set forth in Part 365 of the Michigan Natural Resources and Environmental Protection Act. Consultation with the U. S. Fish and Wildlife Service and Michigan Department of Natural Resources to identify listed species is required.

   iv. **Road and Highway Permits and Impacts**. Permits shall be obtained from the Ingham County Road Department and the Michigan Department of Transportation. The applicant shall either post performance guarantees or enter into Road Use Agreements with the Ingham County Road Department and the Michigan Department of Transportation, at the

discretion of each road agency, to cover the cost of road damage resulting from construction of the wind energy system.

l. **Safety Requirements**. Utility-scale wind energy systems shall comply with the following safety requirements:

   i. Utility-scale wind energy systems shall be designed to prevent unauthorized access to electrical and mechanical components. Access doors shall be kept locked at all times when service personnel are not present.

   ii. Spent lubricants and cooling fluids shall be promptly and safely removed from the site of the wind energy system.

   iii. Utility-scale wind energy systems shall have an automatic braking, governing, or feathering system to prevent uncontrolled rotation or over speeding.

   iv. Copies of Manufacturers' Material Safety Data Sheets shall be submitted, which shall include the type and quantity of all materials used in the operation of the wind energy system including, but not limited to, all lubricants and coolants.

m. **Sign**. A two (2) square foot sign shall be posted at the base of each wind turbine and meteorological tower. The sign shall contain the following information:

   i. Warning of potential falling ice.

   ii. Wind turbine owner's name and operator's name.

   iii. Emergency contact numbers (more than one).

n. **Visual Characteristics**. Utility-scale wind energy systems shall use tubular towers. The tower, blades, and nacelle shall be finished in a non-reflective matte finish with a white or off-white color.

o. **Utility Lines**. Electric transmission lines extending from a wind turbine to a substation shall be placed underground a minimum depth of five (5) feet to allow for continued farming and existing land use in the vicinity of the wind energy system, and to prevent avian collision and electrocutions. Above-ground non-transmission lines, transformers, and conductors shall comply with the Avian Power Line Interaction Committee published guidelines to reduce avian mortality.

p. **Communication and Signal Interference**.

   i. No utility-scale wind energy system shall be installed in any location where its proximity to fixed broadcast, retransmission, or reception for radio, television, or wireless phone or other personal communication systems would produce interference with signal transmission or reception unless the applicant provides a replacement signal to the affected party that restores service to at least the level present before operation of the wind energy system.

   ii. No utility-scale wind energy system shall be installed in any location within the line of sight of an existing microwave communications link where operation of the wind energy system would produce electromagnetic interference in the link's operation.

   iii. In the event that signal interference is experienced and confirmed, the applicant shall address the interference to the affected party's satisfaction within ninety (90) days, following the Complaint Resolution Program outlined in item q.

q. **Complaint Resolution Program**. The applicant shall present a Complaint Resolution Program for approval. The Complaint Resolution Program shall include the following at minimum:

   i. Complaints shall be submitted to the Township Supervisor, who shall forward them to the designated wind energy system representative, who shall be identified in the Complaint Resolution Program.

ii. The Complaint Resolution Program shall indicate that the Township Supervisor will be kept informed throughout the resolution process.

iii. Processes and timelines for responding to and resolving complaints shall be specified.

iv. A sample complaint form shall be submitted for approval.

r. **Change of Ownership or Operator**. The Township Supervisor shall be notified in writing immediately if there is a change in ownership or operator of a utility-scale wind energy system. The Township Supervisor shall be provided with contact information for the new owner and/or operator representatives.

s. **Indemnification**. The wind energy company owner and operator shall agree to indemnify and hold Williamstown Township, its Board of Trustees, Planning Commission, officers, agents, and employees harmless from any liability, loss, or damage they may suffer as a result of claims, demands, costs, or judgments against them arising out of approval of a wind energy system pursuant to the regulations in this Zoning Ordinance. Any such indemnification agreement shall be subject to review and approval by the Township Attorney.

t. **Maintenance Requirements and Inspections**. The wind energy system shall be maintained and kept in a safe working condition. Annually, the wind energy system owner shall certify in writing to the Township Supervisor that all turbines are operating properly under normal conditions. Turbines not operating at the time of the annual review shall be identified and a plan shall be presented for resolving maintenance issues. A wind turbine that has not been operational for over twelve (12) consecutive months shall be considered abandoned and in violation of the special land use permit.

The Township shall have the right to inspect the premises on which a utility-scale wind energy system is located at a reasonable time. The Township may hire a consultant to assist with any such inspections, with the cost to be charged to the owner of the wind energy system.

u. **Maintenance of Access Roads**. Access roads shall be maintained to provide all-season access to the wind energy systems by service personnel, as well as emergency vehicles, including fire apparatus.

v. **End of Useful Life**. At the end of the useful life of a utility-scale wind energy system, the owner shall take one of the following actions:

i. Follow the Decommissioning Plan approved under item u, and remove the system as indicated in the most recent approved plan.

ii. Amend the Decommissioning Plan, subject to Planning Commission and Township Board approval, and then proceed with the amended Plan.

iii. Seek approval of modify the previously approved site plan and special land use permit to extend the useful life, repower with new wind turbines, or take alternate action, subject to ordinance requirements in place at the time of the request.

w. **Decommissioning Plan**. A Decommissioning Plan, which shall be prepared by a professional engineer licensed in the state of Michigan, shall be submitted for approval. The Decommissioning Plan shall contain the following elements, at minimum:

i. A projection of the anticipated life of the project.

ii. An estimate of total decommissioning costs in current dollars, which shall include the cost of complete removal of the wind turbines, removal of the foundations to a depth of at least six (6) feet below grade level, and site restoration, minus the salvage value of materials.

iii. The anticipated procedures and timeline that will be followed to decommission the project and restore the site.

iv. The method of ensuring that funds will be available for decommissioning and site restoration, in compliance with Section 2.18, Performance Guarantee. If a surety bond is posted, the bonding agency must be rated A+ or better.

v. The amount of the performance guarantee shall be equal to 125% of the projected cost. The amount of the performance guarantee shall be reviewed every five (5) years for the life of the project, to account for inflation and changes in decommissioning costs. Revised cost estimates shall be submitted to the Township Board for approval.

vi. Acknowledgement that failure to keep the performance guarantee in full force and effect at all times while the wind energy system exists shall constitute a material and significant violation of the special land use approval and this ordinance and will subject the owner to all available enforcement remedies, including possible revocation of the special land use approval.

vii. Acknowledgement that the owner shall be responsible for the payment of any costs, including attorney fees, incurred by the Township in securing removal of the wind energy system.

5. Site Plan Review Requirements

Utility-scale wind energy systems shall comply with applicable site plan review requirements in Section 29.02. In addition, the following documentation shall be submitted to demonstrate compliance with the regulations set forth herein:

a. Evidence of the owner's public liability insurance for the project.

b. Copies of the portions of leases with property owners that grant authority to install temporary testing towers and/or utility-scale wind energy systems on the properties.

c. Legal descriptions of participating parcels.

d. The construction schedule.

e. Maps identifying all participating and non-participating parcels within the project area boundary and non-participating parcels within a quarter mile of the project boundary.

f. Site plans and drawings showing the locations, heights, and dimensions of all existing and proposed structures and fencing.

g. Site plans showing the locations, grades, and dimensions of all proposed temporary and permanent roads, with connections to county roads or state highways.

h. Site plans and drawings showing the locations, grades, dimensions, and uses of all temporary or permanent laydowon yards for turbine components.

i. Site plans and drawings showing all new above-ground infrastructure.

j. Names, contact information, and qualifications of professionals who prepared analyses submitted with the application.

k. The applicant shall provide a copy of a Power Purchase Agreement or other evidence of ability to connect to the electrical grid when the project is completed.

l. **Fire Safety**. Plans shall be submitted to the Northeast Ingham Emergency Service Authority (NIESA) for review, along with a written emergency response plan detailing the procedures, training, and equipment required to respond to fire emergencies. If specialized training or equipment is required, it shall be provided at no cost to NIESA by the applicant.

m. **Sound Modeling Analysis**. A predictive sound modeling analysis, prepared by a qualified acoustician or sound engineer, shall be submitted. The analysis shall demonstrate compliance with the sound requirements set forth in subsection 4.g., herein. The analysis shall use wind turbine

locations identical to those shown on the site plans submitted with the application. The sound modeling and analysis shall use the methods outlined in ISO 9613-2 (or the most recent version), including sound power levels determined using IEC 61400-11.

n. **Transportation Plan**. A transportation plan shall be submitted, which shall include the following, at minimum:

   i. Maps that identify the roads and highways that will be used in the delivery of components.
   ii. A plan for restoring the roads and adjacent lands to their original condition after construction.

o. **Environmental Analysis**. An environmental analysis prepared by a qualified professional shall be submitted, which shall identify and assess the potential impacts of the project on the natural and cultural environment, including, but not limited to, wetlands and other fragile ecosystems (see subsection 4.k for additional information). The analysis shall identify all appropriate measures to mitigate adverse environmental impacts and indicate how those measures will be implemented. Environmental impacts or concerns that will remain after mitigation shall be identified and evaluated.

p. **Avian and Wildlife Impact Analysis**. An avian and wildlife impact analysis prepared by a qualified professional shall be submitted, which shall identify and assess the potential impacts of the project on birds, other wildlife, and particularly endangered species. The analysis shall identify all appropriate measures to mitigate adverse impacts identified in the analysis and indicate how those measures will be implemented. Adverse impacts or concerns that will remain after mitigation shall be identified and evaluated. The analysis shall show consultation and evaluation based on applicable U. S. Fish and Wildlife Service Land-Based Energy Guidelines (2012 or the latest version.)

q. **Shadow Flicker Analysis**. A shadow flicker analysis prepared by a qualified professional shall be submitted, which shall extend a minimum of 5,280 feet from the base of each wind turbine. The analysis shall indicate the predicted amount of shadow flicker on dwelling units on non-participating parcels for the purposes of demonstrating compliance with the shadow flicker requirements set forth in subsection 4.i, herein. If mitigation measures are required to achieve compliance, then such measures shall be identified.

r. **Decommissioning Plan**. A decommissioning plan shall be prepared and submitted, pursuant to subsection 4.u, herein.

s. **Complaint Resolution Program**. A complaint resolution program shall be prepared and submitted, pursuant to subsection 4.q, herein.

REVISIONS TO ZONING DISTRICT REGULATIONS

Upon adoption of the above revisions to Section 8.02, subsection KK, it is necessary to amend the regulations for each of the zoning districts in which on-site or utility-scale wind energy systems are to be permitted.

We recommend that on-site systems be permitted as accessory structures in all districts. However, since the minimum lot size in the R-1, One Family Residential District and the OS-1, Office Service District is only 20,000 sq. ft., it is likely that many lots in these districts would not be able to comply with the required setbacks for on-site systems. Thus, we recommend a one acre minimum lot size to qualify for an on-site system in the R-1 and OS-1 Districts.

We recommend that utility-scale systems be permitted in just two districts: the AG-C, Commercial Agricultural District and the GD, Green Zone Planned Development District. These districts contain parcels that are large enough to comply with the dimensional requirements for utility-scale systems.

Based on the above recommendations, the following revisions are proposed:

PROPOSED REVISIONS TO SECTION 11.02

Revise Section 11.02(B) to permit on-site wind energy systems as an accessory use in the R-1, One Family Residential District, on lots of one acre or larger, by adding a new item 8. The new item 8 would read as follows:

> On-site wind energy systems on lots of one (1) acre or larger, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 12.02

Revise Section 12.02(B) to permit on-site wind energy systems as an accessory use in the R-1-S, Suburban Residential District, by adding a new item 2 and renumbering the existing item 2. The new item 2 would read as follows:

> On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 13.02

Revise Section 13.02(B) to permit on-site wind energy systems as an accessory use in the RR, Rural Residential District, by adding a new item 8. The new item 8 would read as follows:

> On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 14.02

Revise Section 14.02(B) to permit on-site wind energy systems as an accessory use in the RE, Rural Estate District, by adding a new item 8. The new item 8 would read as follows:

> On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 15.02

Revise Section 15.02(B) to permit on-site wind energy systems as an accessory use in the AG-SF, Agricultural-Small Farms District, by adding a new item 8. The new item 8 would read as follows:

> On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 16.02

Revise Section 16.02 to permit on-site wind energy systems as an accessory use in the MHP, Mobile Home Park District, by amending item 5 to read as follows:

> Uses and structures accessory to the above, subject to the provisions in this Article, including: a) Roof and building-mounted solar energy systems for individual use, subject to the regulations in Section 8.02, subsection QQ.4, and b) On-site wind energy systems, subject to the regulations in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 17.02

Revise Section 17.02(B) to permit on-site wind energy systems as an accessory use in the RM-1, Multiple Family Residential District, by adding a new item 9. The new item 9 would read as follows:

> On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 18.02

Revise Section 18.02(B) to permit on-site wind energy systems as an accessory use in the AG-C, Commercial Agricultural District, by adding a new item 2. The new item 2 would read as follows:

> On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

Revise Section 18.02(C) to permit utility-scale wind energy systems as a special land use in the AG-C, Commercial Agricultural District, by adding a new item 28. The new item 28 would read as follows:

Utility-scale wind energy systems, subject to the requirements in Section 8.02, subsection KK.4.

PROPOSED REVISIONS TO SECTION 19.02

Revise Section 19.02(B) to permit on-site wind energy systems as an accessory use in the OS-1, Office Service District, on lots of one acre or larger, by adding a new item 2. The new item 2 would read as follows:

On-site wind energy systems on lots of one (1) acre or larger, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 20.02

Revise Section 20.02(B) to permit on-site wind energy systems as an accessory use in the B-1, Limited Business District, by adding a new item 2. The new item 2 would read as follows:

On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 21.02

Revise Section 21.02(B) to permit on-site wind energy systems as an accessory use in the B-2, Commercial Center District, by adding a new item 2. The new item 2 would read as follows:

On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 22.02

Revise Section 22.02(B) to permit on-site wind energy systems as an accessory use in the I-1, Light Industrial District, by adding a new item 2. The new item 2 would read as follows:

On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

PROPOSED REVISIONS TO SECTION 24.04

Revise Section 24.04 to permit on-site wind energy systems as an accessory use in the GD, Green Zone Planned Development District, by adding a new item 12.h. The new item 12.h would read as follows:

On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.

Revise Section 24.04 to permit utility-scale wind energy systems in the GD, Green Zone Planned Development District, by adding a new item 16. The new item 16 would read as follows:

Utility-scale wind energy systems, subject to the requirements in Section 8.02, subsection KK.4.

PROPOSED REVISIONS TO SECTION 27.04

Revise Section 27.04(B) to permit on-site wind energy systems as an accessory use in the MU, Mixed Use Overlay District, by adding a new item 2. The new item 2 would read as follows:

On-site wind energy systems, subject to the requirements in Section 8.02, subsection KK.3.