



## Conway Township Planning Commission

Monday, October 9, 2023 | 7:00pm

Conway Township Hall | 8015 N. Fowlerville Road, Fowlerville, Michigan 48836

1. **CALL TO ORDER / PLEDGE**
2. **ROLL CALL**
3. **CALL TO THE PUBLIC**
4. **APPROVAL OF PLANNING COMMISSION MEETING October 9, 2023 AGENDA**
5. **APPROVAL OF THE September 6, 2023 SPECIAL MEETING MINUTES**
6. **APPROVAL OF THE September 11, 2023 MEETING MINUTES**
7. **COMMUNICATIONS**
  - a. Zoning Administrator's Report
  - b. Livingston County Planning Commission Update/Report
8. **OLD BUSINESS**
  - a. Zoning Ordinance Amendment No. 2023-05: Cargo Containers – Sent to LCPC
  - b. Zoning Ordinance on Windmills Update – Redline copy with markups from Sept 6, 2023 public discussion.
9. **NEW BUSINESS**
  - a. Two vacant PC board member positions available
  - b. Selection of Planning Commission Vice-Chair
10. **PLANNING COMMISSION MEMBER DISCUSSION**
11. **2<sup>nd</sup> CALL TO THE PUBLIC**
12. **ADJOURNMENT**

Any person may speak for up to 3 minutes during the public comment period.

***Next Meeting will be Monday, November 13, 2023***



**Conway Township Planning Commission SPECIAL Meeting Minutes**  
 Wednesday, September 6<sup>th</sup>, 2023 | 6:00pm EST  
 Conway Township Hall | 8015 N. Fowlerville Road, Fowlerville, MI 48836

Agenda	Items Discussed	Actions to be Taken
<b>Attendees</b>	PC Members Present: Jeff Klein, George Pushies - Ex-Officio, Shawn Morrison, Lucas Curd, and Kayla Poissant  Township Attorney: Michael D. Homier	None
<b>Call to Order/Pledge</b>	Vice Chair, L. Curd called the Conway Township Planning Commission Special meeting to order at 6:06pm and led the Pledge of Allegiance.	None
<b>Call to the Public</b>	Steve Smith- Robb Rd.- He stated that he doesn't know whether an overlay is possible with the wind energy proposed ordinance. He is concerned regarding a few different sections of the proposed ordinances. He would like to hear more on the height of the turbines. He stated a tower off of Fowlerville Rd is 200ft tall, so he wondered about the appropriate height of the turbines. He also was to see it more explained regarding private traditional windmills vs. turbines or ones used for energy.	None
<b>Special Meeting Discussion</b>	Mr. Homier went over different sections of the proposed wind ordinance. Board members asked multiple questions regarding different aspects of the proposed ordinance. Discussion continued throughout the rest of the meeting.	None
<b>Last Call to the Public</b>	The second call to the public resulted in no comment.	None
<b>Adjournment</b>	Motion to adjourn at 8:35pm. Motion by J. Klein. Support by G. Pushies. Motion Approved.	Motion Approved

Respectfully Submitted:

Approved:

Kayla Poissant,  
PC Secretary

Meghan Swain-Kuch,  
PC Chair



**Conway Township Planning Commission Meeting Minutes**  
 Monday, September 11<sup>th</sup>, 2023 | 7:00pm EST  
 Conway Township Hall | 8015 N. Fowlerville Road, Fowlerville, MI 48836

Agenda	Items Discussed	Actions to be Taken
<b>Attendees</b>	PC Members Present: Jeff Klein, George Pushies - Ex-Officio, Shawn Morrison, Lucas Curd- Chair, and Kayla Poissant- Secretary  Zoning Administrator – Gary Klein  Livingston County Planning Commissioner: Dennis Bowdoin  Township Attorney: Abby Cooper, JD, Michael D. Homier (Both Absent)	None
<b>Call to Order/Pledge</b>	Chair, L. Curd called the Conway Township Planning Commission meeting to order at 7:02pm and led the Pledge of Allegiance.	None
<b>Approval of Agenda</b>	Motion to accept the meeting agenda as amended for September 11 <sup>th</sup> , 2023. Motion by S. Morrison. Support J. Klein. Motion Approved.	Motion Approved
<b>Approval of Minutes</b>	Motion to accept meeting minutes from August 14 <sup>th</sup> , 2023. Motion by L. Curd. Support by J. Klein. Motion Approved.	Motion Approved
<b>Call to the Public</b>	Steve Smith- Robb Rd.- He stated that from the Special Meeting, it was time to send the ordinance to the Township Board, but that he had a concern regarding the wording of the boundary lines. He said that he felt the wording could be misinterpreted, and he would like to see it clarified.	None
<b>Communications</b>	a. Zoning Administrator Report: G. Klein stated that there were three Land Use Permits last month- one garage, two pole barns, and one waiver for a re-roof.  b. Board Ex-Officio Report: None  b. Livingston County Planning Commission Report: D. Bowdoin stated that he did not have the agenda yet for the next LCPC meeting. G. Pushies asked	None    None  None

	<p>about the Dawn Patrol. D. Bowdoin stated that weather played a major factor in the low attendance stating that weather was IFR all day, and the first airplane arrived around 10:15am. He said only about 900 attended the breakfast where usually it was around 1800-2000 attendees, and that they really need more volunteers. L. Curd asked about getting the information online, and D. Bowdoin said the airport was under new management.</p>	
<p><b>Public Hearing- Zoning Ordinance Amendment No. 2023-05: Ordinance to Amend the Zoning Ordinance to Define and Regulate Cargo Containers</b></p>	<p>Motion to open the Public Hearing for Amendment No. 2023-05. Motion by J. Klein. Support S. Morrison. Motion Approved.</p> <p>Michael Stock-Chase Lake Rd.- He stated he wanted to remind the PC of their responsibilities to protect the health, safety, and welfare of the residents. He is appalled with the ordinance, and believes that the cargo containers shouldn't be allowed. He stated that the Township is a complaint-based enforcement system, and that it is only when there is a complaint filed is there any type of enforcement. He stated he would rather live next to a solar farm than a cargo container. He stated that the cargo containers wouldn't be taxed like an accessory building would be taxed.</p> <p>Steve Smith- Robb Rd.- He stated that he has a different view-point. He stated that a cargo container on a farm, he said why should anyone care. He stated that the container can't have structural modification right now, but doesn't see why a small change to allow air flow couldn't be allowed. He said he sees a lot of people move out here and want it to be like the city, but that most of the residents don't want it that way. He said that cargo containers in a subdivision would not be appropriate, but that on farms and large areas of land should be fine.</p> <p>Randy DeFaut- Fowlerville Rd.- He stated that he agreed with Steve. He stated that lights should be allowed, and that a small modification for lighting for air flow should be allowed.</p> <p>Michael Stock- Chase Lake Rd.- He is concerned about the enforcement. He wants to know how the Township is going to enforce this, and he gave an example of a pole barn being built before the primary building, and the</p>	<p>Motion Approved</p>

	<p>owners are living in now down the road from him. He wants the PC to think hard about this decision.</p> <p>Motion to close the Public Hearing for Amendment No. 2023-05 at 7:27pm. Motion by L. Curd. Support G. Pushies. Motion Approved.</p> <p>Regular PC Meeting re-opened at 7:27pm.</p>	<p>Motion Approved</p>
<p><b>Old Business</b></p>	<p><b>a. Zoning Ordinance Amendment No. 2023-05: Ordinance to Amend the Zoning Ordinance to Define and Regulate Cargo Containers</b></p> <p>G. Pushies asked about whether the number of containers should be limited to acreage or another standard. K. Poissant stated that she thought that when this was discussed before that since it is an accessory building, it was limited to 150% of the sq. footage of the primary dwelling. She also stated that is would be roughly one container per acre. G. Pushies disagrees with the containers being considered accessory buildings, and that it could be argued that the container isn't taxed, and because it doesn't sit on a permanent foundation it could not be an accessory building. G. Pushies brought up the one-trip containers which are in better condition, and that the screening in the ordinance was written so the containers couldn't be seen. Michael Stock brought up the pole barn issue again, and G. Pushies stated that they were allowed to prevent material build up and car storage originally. Discussion continued regarding enforcement. M. Stock then brought up that accessory buildings should look like the other building in the area per the ordinance, and a cargo container couldn't meet that requirement. It was discussed that the county and the building code already allows it. G. Pushies asked G. Klein about if the ordinance was in place today, how he would enforce it. G. Klein said he would need the complaint in writing first, because a verbal complaint in court wouldn't go very far. It was discussed that barns are being built to look like homes, and other surrounding Township ordinances similar to this one. Screening was discussed and whether stricter screen would be necessary. G. Pushies asked about whether the cargo containers would be allowed in Secluded Acres. K. Poissant stated no, due to their bylaws and the containers not being able to look like the primary homes.</p>	

	<p>Motion to recommend approval of the Zoning Ordinance Amendment No. 2023-05: Ordinance to Amend the Zoning Ordinance to Define and Regulate Cargo Containers to the LCPC and the Township Board. Motion by J. Klein. Support K. Poissant. Roll Call Vote. Motion Approved.</p> <p>S. Morrison- No L. Curd- Yes K. Poissant- Yes J. Klein- Yes G. Pushies- No</p> <p><b>b. Zoning Ordinance on Windmills Update-</b> L. Curd stated that Mr. Homier will be making the adjustments from the Special Meeting, and that when he receives it he will get the new draft out. G. Pushies asked about whether Mr. Homier was supposed to be in attendance this meeting. K. Poissant stated that Mr. Homier’s secretary stated the Mr. Homier was suppose to be in attendance at the Special Meeting and this meeting. L. Curd stated that he received an email from Mr. Homier earlier at 2:53pm, stating that since he was at the Special Meeting he wouldn’t be here tonight, and if he was needed to just let him know. G. Pushies stated that a line item to except windmills for the purpose of water/small electrical should be added.</p> <p><b>c. 2023 Proposed Zoning Ordinance- LCPC #Z-24-23- Solar Amendment</b> The ordinance was already recommended to the Township Board, and no motion is needed. The LCPC sent it back to the PC, and it should be sent to the Township Board.</p>	<p>Motion Approved</p>
<p><b>New Business</b></p>	<p><b>a. Two Vacant PC Board Positions</b> L. Curd stated that there are two positions open on the PC Board, and if anyone was interested to please submit application or resume to the Clerk, Elizabeth Whitt.</p> <p><b>b. Selection of PC Vice-Chair</b> Motion to delay the selection of the PC Vice-Chair until there is a full PC Board. Motion by L. Curd. Support by G. Pushies. Motion Approved.</p>	<p>Motion Approved</p>
<p><b>Commission Discussion</b></p>	<p>None at this time.</p>	<p>None</p>

<b>Last Call to the Public</b>	The second call to the public resulted in no comment.	None
<b>Adjournment</b>	Motion to adjourn at 7:49pm. Motion by G. Pushies. Support by K. Poissant. Motion Approved.	Motion Approved

Respectfully Submitted:

Approved:

Kayla Poissant,  
PC Secretary

Meghan Swain-Kuch,  
PC Chair

DRAFT

**CONWAY TOWNSHIP**  
**ORDINANCE NO. \_\_\_\_\_**  
**AN ORDINANCE TO AMEND THE ZONING ORDINANCE**  
**TO REGULATE WIND ENERGY SYSTEMS**

The Township of Conway ordains:

**Section 1. Adoption of New Section \_\_\_\_\_, Wind Energy System Overlay District**

New Section \_\_\_\_\_, entitled "Wind Energy System Overlay District," is added to the Zoning Ordinance and reads as follows:

**Section \_\_\_\_\_ Purpose and Findings**

A. Purpose. The Wind Energy System Overlay District (the "District") is intended to provide suitable locations for utility-scale wind energy systems that are otherwise authorized under state law and the Township's Code of Ordinances and Zoning Ordinance to meet a reasonable demonstrated need for this land use in the Township. It is the intent of the Township to permit these systems to the extent a demonstrated need exists for the land use by regulating the siting, design, construction, operation, monitoring, modification, and removal of such systems to protect the public health, safety, and welfare, and to ensure compatibility of land uses in the vicinity of wind energy systems. The Township seeks to preserve its rural character and agricultural heritage. To these ends, the lands included in this District are within reasonable proximity to existing electric power transmission infrastructure.

B. Findings. In establishing this overlay district, the Township of Conway finds as follows:

1. It is necessary and reasonable to permit utility-scale wind energy systems in the Township to the extent that there is a demonstrated need for that land use.
2. Land use for utility-scale wind energy systems beyond a reasonable and legitimate demonstrated need to provide for the Township's energy needs would have needless adverse effects on surrounding businesses and residences, and be detrimental to the health, safety, welfare, and prosperity of the Township and its residents.
3. The Township wishes to preserve its existing topography and rural character, maintain property values, and protect and preserve the quality and pace of rural life of its residents while preserving the environment and protecting wildlife.
4. Wind Energy Systems can adversely impact the health, safety, welfare, and prosperity of that community, including existing property values, especially when in proximity to farms, forests, and residential properties.
5. Wind Energy Systems ~~shall~~must be carefully managed to reduce the adverse long-term effects such land use can have on the productivity of farmland. See University of Michigan Graham Sustainability Institute & Michigan State University Extension, "Planning & Zoning for Wind Energy Systems."
6. Several Michigan communities have suffered, or are suffering, from fiscal uncertainty due to litigation and rule changes concerning taxation arising from rural renewable energy production.



7. Conway Township contributes significant storm water runoff into adjacent municipalities because of relative elevations, and therefore the Township values low-impact development to better manage its stormwater runoff.

8. Impervious surfaces such as wind turbines channel stormwater runoff, and support posts and trenching are likely to damage drain tiles. Thus, ~~Utility-Scale~~ Wind Energy Systems must be carefully sited, designed, and limited in scope.

9. The Township adopts these land use regulations to balance any demonstrated need for ~~utility-scale wind energy systems~~ Wind Energy Systems in the Township with the public, health, and safety impacts identified above.

**Section \_\_\_\_ Delineation of the Wind Energy System Overlay District**

A. The Wind Energy System Overlay District overlays existing zoning districts delineated on the official Conway Township Zoning Map. The boundaries of the Wind Energy System Overlay District are depicted on Map A, incorporated herein by reference, and are generally described as follows:

An area of land consisting of approximately \_\_\_\_ acres, comprised of the following:

[INSERT AREA DESCRIPTION HERE]

**Section \_\_\_\_ Permitted Uses.**

There are no uses permitted by right in the Wind Energy System Overlay District, other than uses permitted by right in the underlying zoning districts.

**Section \_\_\_\_ Special Land Uses.**

The following uses are permitted following approval by the Planning Commission as a Special Land Use in the Wind Energy System Overlay District as regulated by Article 13 (special land uses) and Article 14 (site plan review).

**Utility-Scale Wind Energy Systems**

**Section 2. Amendment of Section 6.01 of the Zoning Ordinance Section**

6.01 of the Zoning Ordinance, entitled "Establishment of Districts," is amended to read as follows:

For purposes of innovative and flexible development, Conway Township has established the following overlay district:

Overlay District

**WES Wind Energy System**

**Section 3. Addition of Definitions to Article 2 of the Township Zoning Ordinance**

The following definitions are added to Article 2 of the Township Zoning Ordinance, consistent with the existing ordering of definitions in that section:

**A. Adverse Sound Character: Sounds that causes building rattle, is impulsive, tonal, and includes amplitude modulation, or has a low-frequency bass rumble.**

B. Ambient: Ambient is defined as the sound pressure level exceeded 90% of the time over a 96-hour measurement period with daytime/nighttime division.

C. Anemometer Tower: A freestanding tower containing instrumentation such as anemometers that is designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system which is an accessory land use to a ~~Utility Scale Wind Energy Conversion System.~~

D. ANSI: the American National Standards Institute.

E. dBA: The A-weighted sound level.

F. FAA: The Federal Aviation Administration.

G. GIS: Geographic Information System and is comparable to GPS (global positioning system) coordinates.

H. IEC: The International Electrotechnical Commission.

I. ISO: The International Organization for Standardization.

J. LMax (LAMax or LCMMax): The maximum dB(A) or dB(C) sound level measured using the "fast response" setting of the sound meter (equivalent to 0.125 second exponential averaging time).

K. NEC: National Electrical Code.

L. Noise: A sound that causes disturbance that exceeds 40 dBA Lmax or 35 dBA Lmax.

M. ~~Non-Participating Property~~: A property that is not subject to a ~~Utility Scale Wind Energy System~~ lease or easement agreement at the time an application is submitted for a ~~Special Land Use~~ for the purposes of constructing a ~~Utility Scale Wind Energy System~~.

N. ~~Owner/Operator~~: A person or entity that owns or operates a ~~Utility Scale Wind Energy System~~. ~~The person, firm, corporation, company, limited liability corporation or other entity, as well as the Applicant's successors, assigns and/or transferees, which applies for Township approval (permit) to construct a WECS and/or WECS Testing Facility. An Applicant must have the legal authority to represent and bind the Owner of the Participating Landowner Property, or lessee, who will construct, own, and operate the WECS or WES Testing Facility. The duties and obligations regarding a zoning approval for any approved WECS or WES Testing Facility shall be with the WECS or WES Testing Facility owner, and jointly and severally with the owner, operator, and lessee of the WECS or WES Testing Facility if different than the WECS owner.~~ "Owner/operator," even when used in the singular, may refer to more than one person or entity if there are multiple owners or operators, or the ~~Utility Scale Wind Energy System~~ is owned and operated by different entities. "Owner/operator" includes any successor to the original owner/operator. "Owner/operator" may or may not be the same as the applicant.

O. ~~Participating Property~~: A property that participates in a lease or easement agreement, or other contractual agreement, with or that is owned by an entity submitting an ~~Special Land Use Permit~~ application for the purpose of developing a ~~Utility Scale Wind Energy System~~. ~~Participating Property also includes any property upon which is located a WES like in the case of a Private WES.~~

P. Private Wind Energy System (Private WES): A Wind Energy System used exclusively for private purposes and not used for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electrical grid.

Q. SCADA (supervisory control and data acquisition): A computer system that monitors and controls WECS-units.

R. Shadow Flicker: Alternating changes in light intensity caused by the moving blades of wind turbines on the ground and stationary objects, including but not limited to a window of a dwelling.

S. Sound level meter: An instrument for the measurement of sound levels that meets the ANSI requirements of S1.4-1983 (or later revision) for Type 1 or 2 instruments. For frequency analysis, octave and 1/3 octave filters shall conform to ANSI S1.11-1986 (or later revision).

T. Sound Pressure: An average rate at which sound energy is transmitted through a unit area in a specified direction. The pressure of the sound measured at a receiver.

Commented [HM1]: May need to revisit this definition.

U. Sound Pressure Level: The sound pressure mapped to a logarithmic scale and reported in decibels (dB).

V. Strobe Effect: The effect resulting from the flashing of reflected light, which can be visible from some distance, from the surface finish of turbine blades.

W. Tip Height: The height of the turbine with a blade at the highest vertical point.

X. Utility-Scale Wind Energy System (Utility WES): A Wind Energy System in which the principal design, purpose, or use is to provide energy to off-site uses or the wholesale or retail sale of generated electricity to any person or entity.

Y. Wetland: As used in this Ordinance, wetland shall mean the areas defined as such by Michigan law (see Part 301 Inland Lakes and Rivers and Part 303 Wetlands Protections of the Natural Resources and Environmental Protection Act, last revised effective 3-29-19), and regulated by the Michigan Department of Natural Resources, and the Michigan Department of Environment, Great Lakes, and Energy.

Z. Wind Energy Conversion System (WECS): Any part of a system that collects or stores wind radiation or energy for the purpose of transforming it into any other form of usable energy, including the collection and transfer of heat created by wind energy to any other medium by any means. Wind Energy Conversion System (WECS) includes Any any combination of the following: A mill or machine operated by wind acting on oblique vanes or sails that radiate from a horizontal shaft; A-a surface area such as a blade, rotor, or similar device, either variable or fixed, for utilizing the wind for electrical or mechanical power; A-a shaft, gearing, belt, or coupling utilized to convert the rotation of the surface area into a form suitable for driving a generator, alternator, or other electricity-producing device; The-the generator, alternator, or another device to convert the mechanical energy of the surface area into electrical energy; The-the tower, pylon, or other structure upon which any, all, or some combination of the above are mounted; and- Aany other components not listed above but associated with the normal construction, operation, and maintenance of a wind energy conversion system.

AA. Wind Energy Conversion System (WECS) Testing Facility (WES Testing Facility): A structure and equipment such as a meteorological tower for the collection of wind data and other

meteorological data and transmission to a collection source, shall not be deemed to be a communication tower.

BB. Wind Energy System Facility (WES Facility): Clusters of two or more utility-scale Utility Scale WES Wind Energy Conversion Systems, placed upon a lot or parcel with the intent to sell or provide electricity to a site or location other than the premises upon which the Wind Energy Conversion Systems are WES Facility is located. A WES Facility Said Wind Energy Conversion Systems may or may not be owned by the owner Owner of the property Participating Property upon which they are placed.

**Section 4. Addition of New Section \_\_\_\_\_, entitled “Wind Energy Systems”**

New Section \_\_\_\_, entitled “Wind Energy Systems,” is added to the Township’s Zoning Ordinance and reads as follows:

**Section \_\_\_\_\_s Wind Energy Systems (WES).**

A. General Provisions. All Wind Energy Systems WES are subject to the following requirements:

1. All Wind Energy Systems WES, including towers, shall conform to the provisions of this Ordinance and all local, county, state, and federal regulations and safety requirements, including applicable building codes and applicable industry standards, including those of the American National Standards Institute (ANSI), Federal Aviation Administration (FAA), Michigan Airport Zoning Act, Michigan Tall Structures Act, Underwriter Laboratory (UL), National Electrical Code (NEC), National Fire Protection Association (NFPA), and the most current Michigan Uniform Building Code adopted by the enforcing agencies. An interconnected Utility Scale WECS-WES shall comply with any applicable Michigan Public Service Commission (MPSC) and Federal Energy Regulatory Commission (FERC) standards.
2. If an applicant, operator Owner, Operator, or Participating Property Owner landowner of a Wind Energy System WES fails to comply with this Ordinance, the Township, in addition to any other remedy under this Ordinance, may revoke any approvals after giving the applicant notice and an opportunity to be heard. Additionally, the Township may pursue any legal or equitable action to abate a violation and recover any and all costs, including the Township’s actual attorney fees and costs.

**B. Private Wind Energy Systems (Private WES).**

1. Administrative Review. Except as provided in subsection (d) below, all Private Wind Energy Systems Private WES require administrative approval as follows:

- a. Application to Zoning Administrator. An applicant who seeks to install a Private Wind Energy System Private WES shall submit an application to the Zoning Administrator on a form approved by the Township Board.
- b. Application Requirements. The application shall include:

1. A site plan depicting setbacks, turbine size, and the location of property lines, buildings, fences, greenbelts, and road right of ways. The site plan shall be drawn to scale.
2. Photographs of the property's existing condition.
3. Renderings or catalogue cuts of the proposed ~~wind energy equipment~~WES.
4. A certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency acceptable to Township.
5. A copy of the manufacturer's installation directions.

c. Zoning Administrator Authority. The Zoning Administrator is authorized to approve, approve with conditions, or deny applications for Private ~~Wind Energy Systems~~WES. An aggrieved party may appeal the Zoning Administrator's decision to the Zoning Board of Appeals pursuant to Article 6 of the Zoning Ordinance.

d. Exclusions from Administrative Review. Administrative review is not required for repair and replacement of existing ~~wind energy equipment~~WES if there is no expansion of the size or area of the ~~wind energy equipment~~WES.

2. ~~Private Wind Energy System~~Accessory Use. Private ~~Wind Energy Systems~~WES are permitted in all zoning districts as an accessory use, subject to administrative approval as set forth in this section and subject to the following requirements:

a. Safety. A Private ~~Wind Energy System~~WES shall be installed, maintained, and used only in accordance with the manufacturer's instructions, and it shall comply with all applicable construction code and electric code including the most current version of the Michigan Uniform Building Code, ~~Federal Aviation Administration (FAA), Michigan Airport Zoning Act, Michigan Tall Structures Act,~~ and ~~National Electrical Code~~NEC adopted by the enforcing agencies.

b. Building Permit. A building permit is required.

c. Maximum Height. The ~~total height~~Tip Height of a Private WECS ~~with the blade fully extended~~ must not exceed ~~300-130~~ feet. The minimum clearance from ground level to the blade at its lowest point must be at least 30 feet. Tip Height is measured from the average grade at the base of the tower or structure supporting the WES to the highest point of WECS when a blade is in its vertical orientation. This-Notwithstanding any other provision in this Zoning Ordinance, the Tip Height restriction in this section applicable to Private WESheight allowance shall apply regardless of zoning district, and shall supersede any other height maximum in this Zoning Ordinance.

d. Location. The minimum setback of a Private WECS from any property line or road right-of-way must equal three times the ~~total height~~Tip Height of the ~~unit (with the WECS blade at its highest point)~~WES.

e. ~~Noise~~. Private WECS must comply with the noise limits set forth in ~~Section C.14 of~~ this Ordinance.

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f. Abandonment. If a Private ~~Wind Energy System~~WES has been abandoned for a period of six months, the ~~property owner~~Owner shall remove it within three months after the date of abandonment. ~~The Zoning Administrator may request proof of power generation via utility bills for purposes of abandonment analysis.~~

g. Inspection. The Zoning Administrator may inspect a Private ~~Wind Energy System~~WES for compliance with this ~~o~~Ordinance upon providing reasonable notice to the ~~property owner or occupant~~Owner or occupant.

h. Underground Transmission. All power transmission or other lines, wires, or conduits from a Private ~~Wind Energy System~~WES to any building or other structure shall be located underground. If batteries are used as part of the Private ~~Wind Energy System~~WES, they shall be placed in a secured container or enclosure.

~~i. Shadow Flicker. On-site Private WES-WECS shall not produce no any shadow flicker on any Non-participating Property parcel other than one where the WECS is located. Measures to eliminate all effects of shadow flicker on Non-participating Property adjacent properties, such as programming-stopping the WECS to stop from rotating during times when shadow crosses occupied structures Non-participating Property, shall be required.~~

~~j. Exempt Towers and Exempt Wind Energy Conversion Systems (Exempt WECS). Communication towers, antennas, wind energy conversion systems (WES existing on the date of adoption of this Ordinance shall be exempt and shall constitute a legal non-conforming use under the provisions of the Zoning Ordinance. windmills, turbines) and related facilities located on the premises of a farm, home, or business and which do not primarily involve the sale of electricity or communication services off the premises shall be exempt from the requirements of section~~

~~k. "Commercial Wind Energy Conversion Systems (Commercial WECS)" except for the requirement to comply with "Noise" sections 23 (a) and 23 (b) Noise restrictions in Section C.14, Commercial WES. Such units shall be allowed as a permitted accessory use in all zoning districts, provided that providing the electricity generated or communication services are is primarily exclusively used on site for operating a farm, home or business. In the case of a WECS, the total height with the blade fully extended (Tip Height) shall not exceed eighty (80) feet, and the minimum clearance from ground level to the blade at its lowest point shall be twenty (20) feet. The minimum set-back from property lines and road right of way lines shall be equal to 3 times the Tip Height of the unit (WECS blade at its highest point).~~

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C. Utility-Scale Wind Energy Systems. Utility-Scale ~~Wind Energy Systems~~WES are permitted by Special Land Use approval in the Wind Energy System Overlay District and require a special land use permit under Article 5 and site plan approval under Article 4. Utility-Scale ~~Wind Energy Systems~~WES are also subject to the following requirements:

1. Findings: This Ordinance has been developed with the intention of obtaining an appropriate balance between the desire for renewable energy resources and the need to protect the public health, safety, and welfare of the community and the character and stability of the Township's residential, agricultural, recreational, commercial and/or industrial areas and preserving and protecting the Township's important and sensitive environmental and ecological assets and areas, open space, viewscapes and aesthetics, wetlands, and other ecological and environmentally sensitive areas.

Based on evidence presented in this State and others concerning the adverse secondary effects of wind energy systems Utility Scale WES on communities, including, but not limited to, findings from the Wind Turbine Health Impact Study: Report of Independent Expert Panel, prepared for the Massachusetts Department of Environmental Protection (2012); Strategic Health Impact Assessment on Wind Energy Development in Oregon, prepared for the State of Oregon (2012); Noise and Human Health: A Review of Scientific Literature, Wind Turbines, prepared for the State of Vermont's Department of Health (2017); Analysis of the Research on the Health Effects from Wind Turbines, Including Effects From Noise, prepared for the Maine Department of Health and Human Services (2012); Jeffrey et al, Adverse Health Effects of Industrial Wind Turbines, 59 Can Fam Physician 473-475 (2013); Salt, A., and Kaltenbach, J, Infrasound From Wind Turbines Could Affect Humans, 31(4) Bulletin Science, Technology and Society, 296-302 (2011), Sample Zoning for Wind Energy Systems, for Michigan State University Extension (March 2017), and Environmental Noise Guidelines for the European Region, prepared for the World Health Organization Regional Office for Europe (2018), the following are among the potential harmful secondary effects of Utility Scale WES wind energy systems:

- a. Falling ice or "ice throws" is physically harmful and measures should be taken to protect the public from the risk of "ice throws."
- b. Nighttime wind turbine noise can cause sleep disturbance. Generally, sleep disturbance can adversely affect mood, cognitive functioning and one's overall sense of health and wellbeing. Chronic stress and sleep disturbance could increase the risk for cardiovascular disease, decreased immune function, endocrine disorders, and mental illness. In addition, possible health effects include increased heart rate, insomnia, fatigue, accidents, reduction in performance and depression.
- c. Sound from wind energy facilities Utility Scale WES could potentially impact people's health and wellbeing if it increases background sound levels by more than 10 dB(A) or results in long term outdoor community sound levels above 35-40 dB(A) Lmax.
- d. There is evidence that wind turbine Utility Scale WES sound is more noticeable, annoying and disturbing than other community industrial sounds at the same level of loudness, due to its adverse sound character.
- e. People who live near wind turbines are more likely to be impacted by wind turbine than would those far away.
- f. Alternating changes in light intensity caused by the moving blades of wind turbines WES on the ground and stationary objects, also known as shadow flicker, may cause health issues.
- g. The Township desires to protect ecological and environmentally sensitive areas in the Township including, but not limited to, habitats for endangered species or heavily used migration routes for species of waterfowl and other migratory birds (some of which are protected species), including eagles, tundra swans, and sand hill cranes. Thus, the Township has determined that wind development WES sites can adversely impact wildlife and their habitats and makes evaluation of proposed wind development WES sites essential. The Township finds that any wind development WES sites should have the lowest potential for negative impacts on wildlife resources and avoid locations with higher concentrations of migratory birds. Further, any wind

Commented [HM3]: Sound or noise?

~~development~~ WES sites that would fragment sensitive habitat areas, like rivers, streams, and wetlands, should be avoided.

~~h.g.~~ The general welfare, health, and safety of the citizens of the Township will be promoted by the enactment of this Ordinance.

2. Special Land Use Permit Application Requirements. In addition to the requirements of Article 5, the applicant for a Utility-Scale ~~Wind Energy System~~ WES shall provide the Township with all of the following:

a. Application fee in an amount set by resolution or fee schedule approved by the Township Board.

b. A deposit for an escrow account in an amount set by resolution or fee schedule approved by the Township Board. The escrow account is used to cover all costs and expenses associated with the special land use review and/or approval process, which costs can include, but are not limited to, review fees of the Township Attorney, Township Planner, ~~and~~ Township Engineer, and other Township qualified professional consultants in the areas of electrical, acoustics, environmental, and health and safety, as well as any reports or studies which the Township anticipates will be required during the review and/or approval process for the application. At any point during the review process, the Township may require that the applicant place additional monies into escrow with the Township if the existing escrowed funds on account with the Township will be insufficient, in the sole determination of the Township, to cover any remaining costs or expenses with the review and/or approval process. If additional funds are required by the Township to be placed in escrow and the applicant refuses to do so within 14 days after receiving notice, the Township will cease the zoning review and/or approval process until and unless the applicant makes the required escrow deposit. Any escrow amounts in excess of actual cost will be returned to the applicant. An itemized billing of all expenses will be provided to the applicant upon request. ~~The Township shall hire qualified professionals for each and any of the technical fields associated with the Special Use Permit, such as, but not limited to, electrical, acoustics, environment, economics, wildlife, health, and land use.~~

c. Required Security Deposits. Following approval, but prior to the issuance of a Special Land Use Permit for the construction of any Utility Scale WECS, the following security deposits shall be deposited with the Township.

1. Sufficient funds to decommission and remove the WECS in the event of abandonment.  
2. Sufficient funds to repair the anticipated damage to roadways during construction of the WECS.

3. A \$15,000 escrow account to cover the costs of complaint investigation, mitigation, and resolution.

d. A map including all parcel numbers that ~~will depicts~~ all Participating Property to be used by the Utility-Scale ~~Wind Energy System~~ WES; documentation establishing ownership of each parcel; and any and all lease or option agreements (including "good neighbor" agreements), easements, or purchase agreements for the subject parcels, together with any attachments to such agreements or easements.

Commented [HM4]: Need to discuss further.



- e. An operations agreement setting forth the operations parameters, the name and contact information of the certified operator, the applicant's inspection protocol, emergency procedures, and general safety documentation.
- f. Federal Employer Identification Number for current owner/operator is required at the time of application.
- g. A written emergency response plan detailing the applicant's plan for responding to emergencies, including fire emergencies, and analyzing whether adequate resources exist to respond to fires and other emergencies. If adequate resources do not exist, the applicant shall identify its plan for providing those resources. The emergency plan shall include identification of potential hazards to adjacent properties, public roadways, and to the community in general that may be created, as well as plans for immediate cleanup, long-term monitoring, and continued mitigation efforts following an emergency.
- h. A written description of the fire suppression system that will be installed, which shall identify the manufacturer of the fire suppression system and generally describe its operations and capacity to extinguish fires.
- i. A written description of specialized training and/or equipment necessary for handling fires and/or other emergencies ~~at the Utility-Scale Wind Energy System site. All training and/or equipment will be paid for by the owner/operator.~~ The training plan must include, at a minimum, mandatory annual emergency response training for local firefighters and other local emergency personnel at the site of ~~the a~~ Utility-Scale Wind Energy System WES.
- j. A complete set of photographs, video, and topography map of the entire Participating Property prior to construction.
- k. A copy of any power purchase agreement or other written agreement that the applicant has with an electric utility or any agreement or approval for interconnection between the proposed Utility-Scale Wind Energy System WES and an electric utility or transmission company.
- l. A written plan conforming to the requirements of this ~~e~~Ordinance for maintaining the subject property, including a plan for maintaining and inspecting drain tiles and addressing stormwater management.
- m. A decommissioning and land reclamation plan describing the actions to be taken following the abandonment or discontinuation of the Utility-Scale Wind Energy System WES, including evidence of proposed commitments with property owners to ensure proper final reclamation, repairs to roads, and other steps necessary to fully remove the Utility-Scale Wind Energy System WES and restore the subject parcels to as near as possible to the condition the subject parcels were in prior to being used as a Utility-Scale Wind Energy System WES.
- n. Financial security that meets the requirements of this ~~e~~Ordinance.
- o. A plan for resolving complaints regarding but not limited to noise, glare, maintenance, shadow flicker, strobe effect, vibrations, ice throws, lighting, and drainage from the public or other property owners concerning the construction and operation of the Utility-Scale Wind Energy System WES.
- p. Identification of and a plan for managing any hazardous waste.

q. A transportation plan for construction and operation phases, including any applicable agreements with the [Livingston](#) County Road Commission and Michigan Department of Transportation.

r. An attestation that the applicant and owner of the subject property will indemnify and hold the Township and its officials, elected or appointed, harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the Utility-Scale [Wind Energy System WES](#).

s. [Utility Scale WES shall be constructed in accordance with the manufacturer's specifications and directions and shall be inspected by a third-party engineer retained by the Township and paid for out of the escrow maintained by the applicant. As built plans shall be provided to the Township upon completion of construction.](#) A copy of the manufacturer's directions, instruction manual, and specification sheets [for each model of turbine in the Utility Scale WES](#), including any unredacted safety manuals and Safety Data Sheets (SDS), for installing, maintaining, and using the Utility-Scale [Wind Energy System WES](#). ~~for each model of turbine without distribution restraints to be kept at the Township Hall and other locations deemed necessary by Planning Commission and/or local first responders. The safety manuals and SDS Manual should include standard details for an industrial site such as materials, chemicals, fire, access, safe distances during Utility Scale WES WECS failure, processes in emergencies, etc.~~

t. A ground cover vegetation establishment and management plan that complies with this ordinance.

u. Proof of environmental compliance, including compliance with:

i. Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act; (MCL 324.3101 et. seq.);

ii. Part 91, Soil Erosion and Sedimentation Control (MCL 324.9101 et. seq.) and any corresponding County ordinances;

iii. Part 301, Inland Lakes and Streams, (MCL 324.30101 et. seq.);

iv. Part 303, Wetlands (MCL 324.30301 et. seq.);

v. Part 365, Endangered Species Protection (MCL 324.36501 et. seq.);

and any other applicable laws and rules in force at the time the application is considered by the Township.

v. Any additional information or documentation requested by the Planning Commission, Township Board, or other Township representative.

w. Insurance. Proof of the owner/operator's public liability insurance shall be provided at the time of application. If the applicant is approved, proof of insurance shall be provided to the Township annually thereafter. The policy shall provide for bodily injury, property damage, [livestock damage, and future earnings loss](#) and shall name Conway Township and each Participating Property owner as an additional insured [with the right to be notified of cancellation and/or significant reduction of coverage](#). The owner/operator shall insure for liability, for the utility scale wind system until removed for at least \$25,000,000 per occurrence to protect the owner/operator, Township, and Participating Property owner. Proof of a current policy is required annually and shall be provided each year to the Township prior to the anniversary date of the Special Land Use Permit. [Aggregate](#)

policies are allowed if minimum coverage per WECS-Utility Scale WES is satisfied, and coverage is provided for every site where owner/operator's equipment is located.

x. Compliance with the Michigan Uniform Building Code and National Electric Safety Code: Construction of a Utility Wind Energy Facility shall comply with the most current version of the Michigan Uniform Building Code and National Electrical Code adopted by the enforcing agencies as a condition of any Special Land Use Permit under this section.

y. Conceptual plan. A graphical computer generated depiction of how the Utility-Scale Wind Energy System will appear from all directions.

z. The Applicant shall also submit a written explanation of the design characteristics and the ability of the structure(s) and attendant facilities to withstand winds, ice and other naturally occurring hazards, as well as information regarding health, welfare and safety in areas including, but not limited to, noise, vibration, shadow flicker, and blade ice deposits. This information shall also address the potential for the WECS to structurally fail or collapse, and what results should be expected in such an event.

### 3. Site Plan Application Requirements.

a. Contents of Site Plan. In addition to the requirements in Article 4, the applicant shall, at its expense, provide a detailed application and site plan drafted to a scale of 1 inch = 200 feet with the following:

1. Location of all proposed structures, turbines, equipment, transformers, and substations.
2. Location of all existing structures or dwellings on the parcel and location of all existing structures or dwelling on adjacent Non-Participating Property within ~~4000~~2500 feet of the property lines of any Participating Properties.
3. Depiction of all setbacks, property lines, fences, signs, greenbelts, screening, drain tiles, easements, flood plains, bodies of water, proposed access routes, and road rights of way.
4. Indication of how and where the system will be connected to the power grid.
5. Plan for any land clearing and grading required for the installation and operation of the system.
6. Plan for ground cover establishment and management.
7. Anticipated construction schedule and completion date. As a condition of any special land use or site plan approval, hours of construction shall be limited to Monday through Friday from 7:00 a.m. to 5:00 p.m. with no construction on Saturday, Sunday, or any federally recognized holiday.
8. Sound modeling study including sound isolines extending from the sound sources to the property lines.
9. Any additional studies requested by the Planning Commission, including but not limited to the following:

a. Visual Impact Assessment: A technical analysis by a third-party qualified professional ~~that is acceptable to the township~~acceptable to the Township, of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscaping and other screening measures), a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project.

b. Environmental Analysis: An analysis by a third-party qualified professional ~~that is acceptable to the township~~acceptable to the Township, to identify and assess any potential impacts on the natural environment including, but not limited to, removal of trees, wetlands and other fragile ecosystems, wildlife, endangered and threatened species. If required, the analysis will identify all appropriate measures to minimize, eliminate or mitigate adverse impacts identified and show those measures on the site plan, where applicable.

c. Stormwater Study: An analysis by a third-party qualified professional ~~that is acceptable to the township~~acceptable to the Township, studying the proposed layout of the Utility-Scale ~~Wind Energy System~~WES and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain event. Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions.

d. Glare Study: An analysis by a third-party qualified professional ~~that is acceptable to the township~~acceptable to the Township, to determine if glare from the Utility-Scale ~~Wind Energy System~~WES will be visible from nearby airports, air strips, residences, and roadways. The analysis will consider the changing position of the sun throughout the day and year and its influences on the utility-scale wind energy system.

e. Optional Conceptual Layout Plan. Applicants shall submit an optional conceptual layout plan for review prior to submission of a formal site plan. The conceptual site plan shall be reviewed by the Planning Commission to allow for discussion and feedback.

f. Background Sound Analysis. A background (ambient) sound analysis shall be performed by an independent third-party acoustician ~~that is acceptable to the Township~~ and a report provided which indicates Leq 1 second, L10, and L90 sound levels using A-weighting and C-weighting. Data shall be collected at midpoints along property lines of adjoining Non-Participating and Participating Landowners. Measurement procedures are to follow the most recent versions of ANSI S12.18 and ANSI S12.9, Part 3 guideline (with an observer present). Measurements shall be taken using an ANSI or IEC Type 1 Precision Integrating Sound Level Meter. The study must include a minimum of four four-day (96 hour) testing periods, include one Sunday, and divide data by daytime and nighttime. One of the four-day testing periods must occur between December 1 and March 1, one must occur between March 1 and June 1, one must occur between June 1 and September 1, and one must occur between September 1 and December 1. The sound background study shall report for the period of the monitoring topography,

temperature, weather patterns, sources of ambient sound, and prevailing wind direction.

g. Economic Impact: The Applicant shall fund and provide an economic impact analysis performed by an independent third-party that is acceptable to the Township, for the area affected by the WECS project. Such a study shall include probable financial impact regarding jobs, tax revenue, lease payments and property values at a minimum and average set-backs distances. Business and residential growth potential shall be considered.

h. Wind Assessment Analysis. A wind assessment analysis conducted within a potential project area shall be completed within 18 months of the date of application for a Utility Scale WES WECS and shall be performed by an independent third-party that is acceptable to the Township. The study must show analysis for a period of time no less than one (1) year. The height of an anemometer (or similar) device measuring wind availability shall be placed within the potential vertical swept blade area of the proposed Utility Scale WES WECS. Temporary (one year) installation of said device may be applied for through the Township site plan approval process and may be approved for a height acceptable to determine feasibility of a WECS height allowed by this ordinance. The anemometer shall be decommissioned in accordance with this Ordinance, including the provision of a security bond covering decommissioning costs.

i. Shadow Flicker Impact Analysis. A copy of a shadow flicker analysis shall be performed by an independent third-party that is acceptable to the Township at Non-Participating Parcel property lines to identify the locations of shadow flicker that may be caused by the project any Utility Scale WES and the expected durations of the flicker at these locations from sunrise to sunset over the course of a year. The site plan shall identify problem areas where shadow flicker may affect the owners and/or occupants of the Non-Participating Parcels and show measures that shall be taken to eliminate the problem shadow flicker.

j. A copy of a site suitability analysis by a third-party qualified professional acceptable to the Township to identify and assess any potential impacts to or hazardous conditions resulting from proximate existing uses and conditions. The suitability analysis must include:

(i) A flight pattern analysis and impact statement.

(ii) A subsurface mine analysis and impact statement.

(iii) An oil and gas lease analysis and impact statement.

(iv) Other local site conditions identified by Planning Commission.

10. Approvals from Other Agencies. Final site plan approval may be granted only after the applicant receives all required federal, state and local approvals, including any applicable approval by the state historic preservation office. Applicant shall provide copies of all review letters, final approved plans, and reports issued by any other governing agencies to the Township.

11. The site plan must show the existing topographical grades in two-foot intervals and conditions of all Participating Property at the time of application.

12. A baseline soil test including Cation Exchange Capacity (CEC) shall be provided to the township prior to any construction.

13. A written description of how the applicant will address dust control during construction. Such plan shall, at a minimum, consist of water applications at least three times per day unless it has rained in the preceding three hours of the planned application.

14. Water Usage and Cleaning. The applicant shall detail the methodology planned for cleaning the wind turbines, frequency, and listing of any and all detergents, surfactants, chemical solutions used for each cleaning, and sources of water used to facilitate turbine restoration and maintenance.

15. Repair Documentation: Applicant must provide a detailed policy and process book for the repair, replacement, and removal of malfunctioning, defective, worn, or noncompliant Utility Scale WECS. Sections of the process book should consider any ordinance requirement or Utility Scale WECS performance deficiency. The process book shall also include a detailed maintenance schedule.

16. Documentation that noise emissions, construction code, tower, and safety requirements have been reviewed by the appropriate third-party professional and the submitted site plan is prepared to show compliance with these issues.

17. A description of the routes to be used by construction and delivery vehicles and of any road improvements that shall be necessary in the Township to accommodate construction vehicles, equipment or other deliveries, and an agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the Utility Scale WECS.

18. Access Driveways: GIS location of Utility Scale WECS and WES Testing Facility access driveways together with details regarding dimensions, composition, and maintenance of the proposed driveways and be filed with the township and recorded at the Livingston County Register of Deeds as an easement. The site plan shall include traffic routes, time of the year use, staging areas, and any other physical sites related to Utility Scale WECS. Construction of the Access Driveway that serves a Utility Scale WECS or WES Testing Facility is required to protect the public health, safety, and welfare by offering an adequate means by which governmental agencies may readily access the site in the event of an emergency. All such roads shall be constructed to allow access at all times by any emergency service vehicles, such as fire, police, and repair. Access driveways must meet Fowlerville Township Fire Department regulations and grant permanent access easement to the Township to be recorded at the Livingston County Register of Deeds.

19. All new infrastructure above and below ground related to the project, including transmission line locations.

20. A contact person/address to which any notice of complaint, as defined by this Ordinance, may be sent.

21. Building Siting: GIS locations and height of all proposed buildings, structures, electrical lines, towers, guy wires, guy wire anchors, security fencing, and other aboveground structures associated with the Utility Scale WECS.

22. Nearby Building Siting: GIS locations and height of all adjacent buildings, structures, and above ground utilities located within three (3) times minimum set-back distance for Non-Participating Landowners where the proposed Utility Scale WECS and WECS Testing Facility will be located. The location of all existing and proposed overhead and underground electrical transmission or distribution lines shall be shown, whether to be utilized or not with the Utility Scale WECS or WES Testing Facility, located on the lot or parcel involved.

23. Site Lighting: A lighting plan for each Utility Scale WECS and WES Testing Facility. Such plan must describe all lighting that will be utilized and documentation that FAA requirements are met. RADAR activated lighting shall be utilized if allowed by FAA. Such a plan shall include but is not limited to, the planned number and location of lights, light color, activation methods, effect on township-Township residents and whether any lights blink. Due to complexity in describing lighting effects for health, welfare, and safety, Applicant shall, if available, provide example locations with product descriptions, where similar, or proposed, lighting solutions are currently deployed. Lighting shall be fully shielded from ground, be FAA compliant, and be of most current design, to minimize lighting blinking and brightness nuisance.

24. Supplemental: Additional detail(s) and information as requested by the Planning Commission.

4. Application Items as Substantive Requirements. The information, plans, documents, and other items identified as application requirements in this ordinance, including the site plan and special land use permit, are substantive requirements for obtaining approval for a Utility-Scale ~~Wind Energy System~~WES. The Planning Commission and the Board of Trustees is to review the sufficiency of the application materials. If the Planning Commission and the Board of Trustees determines that the substance of any application item is insufficient to protect the public health, safety, and welfare, the Planning Commission and the Board of Trustees shall deny approval on that basis.

5. System and Location Requirements.

a. Utility-Scale ~~Wind Energy Systems~~WES are to be located only in the Wind Energy System Overlay District.

c. Setback: The following setback, measured from the outside edge (the point furthest from the tower as it rotates horizontally) of the blades, not from the tower itself, shall be observed. The minimum setback, from any property line of a Non-Participating Landowner, any road right-of-way, or non-road right of way is 3,000 feet or five times the Tip Height of each turbine in the Utility-Scale WECS. Additionally, each turbine must be located at least 2.5 miles from the nearest lake or body of water. If a single Utility-Scale ~~Wind Energy System~~WES is located on more than one lot, or if the adjacent parcel is owned by the same owner as the property on which the Utility-Scale ~~Wind Energy System~~WES is located, then the lot line setbacks of this subsection do not apply to the lot lines shared by those lots.

d. The ~~maximum height~~Tip Height of a Utility-Scale ~~WECS-WES~~WES with the blade fully extended must not exceed 300 feet.

e. The minimum clearance from ground level to the blade at its lowest point must be at least 100 feet.

f. Blade arcs created by a Utility-Scale WECS must have a minimum of 100 feet of clearance over and away from any structure.

g. Each Utility-Scale WECS must be equipped with a braking or equivalent device, capable of stopping the Utility-Scale WECS operation in high winds with or without SCADA control. The braking system must be effective during complete grid power failure when Utility-Scale WECS are unable to communicate with SCADA control or receive power.

h. All turbines must be equipped with technology that automatically de-ices the turbine blades. The system must detect ice and heat the blades, such as through the use of built-in carbon heating mats or through the circulation of hot air.

i. The size of a single property, or a leased unit to be used for a utility scale Utility Scale WES-WECS shall be sufficient to comply with all setback requirements in this section.

6. Vibrations: No Utility Scale WES Wind turbines shall not create vibrations that are detectable by humans on nonparticipating-Non-participating properties Properties. No Utility Scale WES WECS shall generate or permit to be generated any vibration in the low-frequency range of 0.1 to 20 Hz, including the 1, 2, 4, 8, and 16 Hertz octave bands that is perceivable by human sensation or exceeds an rms acceleration level of 50 dB(unweighted) re 1 micro-g at any time and for any duration either due to impulsive or periodic excitation of structure or any other mechanism at a nonNon-participating landowner's pProperty line or at any point within a nonNon-participating landowner's pProperty.

7. Shadow Flicker: Zero hours of Shadow Flicker may fall on or in a Non-Participating ParcelProperty or on public roads or highways. Site plan and other documents and drawings shall show mitigation measures to eliminate potential impacts from shadow flicker, as identified in the Shadow Flicker Impact Analysis. Measures to eliminate all effects of shadow flicker on all Non-Participating parcels-Property beginning at the property lines, such as programming the Utility Scale WESWECS to stop rotating during times when shadow crosses property lines, shall be required.

a. Participating parcels shall not exceed 30 hours of shadow flicker on the ground or an unoccupied structure, or 5 hours of shadow flicker on occupied buildings, per calendar year.

8. Strobe Effect: No amount of Strobe Effect may fall on or in any parcel. Under no circumstances, shall a Utility Scale WES WECS or WES Testing Facility produce strobe-effect on any propertyproperties.

9. Substations and accessory buildings: Structures related to a WECS-WES shall be subject to the dimensional and locational standards of structures in the zoning district. Where structures are visible from adjacent properties, vegetation or manmade screening shall be required to minimize visual impact off-site.

10. Permits. All required local, county, state, and federal permits shall be obtained before the Utility-Scale Wind Energy System WES begins operating.

11. Appearance. All turbines and towers must be painted a non-obtrusive, neutral color, such as beige, gray, or off-white and must be non-reflective. All turbines bases and blades must be the same color and must be consistent with the color of other Utility-Scale WECS-WES in the Township. No advertisements, graphics, or striping are permitted on the blades or towers. The applicant is encouraged to select anti-icing paint that prevents the formation of ice on the surface of the turbine's blades.



12. Lighting. Lighting of the Utility-Scale ~~Wind Energy System~~WES is limited to the minimum light necessary for safe operation. Towers may be lit only to the minimum extent required by the FAA.

13. Security Fencing.

- a. Security fencing may be required by the Planning Commission to be installed around all electrical equipment related to the Utility-Scale ~~Wind Energy System~~WES, including any transformers. Fencing shall be at least seven feet tall and be composed of woven agricultural wire. Barbed and razor wire is prohibited.
- b. A containment system shall surround any transformers in case of hazardous waste or oil spills.
- c. Appropriate warning signs shall be posted at safe intervals at the entrance and around the perimeter of the Utility-Scale ~~Wind Energy System~~WES.
- d. Gate posts and corner posts shall have a concrete foundation.
- e. Gates shall be the same height and constructed of the same material as the fencing. Access, such as Knox box, shall be provided for emergency responders.
- f. The Township may allow or require a fence design to allow for the passage of wildlife upon a finding that adequate access control and visual screening will be preserved.
- g. Security fencing is subject to setback requirements. The security fence shall be locked, and a self-locking device shall be used. Lock boxes and keys (may be electronic such as keypad opener, if the passcode is provided to the Township and central dispatch for 911 service) shall be provided at locked entrances for emergency personnel access. Electric fencing is not permitted. A safety plan shall be in place and updated regularly with the local fire department having jurisdiction over the Utility-Scale ~~Wind Energy System~~WES.

14. Noise. All sound measurements are to be instantaneous and shall not be averaged. The noise generated by a Utility-Scale ~~Wind Energy System~~WES shall not exceed the following limits:

- a. 40 dBA Lmax, as measured at the property line, between the hours of 7:00 a.m. and 9:00 p.m.
- b. 35 dBA Lmax, as measured at the property line, between the hours of 9:00 p.m. and 7:00 a.m.
- c. The owner/operator of the Utility Scale ~~Wind Energy System~~WES shall annually provide for a sound analysis or modeling, conducted by an auditory expert chosen by the Township, at the expense of the applicant.

15. Underground Transmission. All power transmission, communication, or other lines, wires, or conduits from a Utility-Scale ~~Wind Energy System~~WES to any building or other structure shall be located underground. Burial depth shall be at a depth that causes no known environmental, land use, or safety issues. Depth shall be a minimum of 6ft below grade, be deeper than drain tile and be in compliance with current National Electrical CodeNEC standards, (except for power switchyards or the area within a substation), whichever depth is greater.

16. Road Damage: The Applicant and/or its contractor shall inform the Livingston County Road Commission (LCRC) and the Township of all the roads they propose to use as haul routes to each construction (including repair and decommissioning) site. This shall be done prior to beginning any construction (or decommissioning) at any site. A third-party road inspector will be retained, with mutual approval of the Township, the Applicant, and the LCRC or the Michigan Department of Transportation

(MDOT) if a state highway is involved. The road inspector will determine any precautions to be taken (including videotaping and physical inspections) during the process, to determine any damage that may be caused by Applicant's contractor(s), and then determine the appropriate road standards and measures to be taken to repair the damage. The cost of the third-party road inspector and/or any other required third-party assistance, and of all repairs necessitated to restore the roads [and related property which may be damaged by the contractor(s)], shall be the responsibility of the Applicant and/or their contractor, and shall in no case be the responsibility of the Township.

17. Drain Tile Inspections. The Utility-Scale ~~Wind Energy System~~WES shall be maintained in working condition at all times while in operation. The owner/operator shall identify and inspect all drain tiles at least once every two years by means of a robotic camera, with the first inspection occurring post construction but before the Utility-Scale Wind Energy System is in operation. The owner/operator shall submit proof of the inspection to the Township. The owner/operator shall repair any damage or failure of the drain tile within 60 days after discovery and submit proof of the repair to the Township. The Township is entitled, but not required, to have a representative present at each inspection or to conduct an independent inspection.

18. Fire Suppression. The Utility-Scale Wind Energy System shall include a fire suppression system that is specifically designed to immediately suppress and extinguish fires in any part of the Wind Energy System, including the turbines, electrical equipment, and transformers. The owner/operator shall provide documentation establishing the effectiveness of the fire suppression system and the results of a third-party independent inspection of the fire suppression system.

19. Battery Storage. Commercial grid storage batteries or capacitor banks storing or returning supplemental power to the grid are not permitted in the District. Use of Batteries in commercial applications is only permitted as emergency backup for safety lighting and related computer infrastructures.

20. A Utility-Scale WECS must not interfere with any radio, television, or other communication systems. If the Township or the applicant or operator of the Utility-Scale WECS receive a complaint about communication interference, the applicant or operator must resolve the interference immediately and provide proof that the interference has been resolved within 90 days.

21. Stray Voltage Assessments: No stray voltage originating from a Utility Scale Wind Energy System may be detected on any Participating or Non-Participating property. A preconstruction stray voltage test shall be conducted on all Michigan Department of Agriculture & Rural Development (MDARD) registered livestock facilities located within a one-mile radius of the Participating Properties. The tests shall be performed by an investigator approved by the Township. A report of the tests shall be provided to the owners of all property included in the study area. The applicant/landowner shall seek written permission from the property owners prior to conducting testing on such owners' property. Applicants/landowners shall not be required to perform testing on property where the owners have refused to grant permission to conduct the testing. The owner of any Participating Property included in the list of project parcels shall not refuse the stray voltage testing if they have a MDARD registered livestock facility on the Participating Property.

22. Drainage. Drainage on the site shall be maintained in a manner consistent with, or improved upon, existing natural drainage patterns. Any disturbance to drainage or water management practices shall be managed within the property and on-site in order to not negatively impact surrounding properties as a result of the development. This shall be maintained for the duration of the operation and shall be able to be returned to pre-existing conditions following decommissioning. Any existing drainage tiles that are

identified on the property shall be shown on the as-built drawings submitted following construction. Prior to the start of construction, any existing drain tile shall be inspected by robotic camera and the imagery submitted to the Township for baseline documentation on tile condition. Any damage shall be repaired, and a report submitted to the landowner and Township. While the facility is in operation, the owner/operator shall reinspect the drain tiles every two years by robotic camera for any damage and shall repair any damage within 60 days of discovery. The owner/operator shall report the inspection, along with any damage and repair, to the Township within 90 days after each two-year deadline. The Township reserves the right to have the Building Inspector or other agent present at the time of repair. Wind turbine support structures and/or foundations shall be constructed to preserve any drainage field tile or system.

23. Access Routes. Access drives are subject to the approval of the Livingston County Road Commission to the extent of the Road Commission's jurisdiction. All access drives and roads within the site shall be adequately maintained for emergency vehicle use, including winter maintenance.

24. The owner/operator shall submit an As Built Drawing with dimensions relative to property lines of all new structures including turbines and buried cable both inside and outside fenced areas upon completion and before any power is supplied to the grid. The As Built Drawing shall be a scale of 1inch =200 feet.

25. Signs. Signs are permitted but shall comply with Article 22. The lot shall include at least one sign identifying the owner and providing a 24-hour emergency contact telephone number.

26. Emergency Action Plan and Training. Before the Utility Wind Energy System is operational, the owner/operator shall provide the necessary training, equipment, or agreements specified in the application to Township or other emergency personnel.

27. Decommissioning and/or Abandonment.

a. If a Utility-Scale Wind Energy System is abandoned or otherwise non-operational for a period of six months, the owner/operator shall notify the Township and shall remove the system within six months after the date of abandonment. Removal requires receipt of a demolition permit and full restoration of the site in accordance with the provisions of this Ordinance and to the satisfaction of the Zoning Administrator. The site shall be filled and covered with topsoil and restored to a state compatible with the surrounding vegetation. The requirements of this subsection also apply to a Utility-Scale Wind Energy System that is never fully completed or operational if construction has been halted for a period six months.

b. The decommissioning plan shall be written to provide security to the Township for 125% of the cost to remove and dispose of all turbines, removal of all wiring, footings, and pilings, (regardless of depth), and restoration of the land to its original condition. The value of decommissioning shall be determined by a third-party financial consultant or engineer selected by the Township and paid for by the developer. The value shall not include the salvage values. The decommissioning security shall be paid in cash to the Township. Once the value of decommissioning is determined, it shall be updated on a periodic basis of not less than every 2 years and additional security shall be required based on the average inflation rate of the preceding 2 years.

The amount of each WECS security guarantee shall be the average of at least two independent demolition (removal) quotes obtained by the applicant and provided to the Township. The security guarantee shall be whichever of the following is larger: \$1,000,000 OR 150% of the cost for the removal of the first turbine, plus 120% of the removal cost for the second turbine, plus 100% of the removal cost for each additional WECS thereafter. Quotes shall be based on individual WECS removal and shall not group multiple WECS simultaneous removals together. Quotes shall

be ordered and obtained by the Township from established demolition companies. Quotes shall not include salvage values. The security guarantee shall be updated every two (2) years at the rate of 1.5 times CPI (consumer price index) for each year.

- c. All abandonment and decommissioning work shall be done when soil is dry.
- d. The ground shall be restored to its original topography within three hundred sixty-five (365) days of abandonment or decommissioning. An extension may be granted if a good faith effort has been demonstrated and any delay is not the result of actions or inaction of the owner/operator.
- e. If land balancing is required, all topsoil will be saved and spread evenly over balanced area according to the existing topography map provided at the time of application.
- f. An annual report shall be provided to the Zoning Administrator showing continuity of operation and shall notify the Zoning Administrator if the use is to cease, prior to decommissioning, or abandonment.
- g. Continuing Obligations: Failure to keep any required financial security in full force and effect at all times while a Utility Wind Energy System exists or is in place shall constitute a material and significant violation of the Special Land Use Permit, and this Ordinance, and will subject the Utility Wind Energy System owner/operator (jointly and severally, if more there is more than one owner or operator) to all remedies available to the Township, including any enforcement action, civil action, request for injunctive relief, and revocation of the Special Land Use Permit.
- h. The Township shall have the right to seek injunctive relief to effect or complete decommissioning, as well as the right to seek reimbursement from the owner/operator or landowner for decommissioning costs in excess of the amount deposited in escrow and to file a lien against any real property owned by the owner/operator or landowner for the amount of the excess, and to take all steps allowed by law to enforce said lien.
- i. At the time of decommissioning, the Planning Commission may allow deviations from the above decommissioning requirements following notice and a public hearing in accordance with Section 103 of the Zoning Enabling Act.

28. Complaint Resolution. Utility Wind Energy Systems shall provide a complaint resolution process, as described below:

- a. The site shall have signs posted with contact information to collect complaints related to the Utility Wind Energy System.
- b. A log shall be kept by the owner/operator of all complaints received and shall be available to Township officials for review at the Township's request.
- c. The owner/operator shall respond to complainants within ten (10) business days and shall provide notification to the Zoning Administrator.
- d. Any resolution shall include lawful and reasonable solutions consistent with the Zoning Ordinance, which shall also be provided to the Zoning Administrator. If the mitigation plan is determined to be satisfactory, the Special Use owner and operator must implement the mitigation within 30 days.
- e. If the WECS owner and operator fails to implement the mitigation plan, the Zoning Administrator shall hold a public hearing at the Planning Commission for the purpose of discussing

a revocation of the Special Land Use Permit. The Special Use owner and operator shall be notified of the hearing. If the Special Use owner and operator implements the mitigation plan prior to the hearing date, the hearing shall be cancelled.

f. If the WECS owner and operator requests that the Zoning Board of Appeals review the matter, the Zoning Board of Appeals shall hold a public hearing and shall hear evidence from both the complainant, and the WECS owner and operator. Following the public hearing, the Zoning Board of Appeals shall make one of the following determinations:

1) The Special Use is in compliance with the Ordinance and all Conditions of Approval, and no further action is needed.

2) The Special Use is out of compliance with either the Ordinance, or the Conditions of Approval, or both, and the Special Use owner and operator must submit a mitigation plan to the Zoning Administrator within 60 days. If no mitigation plan is submitted, the Zoning Administrator shall notice a public hearing of the Planning Commission for the purpose of revoking the Special Use Permit. If the Special Use permit is revoked, the abandonment process shall begin.

g. The owner/operator or its assigns reserve the right to adjudicate any claims made against it, including residential claims, in a court of competent jurisdiction. An annual report shall be submitted to the Zoning Administrator and the Township Board that details all complaints received, the status of complaint resolution, and actions taken to mitigate complaints.

29. Required Escrow Account. The owner and operator of the WECS shall be required as a condition of the operation to fund an escrow account for investigation of complaints for but not limited to, noise, glare, maintenance, shadow flicker, strobe effect, vibrations, ice throws, lighting, stray voltage, signal interference, and drainage, in the amount of \$15,000 to be used at the discretion of the Township Board to pay for third-party investigative services. Such funds shall be deposited with the Township Treasurer, or with a third-party fiduciary, at the discretion of the Township. When the escrow account balance is below \$5,000 the Township shall notify the Applicant and the Applicant shall replenish the account in the amount of \$15,000 within 45 days.

### 30. Maintenance and Repair

a. Each Utility-Scale Wind Energy System shall be kept and maintained in good repair and condition at all times and the site shall be neat, clean, and free of refuse, waste, or unsightly, hazardous, or unsanitary conditions. All wind turbines damaged beyond repair or use shall be replaced and removed from the project site within seven (7) days and shall be disposed of off-site in accordance with any state or federal requirements.

b. If the Township Board or Zoning Administrator determines that a Utility Scale Wind Energy System fails to meet the requirements of this Ordinance or the Special Land Use Permit, the Zoning Administrator or Township Board shall provide notice to the owner/operator of the non-compliance, and the owner/operator has 14 days to cure the violation. If the violation is a safety hazard as determined by the Zoning Administrator or Township Board, then the owner and/or operator has 7 days to cure the violation. If the owner and/or operator has not remedied non-compliance issues in the aforementioned time periods, the owner/operator shall immediately shut down the Utility Scale Wind Energy System and shall not operate, start or restart the Utility Scale Wind Energy System until the issues have been resolved. If the owner/operator fails to bring the operation into compliance, the Township may seek relief at law or equity to abate the

nuisance and may also issue a municipal civil infraction citation. Each violation for which the owner/operator are deemed responsible shall result in a \$500.00 fine.

c. The owner/operator shall keep a maintenance log on the wind turbine(s), which shall be available for the Township's review within 48 hours of such request.

d. General Maintenance Bond. At the time of the Special Land Use application, the owner/operator shall submit two (2) third-party contractor bids for construction of all fencing, landscaping, and drainage improvements associated with the utility scale wind energy system. A performance bond in the amount of 125% of the higher bid shall be provided to the Township to ensure completion. The Township may use the bond to complete or repair any landscaping, fencing, or drainage infrastructure (including drain tiles).

31. Extraordinary Events. If the Utility-Scale Wind Energy System experiences a failure, fire, leakage of hazardous materials, personal injury, or other extraordinary or catastrophic event, the owner/operator shall notify the Township within 8 hours.

32. Annual Report. The owner/operator shall submit a report on or before January 1 of each year that includes all of the following:

- a. Amount of electric generation;
- b. Current proof of insurance with the township and Participating Property owner(s) shown as named insured;
- c. Verification of financial security; and
- d. A summary of all complaints, complaint resolutions, and extraordinary events.

Additionally, a representative of the owner/operator shall appear before the Planning Commission annually to report on the Utility-Scale Wind Energy System and address questions or concerns from the Planning Commission.

33. Inspections. The Township may inspect a Utility-Scale Wind Energy System at any time by providing 24 hours advance notice to the owner/operator.

34. Transferability. A special use permit for a Utility-Scale Wind Energy System is transferable to a new owner. The new owner shall register its name, Federal Employer Identification Number, and business address 30 days prior to the transfer date with the Township and shall comply with this Ordinance and all approvals and conditions issued by the Township.

a. In the event of a sale or transfer of ownership and/or operation of the wind facility, the original security bond or escrow shall be maintained throughout the entirety of the process and shall not be altered. The estimated costs of decommissioning shall be resubmitted, and the security bond adjusted to account for the new estimate.

b. Any proposed changes to the operating procedure or approved site plan shall be amended and resubmitted for Township review according to the procedures for all WECS as outlined herein, including a public hearing.

35. Major and Minor Site Plan Amendments and Requests for Variance.

a. Major site plan amendments and requests for variance, shall require a public hearing at the Planning Commission and approval by the Board of Trustees for the purpose of discussing a

revocation of the Special Land Use Permit. Major site plan amendments include those listed in Section \_\_\_\_\_ and any of the following:

1. Changes of the location of turbines, fencing, buildings, or ancillary equipment by 10 feet or more.
2. Any increase in the height of wind turbines.

3. Any variance request.

b. Minor site plan amendments include those listed in section \_\_\_\_\_ and any of the following:

1. Changes of the location of turbines, fencing, buildings, or ancillary equipment by less than 10 feet.

36. Remedies. If an owner/operator fails to comply with this Ordinance, the Township, in addition to any other remedy under this Ordinance, shall revoke the special land use permit and site plan approval after giving the owner/operator notice and an opportunity to be heard. Additionally, the Township may pursue any legal or equitable action to abate a violation and recover any and all costs, including the Township's actual attorney fees and costs.

**Section 5. Validity and Severability.**

If any portion of this Ordinance is found invalid for any reason, such holding will not affect the validity of the remaining portions of this Ordinance.

**Section 6. Repealer.**

All other ordinances inconsistent with the provisions of this Ordinance are hereby repealed to the extent necessary to give this Ordinance full force and effect.

**Section 7. Effective Date.** This Ordinance takes effect seven days after publication as provided by law.

**MAP A**  
**OVERLAY DISTRICT BOUNDARIES**

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