White Oak Township Wind Ordinance

DRAFT Section 4.50 of the Zoning Ordinance

DRAFT DATE: June 15, 2021

ADOPTED:

EFFECTIVE:

Section 4.50 Wind Energy Conversion Systems (WECS)

A wind energy conversion system (WECS) as defined by this Ordinance is allowed as a special use when approved by the Planning Commission in accordance with the process defined herein. Large scale wind energy conversion systems (WECS) are permitted as a special use only on property in the M-1 Zoning District. Small scale (on-site) WECS are permitted as a special use in the AG, C-1, M-1 Zoning Districts. In addition to the standards and requirements specified in this Ordinance, the Planning Commission shall not approve the issuance of a special use permit unless the requirements in this section are met:

(A) Intent and Purpose

(1) Purpose. The most common and prevalent land uses in White Oak Township are agricultural and residential, and their preservation has been an ongoing goal within the community for many years. This Ordinance is intended to protect the health, safety and welfare of the residents of the Township and to encourage the safe, effective, efficient and orderly development and operation of wind energy resources in the Township while preserving and protecting the character and the stability of residential, agricultural, recreational, commercial, industrial and other areas within the Township.

(2) With advances in technology of “wind energy development” in general, specific locations within the Township may support the implementation of Utility Grid Wind Energy Systems. To prepare for potential “wind development projects” within the Township, this Ordinance will require such developments to obtain a Special use Permit to ensure wind development sites are appropriately located so as to protect the character and stability of the Township’s residential, agricultural, recreational, commercial and/or industrial areas while simultaneously 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. Accordingly, regulations are necessary to further the above goals and, equally important, to minimize the potential adverse effects of this emerging land use on adjacent properties.

(B) Definitions. The following definitions shall apply in this section.

(1) Adverse Sound Character: Sound that causes building rattle, is impulsive, tonal, includes amplitude modulation, or has a low-frequency bass rumble.

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

(3) 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.

(4) ANSI: the American National Standards Institute.

(5) Audible: The varying degrees of sound perception as reported by affidavit, including, but not limited to, just perceptible, audible, clearly audible, and objectionable.

(6) dBA: The A-weighted sound level.

(7) dBC: The C-weighted sound level.

(8) Decibel (dB): The practical unit of measurement for sound pressure level; the number of decibels of a measured sound is equal to 20 times the logarithm to the base 10 of the ratio of the sound pressure of the measured sound to the sound pressure of a standard sound (20 microPascals); abbreviated "dB."

(9) Equivalent Sound Level (or Leq): The sound level measured in decibels with an integrating sound level meter and averaged on an energy basis over a specific duration.

(10) FAA: The Federal Aviation Administration.

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

(12) IEC: The International Electrotechnical Commission.

(13) ISO: The International Organization for Standardization.

(14) LMax (LAMax or LCMax): 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).

(15) Lease Unit Boundary: The boundary around a property or properties leased or purchased for purposes of operating a wind energy facility, including leased or purchased adjacent parcels to the parcel on which the wind energy facility tower or equipment is located. For purposes of setback, the Lease Unit Boundary shall not cross road rights-of-way.

(16) L10: Is the noise level exceeded for 10% of the time of the measurement duration. This is often used to give an indication of the upper limit of fluctuating noise, such as that from road traffic.

(17) L90: Is the noise level exceeded for 90% of the time of the measurement duration and is commonly used to determine ambient or background noise level.

(18) NEC: National Electrical Code.

(19) Noise: A sound that causes disturbance that exceeds 45 db(A) (Lmax) or 55 db(C) (Lmax).

(20) On Site Wind Energy Conversion System (also called Small Scale): A wind energy conversion system less than 80 feet in total height with the blade fully extended (tip height) intended to generate electric power from wind solely for the use of the site on which the system is located. Small-scale WECS that are primarily intended to provide on-site power, but contribute surplus energy to the grid, may also be considered On-Site Small-Scale WECS. Small-Scale wind energy systems that consistently sell power back to the public grid may be required to meet applicable standards for Utility Scale wind energy systems.

(21) Participating Landowner: A landowner who has leased land to the WECS Applicant, recorded the notice of lease agreement with the Ingham County Register of Deeds, and has a contract with the WECS Applicant. A Participating Landowner may also be called a WECS contract leaseholder. A Participating Landowner may or may not have turbines or infrastructure located on their property.

(22) Participating Landowner, Non-: A landowner who has not signed a contract or any legal document with the WECS Applicant and has not given up rights to their owned land to the WECS Applicant.

(23) Pasquill Stability Class: A classification defined for different meteorological situations, characterized by wind speed and solar radiation (during the day) and cloud cover during the night. The turbulence of the atmosphere is the most important parameter affecting dilution of a pollutant. Pasquill Stability Classes include seven stability classes:

(a) A; very unstable

(b) B; unstable

(c) C; slightly unstable

(d) D; neutral

(e) E; very stable

(f) F; moderately stable

(g) G; extremely stable

The stability classes can be (roughly and empirically) related to the driving forces wind and boundary layer energy budget through wind speed, solar radiation, and cloud cover (refer to table below).

Wind speed (m/s)	DAY Incoming solar radiation			NIGHT	
	Strong	Moderate	Slight	> 4/8 cloud	< 3/8 cloud
< 2	A	A - B	B	E	F
2 - 3	A - B	B	C	E	F
3 - 5	B	B - C	C	D	E
5 - 6	C	C - D	D	D	D
> 6	C	D	D	D	D

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

(25) 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.

(26) 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).

(27) 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.

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

(29) 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.

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

(31) Utility Grid, Electric: The electrical power system network comprised of the generating plant, the transmission lines, the substation, transformers, the distribution lines, and the consumer.

(32) Utility Scale (also known as Commercial and/or Large-Scale) Wind Energy Conversion System: A wind energy conversion system greater than eighty (80) feet in total height (tip height) intended to generate power from wind primarily to supplement the greater electric utility grid. Utility-scale WECS include accessory uses such as, but not limited to, SCADA towers, anemometers, or electric substations. All wind energy systems greater than 80 feet in height shall be considered Utility Scale, regardless of the amount of power produced, or what the power produced is used for.

(33) 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.

(34) WECS Applicant: 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 Participating Landowner, or lessee, who will construct, own, and operate the WECS or Testing Facility. The duties and obligations regarding a zoning approval for any approved WECS or Testing Facility shall be with the WECS or Testing Facility owner, and jointly and severally with the owner, operator, and lessee of the WECS or Testing Facility if different than the WECS owner.

(35) Wind Energy Conversion System (WECS): Any combination of the following:

(a) A mill or machine operated by wind acting on oblique vanes or sails that radiate from a horizontal shaft
;

(b) A surface area such as a blade, rotor, or similar device, either variable or fixed, for utilizing the wind for electrical or mechanical power;

(c) 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;

(d) The generator, alternator, or another device to convert the mechanical energy of the surface area into electrical energy;

(e) The tower, pylon, or other structure upon which any, all, or some combination of the above are mounted.

(f) Any other components not listed above but associated with the normal construction, operation, and maintenance of a wind energy conversion system.

(36) Wind Energy Conversion System (WECS) 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.

(37) Wind Energy Facility: Clusters of two or more utility scale 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 located. Said Wind Energy Conversion Systems may or may not be owned by the owner of the property upon which they are placed.

(C) On-Site Wind Energy Conversion Systems Standards (also called Small Scale). The following standards shall apply to On-Site WECS, including Anemometer Towers, in addition to the general Special use Approval Requirements of this Ordinance:

(1) Application Procedure. The application for a WECS shall be reviewed in accordance with all applicable requirements in site plan review and special use requirements of this Ordinance. In addition to these requirements, the Planning Commission may require any of the additional supporting information listed in Section 4.50.D.6, if it determines that that information is relevant to the approval of the Special Use.

(2) Zoning. On-site WECS are permitted only in the AG, C-1, and M-1 Zoning Districts. Special Use Approval must be obtained prior to the installation of an on-site WECS.

(3) Height. On-site WECS must not exceed a total height of 80 feet, except where state and federal regulations require a lesser height or where, as a condition of special use approval, the Planning Commission requires a lesser height. Height is measured from the average grade at the base of the tower to the highest point of WECS when a blade is in its vertical orientation.

(4) Setbacks. The minimum distance between an On-Site WECS and the property lines (measured from the outside edge of the blades, not from the tower itself) shall be equal to 100% of the height of the tower including the top of the blade in its vertical position. The minimum distance between an Anemometer Tower and the owner's property lines shall be equal to 100% of the height of the tower. No part of the WECS structure, including guy wire anchors, may extend closer than 20 feet to the owner's property lines, or the distance of the required setback in the respective zoning district, whichever results in the greater setback.

(5) Minimum Lot Area Size. The minimum lot size for a property to be eligible to have an On-Site WECS shall be three (3) acres if the height is 60 feet or less and five (5) acres if the height is between 60 and 80 feet.

(6) Minimum Ground Clearance. The minimum vertical blade tip clearance from grade and any structure, adjoining property, or tree shall be 15 feet for an on-site WECS employing a horizontal axis rotor.

(7) Noise Emission. Noise emitting from an on-site WECS shall not exceed 45 dB(A) (Leq 1 second) or 55 dB(C) (Leq 1 second) at the property line.

(8) Construction Codes, Towers, & Interconnection Standards. On-site WECS including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. On-site WECS including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act, the Michigan Tall Structures Act, and other applicable local and state regulations. An interconnected On-site WECS shall comply with Michigan Public Service Commission (MPSC) and Federal Energy Regulatory Commission (FERC) standards if applicable.

(9) Safety. The WECS shall meet the following safety requirements:

(a) The WECS shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times.

(b) All spent lubricants and cooling fluids shall be properly and safely removed in a timely manner from the site of the WECS.

(c) All collection system wiring shall comply with all applicable safety and stray voltage standards.

(10) Shadow Flicker. On-site WECS shall produce no shadow flicker on any parcel other than one where the WECS is located. Measures to eliminate all effects of shadow flicker on adjacent properties, such as programming the WECS to stop rotating during times when shadow crosses occupied structures, shall be required.

(D) Utility Scale Wind Energy Conversion System Standards (Also called "Large Scale"). Wind energy conversion systems and WECS testing facilities shall meet the following standards. An application for a Special use permit shall be filed with the Township pursuant to Section 4.39 as to Special use approvals. Supporting data and documentation must be submitted in their entirety at time of application. Applicant shall provide to the Township updated documents throughout the duration of the WECS application process upon request by the Township Board or Planning Commission.

(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
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Some of the Township's rights to impose reasonable special use provisions on wind energy systems were addressed recently in US District Court, Eastern District of Michigan, Case No. 17-cv-10497, Tuscola Wind III vs Almer Township, US District Judge Thomas L. Ludington, November 2017.

Based on evidence presented in this State and others concerning the adverse secondary effects of wind energy systems 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 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 well-being. 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 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).

(d) There is evidence that wind turbine sound is more noticeable, annoying and disturbing than other community industrial sounds at the same level of loudness, due to the 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 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 sites can adversely impact wildlife and their habitats and makes evaluation of proposed wind development sites essential. The Township finds that any wind development sites should have the lowest potential for negative impacts on wildlife resources and avoid locations with higher concentrations of migratory birds. Further, any wind development sites that would fragment sensitive habitat areas, like rivers, streams, and wetlands, should be avoided.

(h) The general welfare, health, and safety of the citizens of the Township will be promoted by the enactment of this ordinance.

(2) Permitting Costs: An escrow account shall be set up when the Applicant applies for a Special Use Permit for a WECS and WECS Testing Facilities. The monetary amount filed by the Applicant with the Township shall be in an amount estimated by the Township Board to cover all reasonable costs and expenses associated with the special use zoning review and approval process, which costs can include, but are not limited to, fees of officials appointed or contracted with the Township, including the Township Attorney, Township Planner, and Township Engineer, as well as any reports or studies which the Township anticipates it may have done related to the zoning review process for the particular application. Such escrow amount shall include regularly established fees. At any point during the zoning review process, the Township may require that the Applicant place additional monies into the Township escrow should the existing escrow amount filed by the Applicant drop below $500. If the escrow account needs replenishing and the Applicant refuses to do so within fourteen (14) days after receiving notice, the zoning review and approval process shall cease until and unless the Applicant makes the required escrow deposit. Any escrow amounts which are in excess of actual costs shall be returned to the Applicant within ninety (90) days of permitting process completion. An itemized billing of all expenses shall be provided to the Applicant. 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.

(3) Required Security Deposits. Following approval, but prior to the issuance of a Building Permit for the construction of any WECS, the following security deposits shall be deposited with the Township.

(a) Sufficient funds to decommission and remove the WECS in the event of abandonment, as described in Sections 4.50.D.33-34.

(b) Sufficient funds to repair the anticipated damage to roadways during construction of the WECS, as described in Section 4.50.D.19.

(c) A $15,000 escrow account to cover the costs of complaint investigation, mitigation, and resolution, as described in Section 4.05.D.36.

(4) General Provisions. All Utility Scale WECS are subject to the following requirements:

(a) All WECS must conform to the provisions of this Ordinance; all county, state, and federal regulations and safety requirements; all applicable building codes, county codes, and airport area zoning ordinances; and all applicable industry standards, including those of the American National Standards Institute (ANSI).

(b) The Township may revoke any approvals for, and require the removal of, any WECS that does not comply with this Ordinance.

(c) Inspection: The Township shall have the right upon issuing any WECS or wind energy facility special use permit to inspect the premises on which each WECS is located at any reasonable time. The Township may hire a consultant to assist with any such inspections at a reasonable cost to be charged to the operator of the WECS.

(5) Zoning District. Utility-scale WECS are permitted in the Township only as a special use and only in the M-1 zoning district.

(6) Application Procedure. The application for a WECS shall be reviewed in accordance with all applicable requirements in site plan review and special use requirements of this Ordinance. In addition to these requirements, site plans and supporting documents for WECS shall include the following additional information:

(a) Site Plan: The Applicant shall submit a site plan in full compliance with this Ordinance. 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.

(b) Environmental Assessment: The Applicant shall fund an environmental assessment or impact study and other relevant report(s) or studies (including, but not limited to, assessing the potential impact on endangered species, eagles, birds, and/or other wildlife) as required by the Township for review. Such assessments or studies shall be completed by an independent third-party professional that is acceptable to the Township. Studies shall be limited to the area within three (3) miles outside of the Township boundaries. This includes gas lines, oil wells, coal mines, water lines, other utility lines, and any other similar area determined by the Planning Commission to require an Environmental Assessment.

(c) Background Sound Study. A background (ambient) sound study shall be performed by an independent third-party acoustician 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 a four-day (96 hour) testing period, include one Sunday, and divide data by daytime and nighttime. The sound background study shall report for the period of the monitoring topography, temperature, weather patterns, sources of ambient sound, and prevailing wind direction.

(d) **Economic Impact**: The Applicant shall fund and provide an economic impact study 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.

(e) **Safety Manual:** The Applicant must provide an unredacted copy of the manufacturer's safety manual 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 Manual should include standard details for an industrial site such as materials, chemicals, fire, access, safe distances during WECS failure, processes in emergencies, etc.

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

(g) 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.

(h) Proof of the applicant's public liability insurance for the project.

(i) A copy of that portion of all the applicant's Participating Property lease(s) with the land owner(s) granting authority to install the WECS and/or Anemometer Tower; legal description of the property(ies), Lease Unit(s); and the site plan shows the boundaries of the leases as well as the boundaries of the Lease Unit Boundary.

(j) The phases, or parts of construction, with a construction schedule.

(k) A map of all parcels in the project area where the applicant holds leases, "good neighbor" agreements, or other agreements.

(l) The location, grades, and dimensions of all temporary and permanent on-site and access roads from the nearest County or State maintained road.

(m) 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 WECS.

(n) All new infrastructure above and below ground related to the project, including transmission line locations
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(o) A copy of Manufacturers' Material Safety Data Sheet(s) which shall include the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants and coolants.

(p) Description of operations, including anticipated regular maintenance.

(q) **Wind Assessment Study.** A wind assessment study conducted within a potential project area shall be completed within 18 months of the date of application for a WECS. 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 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.

(r) **Noise Modeling and Analysis.** A copy of a noise modeling and analysis report completed by a third-party acoustician acceptable to the Township and the site plan shall show locations of equipment identified as a source of noise which is placed, based on the analysis, so that the Utility Grid WECS shall not exceed the maximum permitted sound pressure levels. The noise modeling and analysis shall conform to the most current protocol for The International Electrotechnical Commission (IEC) 61400, Parts 11 and 14, The International Organization for Standardization (ISO) 9613-2, and ANSI S12.62, including all tolerances and uncertainties. After installation of the WECS, sound pressure level measurements shall be performed by a third party, acoustician acceptable to the Township according to the procedures in the most current version of The American National Standards Institute (ANSI) S12.9, Part 3 and ANSI S12.100 for measurements (with an observer). 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. Documentation of the actual sound pressure level measurements shall be provided to White Oak Township within 60 days of the commercial operation of the project and as requested to respond to a noise complaint from a resident.

(s) A visual impact simulation showing the completed site as proposed on the submitted site plan. The visual impact simulation shall be from four viewable angles.

(t) A copy of an Environmental Analysis by a third party qualified professional acceptable to the Township to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis, and shall show those measures on the site plan. The applicant shall identify and evaluate the significance of any net effects or concerns that shall remain after mitigation efforts.

(u) 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.

(v) A copy of a shadow flicker analysis at Non-Participating Parcel property lines to identify the locations of shadow flicker that may be caused by the project 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 problems.

(w) The restoration plan for the site after completion of the project which includes the following supporting documentation:

(i) The anticipated life of the project.

(ii) The estimated decommissioning costs as defined in this ordinance

(iii) The cash bond (or form of security acceptable to the Township) ensuring that funds shall be available for decommissioning and restoration.

(iv) The anticipated manner in which the project shall be decommissioned, and the site restored.

(x) A contact person/address to which any notice of complaint, as defined by this ordinance, may be sent
.

(y) **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 WECS.

(z) **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 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 WECS or Testing Facility, located on the lot or parcel involved.

(aa) Access Driveways: GIS location of WECS and 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 Ingham 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 WECS. Construction of the Access Driveway that serves a WECS or 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 White Oak Township Fire Department regulations and grant permanent access easement to the Township to be recorded at the Ingham County Register of Deeds.

(bb) Facility Security: Security measures shall be sufficient to prevent unauthorized trespass and to protect health, welfare, and safety.

(cc) Maintenance Program and Resolution Program: The Applicant shall provide to the Township a written description of the problem and failure program to be used to resolve the WECS and WECS Testing Facility issue, including procedures and schedules for removal when determined to be obsolete or abandoned.

(dd) Site Lighting: A lighting plan for each WECS and 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 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.

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

(7) Site Insurance: The Applicant (owner/operator of the WECS) shall provide proof of Commercial General Liability Coverage prior to the issuance of a Building Permit and shall maintain this in effect at all times during the construction, operation, and decommissioning for each WECS in the Township. This coverage shall have a minimum liability limit of two million dollars ($2,000,000) per occurrence, including but not limited to bodily and property damage liability coverage. To assure that this coverage remains in effect, the Township shall be named as an Additional Insured with the right to be notified of cancellation and/or significant reduction of coverage, and applicant (owner/operator) shall provide annual (or more frequently if appropriate to the term of coverage) proof of the continuing insurance. Aggregate policies are allowed if minimum coverage per WECS is satisfied and coverage is provided for every site where Applicant's (owner/operator's) equipment is located.

(8) Height: The maximum height of any Utility Scale WECS is 500 (five hundred) feet. The height of a WECS is measured from the base of the tower to the highest point of the WECS when a blade is in its vertical orientation. The maximum height shall also comply with FAA requirements, the Michigan Airport Zoning Act, the Michigan Tall Structures Act, and other applicable regulations.

(9) Substations and accessory buildings: Structures related to a WECS 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) Vibrations: Wind turbines shall not create vibrations that are detectable by humans on non-articipating properties.

(11) Setback: The following setbacks, 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.

(a) Property Lines. The minimum distance between an On-Site WECS and the property lines (measured from the outside edge of the blades, not from the tower itself) shall be equal to 100% of the height of the tower including the top of the blade in its vertical position.

(b) Road Right of Way: The minimum setback from any road right of way shall be 150% (one and one-half times) the height of the WECS (measured to the tip at maximum blade height).

(c) Non-Road Right of Way: The minimum setback from any non-road (utility line, overhead power lines, etc.) right of way shall be the height of the turbine (measured to the tip at maximum blade height) plus 50 (fifty) feet.

(12) Lot Size: The size of a single property, or a leased unit to be used for a utility-scale WECS shall be sufficient to comply with all setback requirements in this section.

(13) Ground Clearance: The minimum clearance from ground level to the blade at its lowest point shall be fifty (50) feet.

(14) Blade Clearance: Blade arcs created by a WECS shall have a minimum of fifty (50) feet of clearance over and from any structure.

(15) Braking: Each WECS shall be equipped with a braking, or equivalent device, capable of stopping the WECS operation in high winds with or without SCADA control. Braking system shall be effective during complete GRID power failure where WECS are unable to communicate with SCADA control or receive power.

(16) Signage: All provisions of Section 4.41 (Signs) must be met on all lots containing a WECS. Each WECS and Testing Facility shall have one sign per turbine, or tower, located at the roadside and one sign attached to base of each WECS, easily visible throughout four seasons. Signs shall be two to four square feet in area and be placed at the road right of way. Signs shall be the same and shall uniquely identify each WECS. Additional signage on and around the tower is recommended. The sign shall contain at least the following:

(a) Warning high voltage.

(b) Participating Land owner's name, WECS owner's name, and operator's name.

(c) Emergency telephone numbers and web address. (list more than one number).

(d) If WECS uses fencing, place signs on the perimeter fence at fence entrance door.

(e) Unique identification such as address of WECS. If more than one WECS on access drive, units shall have further identification such that first responders can positively identify. An identification example is "1000 White Oak Road, White Oak, MI 49089."

Commented [CK1]: Note: these setbacks were chosen to ensure that they can be met within the M-1 District, so that the Ordinance is not exclusionary. If Utility Scale WECS are allowed in additional zoning districts, then we would recommend larger setbacks, as well as setbacks from vulnerable land uses and natural features.

Commented [CK2]: Note: There is no minimum lot size for WECS, since WECS are limited to the M-1 District. . If Utility Scale WECS are allowed in additional zoning districts, then we would recommend establishing a minimum lot size.

(17) Communication Interference: Each WECS and Testing Facilities shall be designed, constructed and operated so as not to cause radio and television or other communication interference. In the event that verified interference is experienced and confirmed by a licensed engineer, the Applicant must produce confirmation that said interference had been satisfied within ninety (90) days of receipt of the complaint. Any such complaints shall follow the process stated in Complaint Resolution sections.

(18) Infrastructure Wiring: All electrical connection systems and lines from the WECS to the electrical grid connection shall be located and maintained 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 NEC 2014 or newer Code standards, whichever depth is greater. The Planning Commission may waive the burial requirement and allow above-ground structures in limited circumstances, such as geography precludes, or a demonstrated benefit to the Township. The waiver shall not be granted solely on cost savings to Applicant. In deciding whether to waive the requirements of this section, the Planning Commission will consider aesthetics, future use of land, and effect on nearby landowners.

(19) Road Damage: The Applicant and/or its contractor shall inform the Ingham County Road Commission (ICRC) 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 ICRC or the Michigan Department of Transportation (MDOT) if a state highway is involved. The road inspector will determine any precautions to be taken (including video taping 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.

In order to assure the funds will be available to perform the work described above, the Applicant will be required to post financial security acceptable to the Township, in the form of: a) a surety bond from a surety listed as acceptable on the Federal Surety Bond circular 570 of the U.S. Department of Treasury; or b) an acceptable letter of credit; or c) an escrow account established in a financial institution licensed in the State of Michigan. The amount of the security shall be determined by the third-party consultant based on the amount needed for road repairs is greater than this amount. The bond (or other security) shall only be released (in whole or part) when the Township Board, in consultation with ICRC and the third party inspector, determines that all required road work has been completed and approved by ICRC and/or MDOT.

(20) Driveway Permits: Any required driveway or curb cut permits must be obtained from the Ingham County Road Commission prior to the beginning of construction.

(21) Drainage.

(a) Prior to approval of the Special Use permit, the applicant must obtain written confirmation from the County Drain Commissioner that stormwater drainage will not be impacted, or that any impacts will be mitigated without negative impacts on any nearby lots.

(b) Any damage to underground drainage tiles, or other stormwater infrastructure or County Drains caused during the installation of the WECS shall be repaired by the WECS owner within 90 days of discovery of the damage. The Township Board may extend this deadline upon determination that WECS owner has made good faith progress towards the repair.

(22) Construction Codes, Towers, & Interconnection Standards: Utility Scale WECS including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. Utility Scale WECS including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act, the Michigan Tall Structures Act, and other applicable local and state regulations. An interconnected Utility Scale WECS shall comply with Michigan Public Service Commission (MPSC) and Federal Energy Regulatory Commission (FERC) standards.

(23) Liability Insurance: The current WECS owner and operator shall insure for liability for the WECS in an amount of two million dollars ($2,000,000) per occurrence, per WECS site, without interruption until removed and comply with section "Site Insurance" (See Section 4.50.D.7) to make certain funds are available to resolve damage/injury claims.

(24) Coating and Color: A WECS shall be painted a non-obtrusive (light environmental color such as beige, gray or off-white) color that is non-reflective. The wind turbine base and blades shall be of a color consistent with all other turbines in the area. No striping of color or advertisement shall be visible on the blades or tower.

(25) Shadow Flicker: Zero hours of Shadow Flicker may fall on or in a Non-Participating Parcel 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 beginning at the property lines, such as programming the WECS 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.

(26) Strobe Effect: No amount of Strobe Effect may fall on or in any parcel. Under no circumstances, shall a WECS or Testing Facility produce strobe-effect on properties.

(27) Protection of Adjoining Property: In addition to the other requirements and standards contained in this section, the Planning Commission shall not approve any WECS or Testing Facility unless it finds that the WECS or Testing Facility will not pose a safety hazard or unreasonable risk of harm to the occupants of any adjoining properties or area wildlife.

(28) Operational, Maintenance, and Issue Resolution: Each WECS and Testing Facility must be kept and maintained in good repair and condition at all times. If a WECS is not maintained in operational and reasonable condition or poses a potential safety hazard, the Applicant shall take expeditious action to correct the situation, including WECS removal. The Applicant shall keep a maintenance log on each WECS and must provide complete log to the Township within thirty (30) days of request. To assure compliance with this requirement, an annual audit of maintenance records, conducted by a qualified third-party maintenance expert acceptable to the Township, shall be completed at the expense of the owner/operator of the turbine, and a copy of this report provided as specified by the Township.

(29) Noise:

(a) No WECS shall generate or permit to be generated audible noise from commercial or industrial permitted facilities that exceeds 45 dB(A) (Leq 1 second) or 55 dB(C) (Leq 1 second) (dB(C) to dB(A) ratio of 10 dB per ANSI standard S12.9 Part 4 Annex D) for any duration, at a property line or any point within any non-participating property.

(b) No WECS shall generate or permit to be generated from commercial or industrial permitted facilities any acoustic, vibratory, or barometric oscillations in the frequency range of 0.1 to 1 Hz that is detectable at any time and for any duration by confirmed human sensation or exceeds a sound pressure level from 0.1 to 20 Hz of 50 dB(unweighted) re 20uPA or exceeds an RMS acceleration level of 50 dB(unweighted) re 1 micro-g by instrumentation at a landowner's property line or at any point within a landowner's property.

(c) No WECS shall generate or permit to be generated from commercial or industrial permitted facilities 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 non-participating landowner's property line or at any point within a non-participating landowner's property.

(d) A noise level measurement made in accordance with methods in section "Noise Measurement and Compliance" that is higher than 45dB(A) (Leq 1 second) or 55 dB(C) (Leq 1 second) adjusted for the penalty assessed for a tonal noise condition, shall constitute prima facie evidence of a nuisance.

(e) An acoustic, vibratory or barometric measurement documenting oscillations associated to commercial or industrial permitted facilities with levels exceeding the noise limits shall constitute prima facie evidence of a nuisance.

(f) Leq 1-sec shall be used for all measurements and modeling.

(g) Applicant shall provide an initial sound modeling report and**,** within six (6) months of commencing operation of the WECS, a post-construction report for the project with a schedule and documentation which adhere to the following:

- **(i)** Chart outlining ordinance requirements and a description of compliance or noncompliance.
- **(ii)** Declaration whether submitted data is modeled or measured.
- **(iii)** Declaration of values, test methods, data sources, and similar for all modeled or measured data.
- **(iv)** Estimated timeline for project including ordinance requirements completed, construction, post construction, and validation testing.
- **(v)** Applicant measured data shall be accompanied by SCADA data confirming full power during testing. Unless otherwise requested, minimum SCADA data format shall be grouped in 24hr periods and 1 second intervals including wind vector, wind speed, temperature, humidity, time-of-day, WECS power output, WECS amps, WECS volts, WECS nacelle vector, WECS blade RPM, WECS blade pitch.
- **(vi)** Permitting data may be submitted based on WECS manufacturer data. However, measured data from active and similar WECS facilities shall be simultaneously submitted.
- **(vii)** It is acknowledged that WECS units sustain wear over time. Applicant is to submit data from existing and similar WECS installations showing aged sound measurements (to demonstrate compliance potential over the life of WECS) in accordance with this ordinance for 5, 10, and 15-year-old units.

Commented [CK3]: Foster Swift recommended having this reviewed by an engineer.

(viii) Modeling factors shall be set for the worst-case environment, such as high humidity, frozen ground (non-porous), atmospheric variances (atmospheric profile Pasquill Stability Class E or F preferred), elevated noise source and no ground cover. Use of modeling methods (standards) shall have deficiencies (limitations) fullydisclosed and shall include known error margins. Non-disclosure of modeling method deficiencies shall require resubmission of the Special use Permit (SLUP) application in its entirety with complete modeling deficiencies disclosed.

(ix) Post construction validation and compliance testing shall include a variety of ground and hub height wind speeds, at low (between 6-9mph) medium (between 9-22mph) and high (greater than 22mph). SCADA data shall be provided in the format determined by Township, Township licensed engineers, or Township professional acousticians. Compliance noise measurements are the financial responsibility of the WECS owner of the facility and shall be independently performed by a qualified professional acoustician approved by the White Oak Township Board or their designated agent. Compliance noise measurements shall not exceed the stipulated noise limits and shall assess for and apply tonal noise penalties when warranted.

(h) **Quality:** Measurements shall be attended. All noise measurements shall (must) exclude contributions from wind on microphone, tree/leaf rustle, flowing water, and natural sounds such as tree frogs and insects. The latter two can be excluded by calculating the dBA noise level by excluding octave band measurements above the 1000 Hz band as in ANSI S12.100 3.11. The ANS-weighted sound level is obtained by eliminating values for octave bands above 1000 Hz, or one-third octave bands above 1250 Hz, and A-weighting and summing the remaining lower frequency bands. The wind velocity at the sound measurement microphone shall not exceed 3 m/s (7 mph, maximum) during measurements. A 7-inch or larger diameter windscreen shall be used. Instrumentation shall have an overall internal noise floor that is at least 5 dB lower than what is being measured. During testing of elevated sources including, but not limited to, wind turbines, the atmospheric profile shall be Pasquill Stability Class E or F preferred, Class D as alternate.

Commented [CK4]: Foster Swift recommended having an engineer review this section.

(i) **Noise Level:** Noise measurements shall be conducted consistent with ANSI S12.18 Procedures for Outdoor Measurement of Sound Pressure Level and ANSI S12.9 Part3 (Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-term Measurements with an Observer Present), using Type 1 meter, A-weighting, Fast Response.

(j) **Tonal Noise:** Tonal noise shall be assessed using unweighted (linear) 1/3 octave band noise measurements with time-series, level-versus-time data acquisition. A measurement shall constitute prima facie evidence of a tonal noise condition if at any time (single sample or time interval) the noise spectrum of the noise source under investigation shows a 1/3 octave band exceeding the average of the two adjacent bands for by 15 dB in low one-third octave bands (10–125 Hz), 8 dB in middle-frequency bands (160–400 Hz), or 5 dB in high-frequency bands (500–10,000 Hz).

(k) **Sample Metric and Rate:** Noise level measurements for essentially continuous non-time-varying noise sources shall be acquired using the Leq(Fast) metric at a sample rate of 1-per-second. For fluctuating or modulating noise sources including, but not limited to, wind turbines, a 10-per-second sample rate or faster shall be used. These sample rates shall apply to dBA, dBC and unweighted 1/3 octave band measurements.

(l) Reporting: Measurements of time-varying dBA and dBC noise levels and 1/3 octave band levels shall be reported with time-series level-versus-time graphs and tables. Graphs shall show the sound levels graphed as level-vs-time over a period of time sufficient to characterize the noise signature of the noise source being measured. For 1-per-second sampling, a 5-minute-or-longer graph shall be produced. For 10-per-second sampling, a 30-second-or-longer graph shall be produced. Reporting shall identify, and graphs shall be clearly notated, identifying what was heard and when the noise source is dominating the measurement. Reporting shall furnish all noise data and information on weather conditions and, Pasquill Class occurring during testing.

(30) Safety: The WECS shall meet the following safety requirements:

(a) The WECS shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times when service personnel are not present
.

(b) All spent lubricants and cooling fluids shall be properly and safely removed in a timely manner from the site of the WECS.

(c) All collection system wiring shall comply with all applicable safety and stray voltage standards.

(d) WECS tower shall not be climbable on the exterior.

(e) An automatic fire suppression system shall be installed at each WECS.

(f) An automatic ice mitigation system shall be installed at each WECS.

(31) Applicant Compliance: The WECS and related equipment shall comply with any and all Federal, State, County and Township requirements, and obtain all necessary permits from the FAA, Michigan Department of Transportation, and/or any other Federal, State, Township, or other government authority prior to construction of any WECS.

(32) Non-Compliance with Standards: The Township Board reserves the right to require WECS Applicant to shut down any WECS unit that does not meet ordinance requirements until such WECS unit meets ordinance requirements or is removed.

(33) Abandonment: Any WECS that is not used to produce energy for a period of six (6) successive months or longer shall be deemed to be abandoned and shall be promptly dismantled and removed from the property in accordance with the decommissioning regulations of this ordinance, unless the applicant receives a written extension of that period from the Township Board in a case involving an extended repair schedule for good cause.

Removal shall include the proper receipt of a demolition permit from the Building Official and proper restoration of the site, including but not limited to all participating parcels, to original condition. Removal of the structure, wiring, and its accessory use facilities shall include removing the caisson (foundation) and all other components in their entirety, including all below-grade foundations and infrastructure.

(34) Decommissioning: To ensure proper removal of each WECS structure when it is abandoned or non-operational, application for a Special use permit shall include a proof of the financial security in effect before permit is approved. The security shall be in a form acceptable to the Township. Additionally, security is based on each WECS and is to be backed by owner assets, operator assets, parent company assets, and leaseholder assets. These should be reviewed by the Township Attorney and approved by the Planning Commission.

(a) 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.

(b) Such financial guarantee shall be deposited with the Township Treasurer, or with a third-party fiduciary, at the discretion of the Township, after a special use has been approved but before construction operations begin on the WECS project. Failure to keep such financial security in full force and effect at all times while the structure exists shall constitute a material and significant violation of any special use approval and this ordinance, and shall subject the Applicant to all available remedies to the Township, including, but not limited to, enforcement action, fines, revocation of the special use approval and WECS removal.

(c) The Applicant shall be responsible for the payment of all attorney fees and other costs incurred by the Township in the event that the structure is not voluntarily removed and the Township has to enforce removal.

(35) Transfer or Sale: In the event of a transfer or sale of the WECS, the Township shall be notified and the Special use permit may be amended administratively by the Township board.

(a) Change in ownership alone shall be considered a minor amendment to the Special use and may be approved administratively without a public hearing.

(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.

(c) Upon transfer or sale, the cash bond (or form of security acceptable to the Township) shall be maintained at all times, the estimated costs of decommissioning shall be resubmitted, and the security bond adjusted to account for the new estimate.

(36) Complaint Resolution. The purpose of this section is to provide the public with a mechanism to file a complaint with the Zoning Administrator regarding a Special Use, and receive a timely response regarding alleged ordinance violations or violations of the Conditions of Approval.

(a) Upon receiving a complaint of an alleged Ordinance or Approval Conditions violation, the Zoning Administrator shall notify the owner and operator of the WECS, and, if they are separate entities, the owner of the lot in question.

(b) Upon notification by the Zoning Administrator, the WECS owner and operator shall have 60 days to investigate the complaint, and respond with either a mitigation plan or a statement requesting that the matter be reviewed by the Zoning Board of Appeals. If the WECS owner and operator believes that the Special Use is not in violation, it shall request a review by the Zoning Board of Appeals.

(i) The Zoning Administrator may consult outside experts, the Township Attorney, or the Township Planner, in making a determination.

(ii) If the mitigation plan is determined to be satisfactory, the Special Use owner and operator must implement the mitigation within 60 days. The Zoning Administrator may extend the deadline upon determining that is not practical for the mitigation to be accomplished in 60 days due to circumstances beyond the applicant's control.

(iii) If the WECS owner and operator fails to implement the mitigation plan, the Zoning Administrator shall notice a public hearing at the Planning Commission (as described in Section 20.03.C) 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.

(iv) 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 (as described in Section 20.03.C), 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 described in Sections 4.50.D.33-34 shall begin.

(c) **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 e 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.