(v) Separation: If more than one On-Site Use Small Tower-Mounted WES is installed, a distance equal to the height of the highest On-Site Use Small Tower-Mounted WES must be maintained between the base of each On-Site Use WES.

(3) Construction Codes. Towers and Interconnection Standards: On-Site Use WES including structure-mounted and tower-mounted shall comply with all applicable state construction and electrical codes and building permit requirements. On-Site Use WES including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 or 1950, MCL 259.431 et seq.), and the Michigan Tall Structure Act (Public Act 259 of 1959, MCL 259.481 et seq). An interconnected On-Site Use Wind Energy System shall comply with Michigan Public Service Commission and Federal Energy Regulatory Commission standards. Off-grid systems are exempt from this last requirement.

(4) Monopole Towers required. Only monopole towers are permitted for On Site Use Small Tower-Mounted WES.

(5) Safety. An On-Site Use WES, whether structure-mounted or tower-mounted, shall have automatic braking, governing, or a feathering system to prevent uncontrolled rotation or over speeding. All wind towers shall have lightening protection. Clearance: The minimum vertical blade tip clearance from the ground (the highest point of grade level within 25 feet of the base of the tower) shall be fifteen (15) feet for a wind energy system employing a horizontal axis rotor. For a small On-Site Use Structure Mounted WES, the minimum blade tip clearance from any portion of a structure that is located within 25 feet of the Wind Energy System turbine blades shall be ten (10) feet.

(6) Warning Sign. A clearly visible warning sign regarding voltage shall be placed at the base of the Small Structure-Mounted WES or Small Tower-Mounted WES.

(7) Structural Integrity. The structural integrity of the Small Structure-Mounted WES or Small Tower-Mounted WES shall conform to the design standards of the International Electrical Commission, specifically IEC 61400-1, "Wind Turbine Safety and Design" and/or IEC 61400-s, "Small Wind Turbine Safety," IEC 61400-22 "Wind Turbine Certification," and IEC 61400-23 "Blade Structural Testing," or any similar successor standards.

(8) Shadow Flicker. A Small Structure-Mounted WES or Small Tower Mounted WES shall be sited in a manner that does not result in significant shadow flicker impact. A copy of a shadow flicker analysis, conducted by a certified analysis, at occupied structures 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 sun-rise to sun-set over the course of a year shall be provided with the application. Documentation of the training and certification for the analyst shall also be provided with the application. The site plan shall identify problem areas where shadow flicker may affect the occupants of the structures within 500 feet and show measures that shall be taken to eliminate or mitigate the problems shall be provided with the application. Potential shadow flicker will be addressed either through siting or mitigation measures.

(9) Noise. Noise emanating from the operation of a Small Structure-Mounted WES or Small Tower-Mounted WES shall not exceed, at any time, the lowest ambient sound level that is present between the hours of 9:00 p.m. and 9:00 a.m. at any property line of a residential use parcel or from the property line of parks, schools, and churches. Noise emanating from the operation of a Small Structure-Mounted WES or Small Tower-Mounted WES shall not exceed, at any time, the lowest ambient noise level plus 5 dBA that is present between the hours of 9:00 p.m. and 9:00 a.m. at any property line of a non-residential use parcel.

(10) Vibration. Vibrations shall not be produced that are humanly perceptible to the reasonable person beyond the property on which a Small Structure-Mounted WES or Small Tower-Mounted WES is located.

(11) Color. Small Structure-Mounted WES and Small Tower-Mounted WES shall be painted a non-obtrusive (i.e. white, beige or gray) color that is non-reflective. No striping of color or advertisements, excluding identification of the turbine manufacturer, shall be visible on the blades or tower.

(12) Lighting. Small Structure-Mounted WES and Small Tower-Mounted WES shall not be artificially lighted, except to the extent required by the FAA or other applicable authority, or otherwise necessary for the reasonable safety and security thereof.

(13) Signal Interference. The Small Structure-Mounted WES or Small Tower-Mounted WES shall not interfere with communication systems such as, but not limited to, radio, telephone, television, satellite, or emergency communication systems.

(14) Maintenance. Small Structure-Mounted WES and Small Tower-Mounted WES must be kept and maintained in good repair and condition at all times and shall not pose a potential safety hazard.

(15) Decommissioning.

(a) The Small Structure-Mounted WES or Small Tower-Mounted WES owner(s) or operator(s) shall complete decommissioning within twelve (12) months after the end of the useful life. The Small Structure-Mounted WES or Small Tower-Mounted WES will presume to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months. All decommissioning expenses are the responsibility of the owner(s) or operator(s).

(b) If the Small Structure-Mounted WES or Small Tower- Mounted WES owner(s) or operator(s) fails to complete decommissioning within the period prescribed above, the Township may designate a contractor to complete decommissioning with the expense to be charged to the violator and/or to become a lien against the premises.

(c) In addition to the decommissioning requirements listed previously, the Small Structure-Mounted WES or Small Tower-Mounted WES shall also be subject to the following:

(i) Decommissioning shall include the removal of each Small Tower-Mounted WES, buildings, electrical components, and any other associated facilities. Any foundation shall be removed to a minimum dept of sixty (60) inches below grade, or to the level of the bedrock if less than sixty (60) inches below grade.

(ii) The site and any disturbed earth shall be stabilized, graded, and cleared of any debris by the owner(s) of the facility or its assigns. If the site is not to be used for agricultural purposes following removal, the site shall be seeded to prevent soil erosion, unless the property owner(s) requests in writing that the land surface areas not be restored.

(D) Public Inquiries and Complaints. Should an aggrieved property owner allege that the Small Structure-Mounted WES or Small Tower-Mounted WES is not in compliance with the noise or shadow flicker requirements of this section, the procedure shall be as follows:

(1) Notify the Township in writing regarding concerns about noise level or shadow flicker.

(2) Noise Complaint. If the complaint is deemed sufficient by the Zoning Administrator to warrant an investigation, the Zoning Administrator will request the owner(s) or operator(s) deposit funds in an amount sufficient to pay for a noise level for a noise level test conducted by a certified acoustic technician approved by the Planning Commission to determine compliance with the requirements of this section.

(a) If the test indicates that the noise level is within noise requirements, the Township will use the deposit to pay for the test.

(b) If the Small Structure-Mounted WES or Small Tower-Mounted WES is in violation of the noise requirements, the owner(s) and operator(s) shall reimburse the Township for the noise level test and take immediate action to bring the Small Structure-Mounted WES or Small Tower-Mounted WES into compliance, which may include ceasing operation of the WES until violations are corrected. The Township shall refund the deposit to the aggrieved property owner.

(3) Shadow Flicker Complaint. If the complaint is deemed sufficient by the Zoning Administrator to warrant an investigation, the Zoning Administrator will request the owner(s) and operator(s) to provide a shadow flicker analysis, conducted by a certified analyst, of the WES as constructed to determine compliance with the requirements of this section. Owner(s) and/or operator(s) shall submit documentation to the Zoning Administrator showing the training and certification of the shadow flicker analyst before such analysis is conducted.

(a) If the Small Structure-Mounted WES or Small Tower-Mounted WES is in violation of the shadow flicker requirements, the owner(s) and operator(s) shall take immediate action to bring the WES into compliance.

(b) Compliance action required may include ceasing operation of the WES until violations are corrected.

(E) Any On-Site Use WES over 80 feet in height is subject to a Special Land Use Permit.

1.0340.4 REGULATIONS PERTAINING TO ANEMOMETERS – MET TOWERS

(A) A MET tower or anemometer may be permitted within all Zoning District Classifications, as a temporary use, subject to the regulations and requirements of this section.

(B) A MET tower shall be permitted for no more than thirteen (13) months.

(C) For purposes of this section, a MET Tower or Anemometer is a meteorological tower used for the measurement of wind speed.

(D) Submittal Requirements. An applicant for a MET Tower shall submit a zoning permit application with the following required information:

(1) Name of property owner(s), address, and parcel number.

(2) A site plan that includes maps (drawn to scale) showing proposed location of all components and ancillary equipment of the MET Tower, property lines, physical dimensions of the property, existing building(s) setback lines, right-of-way lines, public easements, overhead utility lines, sidewalks, non-motorized pathways, roads and contours. The site plan must also include adjoining properties as well as the location and use of all structures thereon.

(3) A site plan drawn to scale shall also contain at a minimum the following information unless specifically waived by the Zoning Administrator.

(a) The date on which the site plan was prepared.

(b) A north arrow and legal description of the property.

(c) Property lines and dimensions of the parcel containing the tower, the height of the MET tower and its distance to all property lines.

(d) Any buildings or structures existing on the site, and the use of the parcel.

(e) The distance to the closest building on adjacent property.

(f) The location of any overhead transmission lines on the site or on adjacent property which might be affected by the MET tower.

(g) Type and height of fencing to be installed around the tower or an equipment building.

(h) Elevation drawings of any buildings designed to serve the tower.

(i) Access road; width and construction standards.

(j) Any lighting proposed to be located on the tower.

(4) The proposed type and height of the MET Tower to be constructed; including the manufacturer and model, product specifications including maximum noise output (measured in decibels), total rated generating capacity, dimensions, rotor diameter, and a description of ancillary facilities.

(5) Evidence that the utility company has been informed of the customer's intent to install an interconnected, customer-owned generator and that such connection has been approved. Off-grid systems shall be exempt from this requirement.

(6) Proof of applicant's liability insurance for the MET Tower.

(7) A description of the number and type of MET tower(s) to be installed and the expected length of time that the MET tower will be operable.

(8) A description of the height of the MET tower and its design including cross section and elevation drawings and a diagram of how the tower will be anchored to the ground.

(9) An explanation of the purpose of the tower, the type, height and number of wind energy conversion systems anticipated to be proposed for installation on the site or nearby.