

423 Wind Energy Facilities

423.1 The following standards shall apply to wind energy facilities, which shall be permitted in any LG Low Growth or DD Development District as a Conditional Use. Small wind turbines shall be permitted in all districts.

A. All power transmission lines from the tower to any building or other structure shall be located underground to the maximum extent practicable.

B. No television, radio or other communication antennas may be affixed or otherwise made part of any wind turbine, except with approval by the Township Board of Supervisors. Applications may be jointly submitted for wind turbine and telecommunications facilities.

C. No advertising signs are allowed on any part of the wind energy facility, including fencing and support structures.

D. No tower shall be lit except to comply with Federal Aviation Administration (FAA) requirements. Minimum security lighting for ground level facilities shall be allowed as approved on the wind energy facility development plan.

E. All applicants shall use measures to reduce the visual impact of wind turbines to the extent possible. Wind turbines shall use tubular towers without guy wires. All structures in a project shall be finished in a single, non-reflective matte finished color or a camouflage scheme. Wind turbines within a multiple wind turbine project shall be generally uniform in size geometry, and rotational speeds. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades.

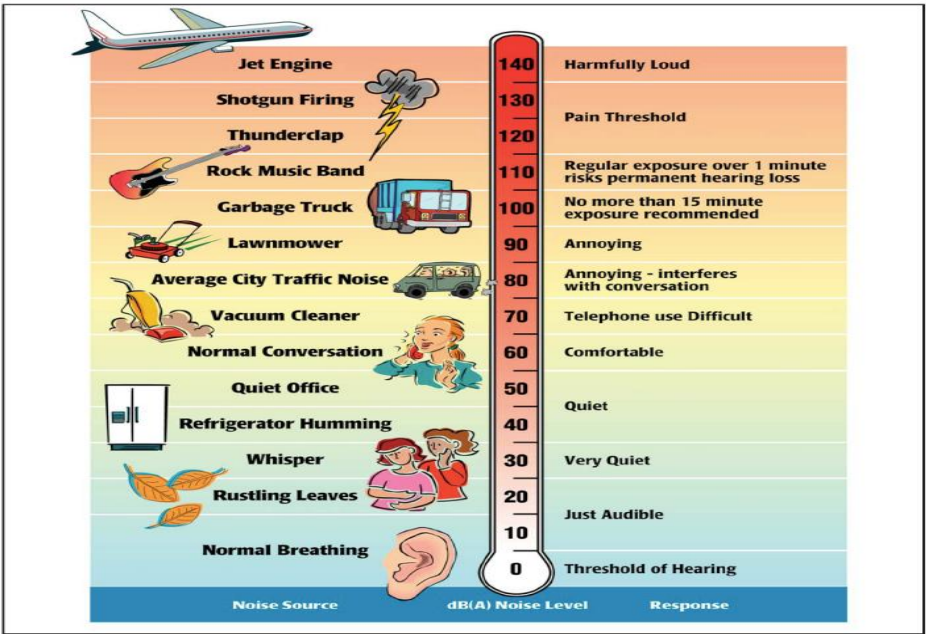
F. No wind turbine shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antenna for radio, television, or wireless phone or other communication systems would produce electromagnetic interference with signal transmission or reception. If it is determined a wind turbine is causing electromagnetic interference, the operator shall take necessary corrective action to eliminate this interference including relocation or removal of the facilities, or resolution of issues with the affected parties. Failure to remedy electromagnetic interference is grounds for revocation of the Wind Energy Facility Permit for the specific wind turbine or wind turbines causing the interference.

G. No shadow flicker shall be permitted to extend beyond the property line.

H. Wind energy facilities shall be gated or fenced to prevent unrestricted public access to the facilities and reduce any attractive nuisance aspects of the use.

I. The statistical sound pressure level generated by a wind turbine shall not exceed L10 - 30 dBA (equivalent to a whisper - see table) measured at the property line and nearest residence. Sites can include more than one piece of property and the requirement shall apply to the combined properties. Independent verification by an acoustical engineer certified with the Institute of Noise Control Engineering shall be provided before and after construction demonstrating compliance with this requirement. Should the ambient noise level (exclusive of the development in question) exceed this standard, the applicable standard shall ambient dBA plus 5 dBA to a maximum of L10 - 50 dBA. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is exceeded for more than six (6) minutes per hour. Ambient noise levels shall be measured at the property line and nearest residence. Ambient noise level measurements shall be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation. An applicant may, with approval of the Board of Supervisors, meet noise and setback standards by obtaining written consents from affected property owners stating they are aware of the wind energy facility and the noise and/or setback limitations imposed by this law, and that consent is

granted to allow noise levels to exceed the maximum limits provided herein or reduce setbacks to less than required. Such consents shall be in the form required for easements and be recorded in the County Recorder of Deeds Office describing the benefited and burdened properties. No such easement shall permit noise levels at any other location within or outside the areas prescribed to exceed the limitations of this law.



SOURCE: Melville C. Branch and R. Dale Beland. *Outdoor Noise in the Metropolitan Environment*, 1970. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA/ONAC 550/9-74-004), March 1974.

J. No climbing pegs or tower ladders shall be located closer than 15 feet to the ground level at the base of the structure for freestanding single pole or guyed towers.

K. The minimum distance between the ground and any part of the rotor or blade system shall be 30 feet.

L. Wind turbines shall be designed to prevent unauthorized external access to electrical and mechanical components and shall have access doors that are kept securely locked at all times.

M. The applicant is responsible for remediation of damaged roads upon completion of the installation or maintenance of a wind turbine. A public improvement bond may be required prior to the issuance of any building permit in an amount, determined by the Township Board of Supervisors, sufficient to compensate the Township for any damage to Township roads if any of these roads will be among the designated traffic routes.

N. Each wind turbine shall be set back a distance of 500 feet from any property line. No wind turbine shall be located within its own total height of a site boundary line. The maximum height from the ground to the tip of the extended wind blade shall not exceed 200 feet,

O. Warning signs shall be posted at the entrances to the wind energy facility and at base of each tower warning of electrical shock or high voltage and containing emergency contact information.

P. The Township Board of Supervisors shall require a financial guarantee to ensure the removal of all wind energy facilities other than small wind turbines within two (2) years of any discontinuance of use.

Q. The Township Board of Supervisors may approve, approve with conditions, or disapprove small wind turbine applications designed for residential, farm, institutional and business use on the same parcel. Such applications shall be processed in the same manner as those prescribed above for all wind energy facilities, but standards may be appropriately modified by the Board of Supervisors to reflect the scale of the proposed facility. All small wind turbines shall comply with the following standards and, to the maximum extent practicable, with all other requirements of this ordinance not in conflict herewith:

1. A system shall be located on a lot a minimum of one acre in size; however, this requirement can be met by multiple owners submitting a joint application.
2. Only one small wind turbine per legal lot shall be allowed, unless there are multiple applicants, in which case their joint lots shall be treated as one site for purposes of this law.
3. Small wind turbine shall be used primarily to reduce the on-site consumption of electricity.
4. Total heights (measured as provided in §§N above) shall be a maximum of 100 feet on parcels between one and five acres and 150 feet or less on parcels of five or more acres.
5. The maximum turbine power output is limited to 100 kW.
6. Tower-climbing apparatus shall be located no closer than 15 feet from the ground, a locked anti-climb device shall be installed on the tower or a locked, protective fence of at least six feet in height that encloses the tower shall be installed to restrict tower access.
7. All small wind turbines shall be setback a distance no less than their height plus twenty-five (25) feet from any lot line or seventy-five (75) feet, whichever is greater and sited to minimize visual impacts on adjoining properties.