

## ARTICLE 9.00

# PERFORMANCE STANDARDS

### Section 9.01 -- INTENT AND SCOPE OF APPLICATION

#### A. Intent

The purpose of this Article is to establish controls on the impacts generated by permitted uses so as to prevent an unreasonable negative impact that might interfere with another person's use of his or her property, or that might cause harm to the public health safety, and welfare.

#### B. Scope of Application

After the effective date of this Ordinance, no structure or tract of land shall hereafter be used, created or occupied, and no structure, or part thereof, shall be erected, altered, reconstructed, or moved, except in conformity with all applicable performance standards set forth in this Article. No site plan or other land use or development application shall be approved unless evidence is presented to indicate conformity with the requirements of this Article. (*revised 12/1/98*)

#### C. Submission of Additional Data

Nothing in this Article shall preclude the applicant or other interested party from submitting additional data or evidence related to a specific case. In consideration of such data or evidence, the Planning Commission may waive or modify the regulations set forth in this Article, provided that the Planning Commission finds that no harm to the public health, safety and welfare will result and that the intent of this Ordinance will be upheld.

### Section 9.02 -- PERFORMANCE STANDARDS

No activity, operation or use of land, buildings, or equipment shall be permitted if such activity, operation, or use produces an environmental impact or irritant to sensory perception which exceeds the standards set forth in this Section.

#### A. Noise

##### 1. Definitions

The terms used in this section shall have the meaning ascribed to them as follows. Terms used in this section but not defined below or in Section 1.03 shall have the meaning ascribed to them by the American National Standards Institute (ANSI) or its successor body.

- a. **A-Weighted Sound Level:** The sound pressure level in decibels as measured on a sound level meter using the A-weighting network. The level so read may be designated dB(A).
- b. **Day-Night Average Sound Level:** The 24-hour energy average of the A-weighted sound pressure level, with the levels during the period of 10:00 p.m. to 7:00 a.m. the following day increased by 10 dB(A) before averaging.

- c. **Emergency:** Any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate attention.
- d. **Impulsive Sound:** Sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples of sources of impulsive sound include explosions, drop forge impacts, and discharge of firearms.
- e. **Noise:** Any sound which annoys or disturbs humans or which causes or tends to cause an adverse psychological or physiological effect on humans.
- f. **Noise Disturbance:** Any sound which (a) endangers or injures the safety or health of humans or animals, or (b) annoys or disturbs a reasonable person of normal sensitivities, or (c) endangers or injures personal or real property. For the purposes of this ordinance, a Noise Disturbance shall be further defined as any sound which exceeds the limits set forth in Table A, following, or other standards set forth in this section.
- g. **Noise Sensitive Zone:** An area which contains noise-sensitive activities such as but not limited to, operations of school libraries, churches, hospitals, and nursing homes.
- h. **Pure Tone:** Any sound which can be distinctly heard as a single pitch or a set of single pitches.
- i. **Sound:** An oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium.
- j. **Sound Level:** The weighted sound pressure level obtained by the use of a sound level meter and frequency weighing network (for the purposes of this ordinance an A-weighted network), as specified by the American National Standards Institute.
- k. **Vibration:** An oscillatory motion of solid bodies of deterministic or random nature described by displacement, velocity, or acceleration with respect to a given reference point.

**2. Noise Disturbances Prohibited**

No person shall unreasonably make, continue, or cause to be made or continued, any noise disturbance. Examples of noise disturbances include, but are not limited to:

- a. **Sounds Which Exceed Limits in Table A**  
Any sound which exceeds the limits set forth in Table A, following, shall be deemed a Noise Disturbance.
- b. **Loading and Unloading**  
Loading and unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects shall be prohibited between the hours of 8:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance across a residential district boundary or within a noise sensitive zone.
- c. **Construction**  
Operation of any tools or equipment used in construction, drilling, or demolition work shall be prohibited where the sound therefrom creates a noise disturbance across a residential district boundary or within a noise sensitive zone, between the hours of 8:00 p.m. and 7:00 a.m. on Monday through Saturday or any time on Sundays or

holidays. This provision shall not apply to emergency work of public service utilities.

**d. Vibration**

Operating of any device that creates vibration which is above the vibration perception threshold of an individual at or beyond the property of the source shall be prohibited. For the purposes of this section, vibration perception threshold means the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or observation of moving objects.

**e. Noise Sensitive Zones**

Creating of any sound within any noise sensitive zone so as to disrupt the activities normally conducted within the zone shall be prohibited, even if the average A-weighted sound level is lower than the values shown in Table A, provided that conspicuous signs are displayed indicating the presence of the zone.

**3. Exceptions**

**a. Emergency Exceptions**

The provisions in this section shall not apply to (a) the emission of sound for the purpose of alerting persons to existence of an emergency, or (b) the emission of sound in the performance of emergency work.

**b. Additional Exceptions**

The provisions in this section shall not apply to the following activities, provided that such activities are conducted in a legally-accepted manner:

- Snow plowing, street sweeping, and other public works activities.
- Agricultural uses.
- Church bells, chimes, and carillons.
- Lawn care and house maintenance that occurs between 8:00 a.m. and 9:00 p.m.
- Licensed vehicles being operated on a road or street.
- Trains and aircraft when on the ground.

**4. Variances**

An application for a variance from the provisions in this section may be submitted to the Zoning Board of Appeals. The owner or operator of equipment on the property shall submit a statement regarding the effects of sound from the equipment on the overall sound level in the area. The statement shall include a study of the background sound levels, predicted level of sound at the boundary line due to the proposed operation, and justification for the variance. Upon review of the request for a variance, the Zoning Board of Appeals may grant a variance where strict adherence to the permitted sound level would create unnecessary hardship and only if the variance would not create a threat to the health, safety, and welfare of the public. The Zoning Board of Appeals may impose conditions of operation when granting a variance.

**5. Maximum Permitted Sound Levels by Receiving Zoning District**

Sound emitted by any source is considered a Noise Disturbance when its average A-weighted sound level exceeds the limit set forth for the receiving zoning district in Table A, when measured at or within the property boundary of the receiving district. All measurements and designations of sound levels shall be expressed in day-night average sound levels.

**Table A  
Maximum Permitted Average A-Weighted Sound Levels**

<u>Receiving Zoning District</u>	<u>Time</u>	<u>Average Sound Level, dB(A)</u>
<u>Residential</u>	7:00 a.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
<u>Commercial &amp; Industrial</u>	7:00 a.m. to 6:00 p.m.	62
	6:00 p.m. to 7:00 a.m.	55

**Notes Related to Table A**

- a. **Correction for Tonal Sounds.** For any source of sound which emits a pure tone sound, the maximum sound level limits in Table A shall be reduced by 5 dB(A) where the receiving district is residential or commercial-noise sensitive.
- b. **Correction for Impulsive or Impact-Type Sounds.** For any source of sound which emits an atypical impulsive or impact-type sound, the maximum sound level limits in Table A shall be reduced by 5 dB(A) where the receiving district is residential or commercial-noise sensitive.
- c. **Planned Development.** Where the receiving district is a planned development district, the applicable standard in Table A shall be based on the types of uses within the planned development.

**6. Permitted Land Use**

No new or substantially modified structure shall be approved for construction unless the owner or developer of such land demonstrates that the completed structure and the activities associated with and on the same property as the structure will not generate a Noise Disturbance as set forth in this section at the time of initial full-scale operation of such activities.

**B. Surface Water Flow** *(this section added 12/1/98)*

No site plan review application and no proposal for division of land shall be approved if subsequent development within the required setbacks would result in identifiable disruption to the existing or natural flow of water within drainage ditches, natural water courses, or drains having a recorded easement, unless evidence of a feasible alternate method of drainage is presented and approved by the County Drain Commissioner.

**C. Dust, Smoke, Soot, Dirt, Fly Ash and Products of Wind Erosion**

Dust, smoke, soot, dirt, fly ash, and products of wind erosion shall be subject to the regulations established in conjunction with the Air Pollution Act, Michigan Public Act 348 of 1965, as amended, or other applicable state or federal regulations. No person, firm or corporation shall operate or maintain any process for any purpose, or furnace or combustion device for the burning of coal or other natural or synthetic fuels, unless such processes or devices use or are equipped with recognized and approved equipment, methods, or technology to reduce the quantity of gas-borne or airborne solids or fumes emitted into the open air.

The drifting of air-borne matter beyond the lot line, including wind-blown dust, particles or debris from open stock piles, shall be prohibited. Emission of particulate matter from material products, or surfaces subject to wind erosion shall be controlled by paving, oiling, wetting, covering, landscaping, fencing, or other means.

**D. Odor**

Offensive, noxious, or foul odors shall not be allowed to escape into the atmosphere in concentrations which are offensive, which produce a public nuisance or hazard on adjoining property, or which could be detrimental to human, plant, or animal life.

**E. Glare and Heat**

Any operation or activity which produces glare shall be conducted so that direct and indirect illumination from the source of light does not exceed one-half (1/2) of one (1) foot candle when measured at any point along the property line of the site on which the operation is located. Any operation which produces intense glare or heat shall be conducted within an enclosure so as to completely obscure and shield such operation from direct view from any point along the lot lines. If heat is a result of an industrial operation, it shall be so insulated as to not raise the temperature at any property line at any time.

**F. Fire and Safety Hazards**

**1. General Requirements**

The storage and handling of flammable liquids, liquefied petroleum gases, and explosives shall comply with all applicable state, county and local regulations, including the state Fire Prevention Act, Michigan Public Act 97 of 1941, as amended.

**2. Storage Tanks**

All storage tanks for flammable liquid materials above ground shall be located at least one hundred and fifty (150) feet from all property lines, and shall be completely surrounded by earth embankments, dikes, or another type of approved retaining wall capable of containing one and one half (1 1/2) times the capacity of the largest tank so enclosed. The floor of the retention area shall be impervious to and non-reactive with the contents of the tank. These provisions shall not apply to approved tanks which hold propane or other fuel used for heating a dwelling or other building on the site.

Below-ground bulk storage tanks which contain flammable material shall be located no closer to the property line than the distance to the bottom of the buried tank, measured at the point of greatest depth. All underground tanks shall be registered with the Michigan State Police Fire Marshall in accordance with Michigan Public Act 165 of 1985, as amended. The location and contents of all such tanks shall be indicated on the site plan.

**3. Detonable Materials**

The storage, utilization, or manufacture of detonable materials shall be permitted subject to approval by the Fire Chief and the following restrictions:

<u>Proposed Activity</u>	<u>Restrictions</u>
Storage, Utilization or Manufacture of 5 lbs. or less	Permitted Accessory Use in 1-1 District
Storage or Utilization of Over 5 lbs.	Special Land Use in 1-1 District
Manufacture of Over 5 lbs.	Not Permitted

Detonable materials covered by these requirements include, but are not necessarily limited to the following:

- a. all primary explosives such as lead azide, lead styphnate, fulminates, and tetracene.
- b. all high explosives such as TNT, RDX, HMX, PETN, and picric acid

- c. propellants and components thereof such as dry nitrocellulose, black powder, boron hydrides, and hydrazine and its derivatives.
- d. pyrotechnics and fireworks such as magnesium powder, potassium chlorate, and potassium nitrate.
- e. blasting explosives such as dynamite and nitroglycerin.
- f. unstable organic compounds such as acetylides, tetrazoles, and ozonides.
- g. strong unstable oxidizing agents such as perchloric acid, perchlorates and hydrogen peroxide in concentrations greater than 35 percent.
- h. nuclear fuels, fissionable materials and products, and reactor elements such as Uranium 235 and Plutonium 239.

**G. Sewage Wastes and Water Pollution**

Sewage disposal (including septic systems) and water pollution shall be subject to the standards and regulations established by Federal state, county and local regulatory agencies, including the Michigan Department of Health, the Michigan Department of Environmental Quality, the Ingham County Health Department, and the U. S. Environmental Protection Agency.

**H. Gases**

The escape of or emission of any gas which is injurious or destructive to life or property, or which is explosive, is prohibited. Gaseous emissions shall be subject to regulations established in conjunction with the Air Pollution Act, Michigan Public Act 348 of 1965, as amended, the federal Clean Air Act of 1963, as amended, and any other applicable state or federal regulations. Accordingly, gaseous emissions measured at the property line at ground level shall not exceed the levels indicated in the following chart, which is based on the National Ambient Air Quality Standards, unless a higher standard is imposed by a Federal state, county or local regulatory agency which has jurisdiction:

<u>Gas</u>	<u>Maximum Emissions Level</u>	<u>Sampling Period</u>
Sulfur dioxide	0.14 ppm	24 hours
Hydrocarbons	0.24 ppm	3 hours
Photochemical oxidants	0.12 ppm	1 hours
Nitrogen dioxide	0.05 ppm	Annual
Carbon monoxide	9.0 ppm	8 hours
	35.0 ppm	1 hours
Lead	1.5 ug/cubic meter	3 months
Mercury	0.01 mg/cubic meter	10 hours
Beryllium	2.0 ug/cubic meter	8 hours
Asbestos	0.5 fibers/cc	8 hours

**I. Electromagnetic Radiation and Radio Transmission**

Electronic equipment required in an industrial, commercial or other operation shall be designed and used in accordance with applicable rules and regulations established by the Federal Communications Commission (FCC). The operation of such equipment shall not interfere with the use of radio, television, or other electronic equipment on surrounding or nearby property.

**J. Radioactive Materials**

Radioactive material wastes and emissions, including electromagnetic radiation such as from an x-ray machine, shall not exceed levels established by state and Federal agencies which have jurisdiction. No operation shall be permitted that causes any individual outside of the lot lines to be exposed to any radiation exceeding the lowest concentration permitted for the general population by federal and state laws and regulations currently in effect.

**Section 9.03 -- PROCEDURES FOR DETERMINING COMPLIANCE**

In the event that the Township receives complaints or otherwise acquires evidence of possible violation of any of the performance standards set forth in this Article, the following procedures shall be used to investigate, and if necessary, resolve the violation:

**A. Official Investigation**

Upon receipt of evidence of possible violation, the Zoning Administrator shall make a determination whether there is reasonable cause to suspect the operation is indeed in violation of the performance standards. The Zoning Administrator may initiate an official investigation in order to make such a determination.

Upon initiation of an official investigation, the Zoning Administrator is empowered to require the owner or operator of the facility in question to submit data and evidence deemed necessary to make an objective determination regarding the possible violation. Failure of the owner or operator to supply requested data shall constitute grounds for taking legal action to terminate the use and/or deny or cancel any permits required for continued use of the land. Data which may be required includes, but is not limited to the following:

1. Plans of the existing or proposed facilities, including buildings and equipment.
2. A description of the existing or proposed machinery, processes, and products.
3. Specifications for the mechanisms and techniques used or proposed to be used to control emissions regulated under the provisions of this Article.
4. Measurement of the amount or rate of emissions of the material purported to be in violation.

**B. Method and Cost of Determination**

The Zoning Administrator shall take measurements and complete investigation necessary to make an objective determination concerning the purported violation. Where required measurements and investigation can be accurately made by the Zoning Administrator using equipment and personnel normally available to the Township without extraordinary expense, such measurements and investigation shall be completed before notice of violation is issued. If necessary, skilled personnel and spec equipment or instruments shall be secured in order to make the required determination.

If the alleged violation is found to exist in fact, the costs of making such determination shall be charged against those responsible, in addition to such other penalties as may be appropriate. If it is determined that no substantive violation exists then the costs of this determination shall be paid by the Township.

**C. Appropriate Remedies**

If, after appropriate investigation, the Zoning Administrator determines that a violation does exist, the Zoning Administrator shall take or cause to be taken lawful action as provided by this Ordinance to eliminate such violation. The owners or operators of the facility deemed response shall be given written notice of the violation. The Zoning Administrator shall take appropriate action in accordance with the owner or operator's response to the notice of violation. Appropriate action includes the following:

**1. Correction of Violation within Time Limit**

If the alleged violation is corrected within the specified time limit, even if there is no reply to the notice, the Zoning Administrator shall note "Violation Corrected" on the Township's copy of the notice, and the notice shall be retained on file. If necessary, the Zoning Administrator may take other action as may be warranted by the circumstances of the case, pursuant to the regulations in this and other ordinances.

**2. Violation Not Corrected and No Reply from Owner or Operator**

If there is no reply from the owner or operator within the specified time limits (thus establishing admission of violation, as provided Section 9.03, sub-section A), and the alleged violation is not corrected in accordance with the regulations set forth in this Article, then the Zoning Administrator shall take such action as may be warranted to correct the violation.

**3. Reply Requesting Extension of Time**

If a reply is received within the specified time limit indicating that an alleged violation will be corrected in accordance with the regulations set forth in the Zoning Ordinance, but that more time is required than was granted by the original notice, the Zoning Administrator may grant an extension if-

- a. The Zoning Administrator deems that such extension is warranted because of the circumstances in the case, and
- b. The Zoning Administrator determines that such extension will not cause imminent peril to life, health, or property.

**4. Reply Requesting Technical Determination**

If a reply is received within the specified time limit request further review and technical analysis even though the alleged violations continue, then the Zoning Administrator may call in properly qualified experts to complete such analysis and confirm or refute the initial determination of violation.

If expert findings indicate that violations of the performance standards do exist in fact, the costs incurred in making such a determination shall be paid by the persons responsible for the violations, in addition to such other penalties as may be appropriate under the terms of this Ordinance. Such costs shall be billed to those owners or operators of the subject use who are deemed responsible for the violation. If the bill is not paid within thirty (30) days, the Township shall take whatever appropriate action is necessary to recover such costs, or alternately, the cost shall be charged against the property where the violation occurred. If no substantial violation is found, cost of determination shall be paid by the Township.