

MUNICIPALITY OF MONROEVILLE
ALLEGHENY COUNTY, PENNSYLVANIA

ORDINANCE 2188

AN ORDINANCE OF THE MUNICIPALITY OF
MONROEVILLE, ALLEGHENY COUNTY, PENNSYLVANIA,
ADOPTING A NOISE CONTROL ORDINANCE.

WHEREAS, the Council for the Municipality of Monroeville has determined that loud, excessive and unreasonable noise constitutes a serious threat to the health, safety and welfare of its residents.

WHEREAS, the Council for the Municipality of Monroeville recognizes that its residents are entitled to have maintained noise levels that are not detrimental to their health, safety, welfare and enjoyment of their property.

WHEREAS, the Council of the Municipality of Monroeville is desirous of adopting an ordinance that will initiate standards to measure noise, provide definitions, establish enforcement procedures and levy fines upon violators.

NOW, THEREFORE, BE IT HEREBY ORDAINED AND ENACTED, by the Council of the Municipality of Monroeville, and it is hereby ordained and enacted as follows:

ORDAINED AND ENACTED into law this 8th day of May 2001.

ATTEST:

MUNICIPALITY OF MONROEVILLE


Marshall W. Bond
Municipal Manager


Abe J. Comunale
Mayor

ENTERED INTO THE LEGAL BOOK: May 18, 2001

ARTICLE ONE:
BASIC PROVISIONS

- 101 TITLE: This Ordinance shall be cited as the "Monroeville Noise Control Ordinance".
- 102 EFFECTIVE DATE: This Ordinance shall take effect on May 18, 2001.
- 103 PURPOSE: The purpose of this Ordinance is to provide enforceable standards to safeguard persons and property, to protect and to promote the public welfare, by preventing loud, excessive and unreasonable noise.
- 104 DEFINED WORDS: Words used in a special sense in this Ordinance are defined in Article Two.
- 105 COMPLIANCE: No person shall make, continue, cause to be made or permit to be made any loud, excessive or unreasonable noise within the geographical boundaries of the Municipality of Monroeville. The determination as to the existence of loud, excessive or unreasonable noise may be established either by the specific acts considered to be loud, excessive or unreasonable noise exceeding the limitations set forth in Table 301.
- 106 VALIDITY: In the event any of the terms or provisions of this Ordinance shall be found invalid or declared unenforceable by reason of any federal or state statute, or federal or state directive, rule or regulation, now in effect or hereinafter to become effective, or by reason of the decision of any federal or state court, such invalidity or unenforceability shall not affect or impair any other terms or provisions hereof, unless the other terms or provisions are directly affected by the section declared invalid or unenforceable. The parties thereupon may, within thirty (30) days, meet to discuss said invalidity or unenforceability.
- 107 INTERPRETATION: The provisions of this Ordinance shall be held to be the minimum requirements for the protection of the health, safety and welfare of the residents of Monroeville and insure the enjoyment of their property.
- 108 REPEAL: All Ordinances, and any amendments thereto, or parts of Ordinances inconsistent with the provisions of this Ordinance are hereby repealed.
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ARTICLE TWO:
DEFINITIONS

Note: Some general definitions have been made more specific for the purposes of this ordinance.

AMBIENT NOISE. All-encompassing sound at a given place, usually a composite of sounds from many sources near and far.

ANSI. American National Standards Institute

BACKGROUND NOISE. Total of all sources of interference in a system used for the production, detection, measurement, or recording of a signal, independent of the presence of the signal.

BAND PRESSURE LEVEL. Sound pressure level for sound contained within a restricted frequency band. Unit, decibel (dB)

CONSTRUCTION. Work and all related activities being done to erect, build, demolish, or modify structures and/or to grade or contour terrain for buildings, public and private roads, housing, and other structures. The time duration of construction will be limited to that defined by the permit.

CONSTRUCTION EQUIPMENT. Equipment used during construction including but not limited to heavy trucks, pay loaders, tractors, power shovels, air compressors, cranes, graders, jack hammers, hammers, nail guns, conveyors, concrete and cement mixers, generators, welders,

DAY HOURS. The hours between 7:00 AM and 6:00 PM.

DECIBEL. Unit of level when the base of the logarithm is the tenth root of ten, and the quantities concerned are proportional to power. Unit symbol, db.

dBA Unit of A-weighted sound level. The weighted sound pressure level by the use of the A metering characteristic and weighting specified in ANSI Specifications for Sound Level Meter.

DAY HOURS. The hours between 7:00 AM and 6:00 PM.

DOMESTIC POWER EQUIPMENT. Equipment that are driven by either electric or air driven motors or internal combustion engines, used for household applications. Includes but not limited to lawn mowers, hedge trimmers, lawn & garden tractors & related accessories, tillers, chainsaws, drills, saws, impact wrenches, portable generators, portable pumps, trimmers, power washers, snow blowers, leaf & related blowers, mulchers, chippers, vacuums, and related equipment.

EVENING HOURS. The hours between 6:00 PM and 10:00 PM.

FAST RESPONSE. The nominal exponential averaging time of 1/8th second as measured with a sound level meter that complies with ANSI standards.

FREQUENCY. For a function periodic in time, the reciprocal of the period. Unit, hertz (Hz).

HARMONIC. Sinusoidal quantity that has a frequency which is an integral multiple of the frequency of the periodic quantity to which it is related.

HEAVY EQUIPMENT. (to be added)

HVAC. Heating, ventilating, and air conditioning, equipment that includes but is not limited to air handlers, condensing units, chillers, air conditioners, fans & related air moving devices, pressure regulating and relief valves, and compressors.

IMPACT / IMPULSE SOUND. A sudden burst of sound or noise with an extremely rapid rise time of nanoseconds and sharp "Q" factor along with a rapid decay time. Normally occurring as a single event or with sufficient time separation between events to be perceived as discrete events by the human ear.

LEVEL. In acoustics, logarithm of the ratio of a quantity to a reference quantity of the same kind. The base of the logarithm, the reference quantity, and the kind of level shall be specified.

LINE SPECTRUM. Spectrum whose components occur at a number of discrete frequencies.

L_A A-weighted sound level in dBA per ANSI standards.

L_{eq} The equivalent continuous A-weighted sound level measured over a finite time, e.g., 15 minutes, with an ANSI Type I integrating-averaging sound level meter. The steady state, fluctuating & intermittent components of a noise signal are averaged over a well defined time and the result is an equivalent average sound level that contains the same energy as the total signal.

$$L_{eq} = 10 \text{Log}_{10} \left[\frac{1}{T} \int_{t_1}^{t_2} \frac{p_A^2(t)}{p_0^2(t)} dt \right]$$

Where:

L_{eq} = equivalent continuous sound level (A-weighted), dBA

$p_A(t)$ = A-weighted sound pressure,

t_1 = starting time of averaging,

t_2 = finishing time of averaging,

T_{1-2} = $t_2 - t_1$ = the total integration time.

L_{max} The maximum A-weighted sound level that occurs on the crest of a changing average noise level as measured with the "fast response" of an ANSI Type I sound level meter for a specific time duration

L_{peak} The amplitude of the real time waveform converted to decibels. No averaging is used and the instantaneous high of the acoustical signal is measured.

L₉₀ The L₉₀ is the "fast response" noise level that is exceeded 90% of the time when measured over a specific time period of fifteen minutes.

MAXIMUM SOUND LEVEL. Greatest fast (125-ms) A-weighted sound level, within a stated time interval.

NIGHT HOURS. The hours between 10:00 PM and 6:00 AM.

NOISE. (a) Undesired sound. By extension, noise is any unwarranted disturbance within a useful frequency band, such as undesired electric waves in a transmission channel or device. (b) Erratic, intermittent, or statistically random oscillation.

NOISE LEVEL. For airborne sound, unless specified to the contrary, it is the A-weighted sound level.

NOISE LEVEL LIMIT. The maximum value permitted by Table 301 for the A-weighted noise level that occurs on a receiving property due to noise being generated at a source location. The value of the Noise Level Limit is a function of the time of day and the zoning characteristic of the receiving property. Measurands include (1) 15 minute L_{eq}, (2) "fast response" L_A, (3) "fast response" L_{MAX} and (4) "fast response" L₉₀ as appropriate in the ordinance.

NORMALLY OCCURRING AMBIENT NOISE. Ambient noise with background noise that is due to naturally occurring sounds and noises that include but not limited to insects, rustling leaves, wind effects on the environment, and lawfully occurring transportation noise regulated by State and Federal statutes. This term will exclude other noises that may be covered by this noise ordinance that increase the ambient noise more than might be reasonably be expected.

OCTAVE. The interval between two sounds having a frequency ratio of two. There are 8 octaves on the keyboard of a standard piano.

OCTAVE BAND. A segment of the frequency spectrum separated by an octave.

OCTAVE BAND LEVEL. The integrated sound pressure level of only those sine-wave components in a specified octave band.

PEAK SOUND PRESSURE. Greatest absolute instantaneous sound pressure within a specified time interval. Unit, pascal (Pa).

PURE TONE. Line spectrum consisting of a signal at a single frequency.

RANDOM NOISE. Oscillation for which instantaneous magnitude is not specified for any given instant of time. The instantaneous magnitudes of a random noise are specified only by the probability distribution functions giving the fraction of total time that the magnitude, or some sequence of magnitudes, lies within a specified range.

RECEIVING PROPERTY. The receiver location where excessive noise is occurring due to noise being generated at a source location. The receiver location will include the nearest point on the property line, any point on the property line, or any point on the property at all heights above ground level.

RECREATIONAL VEHICLES. Off road motor and engine driven vehicles not licensed by the State of Pennsylvania. Includes but not limited to dirt motorcycles, snowmobiles, and ATV's.

SIGNAL. (a) Disturbance used to convey information. (b) Information to be conveyed over a communication system.

SOUND. (a) Oscillation in pressure, stress, particle displacement, particle velocity, etc., in a medium with internal forces (e.g., elastic or viscous), or the superposition of such propagated oscillations. (b) Auditory sensation evoked by the oscillation described above.

SOUND LEVEL. The weighted sound pressure level obtained by the use of a sound level meter and frequency weighting network, such as A, B, or C as specified in ANSI specifications for sound level meters (ANSI S1.4-1971, or the latest approved revision). If the frequency weighting employed is not indicated, the A-weighting is implied.

SOUND LEVEL METER. An instrument comprised of a microphone, amplifier, output meter, and frequency weighting networks that is used for the measurement of noise and sound levels.

SOUND LEVEL; A-WEIGHTED SOUND PRESSURE LEVEL. Ten times the logarithm to the base ten of the ratio of A-weighted squared sound pressure to the squared reference sound pressure of 20 μ Pa, the squared sound pressure being obtained with fast (F) (125-ms) exponentially weighted time averaging. Unit, decibel (dB) for ANSI, decibel (dBA) for this ordinance; symbol L_A .

SOUND PRESSURE AMPLITUDE. Absolute instantaneous pressure in any given cycle of sound wave at some specified time. Unit, pascal (Pa).

SOUND PRESSURE; EFFECTIVE SOUND PRESSURE. Root-mean-square instantaneous sound pressure at a point, during a given time interval. Unit, pascal (Pa).

SOUND PRESSURE LEVEL. (a) Ten times the logarithm to the base ten of the ratio of the time-mean-square pressure of a sound, in a stated frequency band, to the square of the reference sound pressure in gases of 20 μ Pa. Unit, decibel (dB); abbreviation, SPL; symbol, L_p . (b) For sound media other than gases, unless otherwise specified, reference sound pressure is one micropascal (1 μ Pa).

SOURCE LOCATION. The location of the source producing excess noise at a receiver location. Includes both stationary and moving noise sources. Also includes recreational vehicles and model airplanes used on public and private property.

SPECTRUM. (a) Description, for a function of time, of the resolution of a signal into components, each of different frequency and (usually) different amplitude and phase. (b) "Spectrum" is also used to signify a continuous range of components, usually wide in

extent, within which waves have some specified common characteristic; e.g., "audio frequency spectrum."

SOUND TRANSMISSION CLASS (STC). A single-number rating of airborne sound insulation of a building partition, derived by fitting a reference rating curve to the sound transmission loss values measured for the 16 contiguous 1/3 octave frequency bands with nominal midband frequencies of 125 Hz to 4000 Hz inclusive, by a standard method. The reference rating curve is fitted to the 16 measured transmission loss values such that the sum of deficiencies (transmission losses less than the reference rating curve), does not exceed 32 dB, and no single deficiency is greater than 8 dB. Sound transmission class is the numerical value of the ordinate (y axis) of the reference contour at 500 Hz. Unit, decibel (dB); abbreviation, STC. For sound transmission class 50 dB, for example, the reference rating curve consists of a straight line from 34 dB at 125 Hz to 49 dB at 400 Hz; a straight line from 49 dB at 400 Hz to 54 dB at 1250 Hz; and a straight line constant at 54 dB from 1250 Hz to 4000 Hz.

WINDSCREEN. A porous device used to cover the microphone of a sound level meter to suppress the effect of air movement over the microphone that causes false sound/noise. The total attenuation (insertion loss) of the device will be limited to 1 dBA or less.

ZONING DISTRICT. A specifically delineated area in the Municipality of Monroeville, described in the Monroeville Zoning Ordinance, 1443, as amended, and shown on the Official Zoning Map.

ARTICLE THREE:
NOISE LEVEL LIMITS AND MEASUREMENTS

301 **NOISE LEVEL LIMITS:** Maximum Noise Level Limits, NLL, are established in Table 301, and are a function of their zoning district location and time of the day. Noise Level Limits specified in Table 301 will not be exceeded at a receiving property by noise being generated at a source location. Noise level Limits are 15 minute A-weighted L_{EQ} 's unless otherwise specified in this Ordinance by another metric based on these limit values.

TABLE 301
Noise Level Limits, NLL

ZONING DISTRICT	TIME OF THE DAY		
	DAY 7:00 AM TO 6:00 PM	EVENING 6:00 PM TO 10:00 PM	NIGHT 10:00 PM TO 7:00 AM
S CONSERVANCY	55	50	45
R-1 ONE-FAMILY RESIDENTIAL			
R-2 ONE-FAMILY RESIDENTIAL			
R-2T ONE-FAMILY RESIDENTIAL			
R-3 ONE-FAMILY RESIDENTIAL			
R-4 MULTI-FAMILY RESIDENTIAL	60	55	50
R-5 MULTI-FAMILY RESIDENTIAL			
L SPECIAL USE	60	55	50
C-1 SHOPPING COMMERCIAL	60	60	60
C-2 BUSINESS COMMERCIAL			
C-3 COMMERCIAL			
M-1 PLANNED INDUSTRIAL	65	65	65
M-2 INDUSTRIAL			

302 **NOISE LEVEL LIMIT EXCLUSIONS:** Maximum Noise Levels Limits of Table 301 are subject to the following exclusions, including:

302.1 Any domestic power equipment operated upon any conservancy, residential, commercial, industrial or special use zoned property, between the hours of 9:00 AM and 7:00 PM, may exceed the 15 minute A-weighted L_{EQ} Noise Level Limits of Table 301, by no more than 10 dBA, provided the equipment is in good working order and meets or exceeds the original manufacturers noise level specifications. This equipment may exceed the NNL by more than 20 dBA provided the total time above the NNL does not exceed one hour per day or three hours per week. If a noise specification does not exist, the equipment must have the same noise level or less noise with similar or improved noise characteristics as the original equipment as manufactured and used as intended.

302.2 Any existing HVAC equipment operated upon any conservancy, residential, commercial, industrial or special use zoned property may exceed the NLL of Table 301 if the equipment is in good operating condition and does not exceed the original manufacturer noise level specifications as when manufactured and placed in operation on the property. If a noise

specification does not exist, it must have the same noise level and characteristics as the original equipment as manufactured and intended to be used. New and/or replacement HVAC equipment must comply with the Noise Level Limits as set forth in Table 301.

302.3 Any transportation and/or warning device noise regulated by State and Federal Laws may exceed the limits of Table 301 if these statutes specify limiting noise levels provided that this equipment is being operated in a lawful manner.

302.4 The noise of the warning devices on emergency vehicles may exceed the limits of Table 301, Noise Level Limits.

302.4 Noise of construction and the operation of heavy equipment used for construction may exceed the limits of Table 301, Noise Level Limits, during the daytime work hours of 7:00 AM to 7:00 PM but reasonable efforts must be made to minimize noise generation of all operations. All equipment must be in good working order with noise levels as when new. All equipment will be muffled to the extent that is technically feasible. Long-term projects exceeding two months will be required to use best available equipment that has state-of-the-art noise suppression.

302.5 Emergency generators may exceed the NLL of Table 301 during emergency use but the noise levels of routine testing must occur during the daytime work hours of 7:00 AM to 7:00 PM and the L_{EQ} noise levels must not exceed the NLL value of Table 301 by more than 20dBA for more than one hour per week.

302.6 Music, voices, paging systems, sound reinforcement systems, audio amplification systems, televisions, radios, tape players, VCR equipment and all similar equipment are subject to Table 301 except compliance sound level measurements will be made with the "fast response" of an ANSI Type 1 meter using the " L_{MAX} " to properly capture the short term bursts of noise energy. The L_{MAX} sound level must not exceed the NLL value of Table 301.

302.7 Impact/Impulse noise shall not exceed the NLL established in Table 301 by more than 20 dB as measured with the " L_{PEAK} " of an ANSI Type 1 meter with peak measurement capabilities as defined in ANSI standards.

302.8 The noise of organized events requiring Municipality of Monroeville permits will be excluded from the NLL for the duration of the permit. The zoning officer will review the noise producing activities of the event to control those that might produce unnecessary or unreasonable noise based on the intent of this noise control ordinance.

302.9 The normally occurring sounds and noises, i.e., voices, cheering crowds, referee whistles, and bands, of non-profit & community based sanctioned sporting, school, and college events are excluded. Sound amplification and similar equipment are subject to the NLL of Table 301.

302.10 Farm equipment used on commercial for-profit farming and nurseries are excluded from this ordinance provided the equipment is in good working order and it meets the original noise levels of the equipment when originally manufactured for that make and model.

302.11 Privately owned animals and birds, excluding for-profit farm livestock, are subject to the NNL using the L_{MAX} .

302.12 Refuse trucks operating on public streets for the purpose of household collection may exceed the NLL by no more than 20 dBA during the day time hours with occurrences limited to one fifteen minute interval per week. Commercial refuse collection, handling, and disposal will meet the NLL at all times for evening and night hours. Noise during the day may exceed the NLL by no more than 20 dBA.

302.13 Snow removal equipment is excluded from this ordinance during periods of substantial snow fall and immediately thereafter until such time both private and public roads, sidewalks, and parking lots are cleared so as to prevent a hazard to citizens. Routine snow removal will be limited to daytime hours. All equipment must be properly muffled and efforts are to be made to avoid unneeded noise. All state, county, and township snow removal equipment is exempt from this ordinance.

303 INSTRUMENTATION Noise measurements shall be made with a sound level meter, and shall mean an apparatus or instrument that includes an omni-directional microphone, amplifier, attenuator, output meter and frequency weighting networks for the measurements of sound levels. The sound level meter shall be of a design and have the characteristics of a Type I or better instrument as established by the American National Standards Institute. The sound level meter must meet or exceed the performance characteristics of the meter when new that conforms to ANSI standards for sound level meters. Laboratory calibrations by the manufacturer or a suitable alternative will serve as a check on these performance characteristics.

304 MEASUREMENT METHODS Compliance measurements shall utilize current measurement techniques and practices as specified by current ANSI Standards and good practice. The signal-to-noise ratio shall be 20 dB or more with a dynamic range, that permits valid measurements. A properly calibrated sound meter will be used in all compliance measurements. A field check calibration of the sound meter shall be performed before and after the measurements if feasible. Calibration tolerance will be 0.5 dB or less for a meter and calibrator designed to be compatible and certified for use by the manufacturer or an equivalent alternative. Measurement tolerances will be within 1 dBA.

304.1 If the normally occurring ambient noise along with the background noise of the community exceeds the NLL values of Table 301, then the "fast response" A-weighted Sound Level of the offending noise source must not exceed the 15-minute L_{90} of the background noise based using the NNL value of Table 301.

304.2 Windscreens will be used with an acoustic attenuation characteristic of 1 dBA or less as measured with a band limited white noise spectrum in the 100 to 20K Hertz range. Wind noise (false sound) must be 5 dBA less than the noise limit of Table 301. No corrections will be made for wind noise.

304.3 For screening purposes, an ANSI Type II meter can be used. Screening measurements can be made with the "slow response" of the meter.

304.4 Noise sources with deep bass sounds (substantial low frequency energy) will be evaluated with an octave band analysis. Individual octave band sound pressure levels, OBSPL, will not exceed the following octave band sound pressure levels for NNL 45 and NNL 55. [The first line contains the octave band center frequencies, OBCF, in Hertz. The following two lines contain the respective octave band sound pressure levels for NNL 45 and 55 respectively.]

OBCF	31.5	63	125	250	500	1000	2000	4000	8000	Hz
NNL 45	70	65	60	55	50	45	40	35	30	dB
NNL 55	80	75	70	65	60	55	50	45	40	dB

304.5 At no time shall the offending noise source at the source location cause the interior noise level of a structure on the receiving property to exceed the NNL of Table 301 as measured with the "fast response" of an ANSI Type 1 sound level meter using the L_{MAX} . Windows and doors may be open when compliance measurements are made. Compliance will be based on measurements made at any interior point that is more than 1 meter away from the planes that contain the walls, floor, and/or ceiling. Only rooms with walls, floor, ceiling, door(s), and window(s) with component construction that has a composite STC of 25 or more are covered.

304.6 Noise sources that produce a pure tone(s) or a line spectrum with dominate tones will be penalized by 10 dBA to account for the tonal character of the noise. A factor of 10 dBA will be added to the measured 15 minute Leq. This numerical value will be used to determine compliance with the NLL of Table 301.

305 NOISE PROHIBITIONS:

305.1 The use of motor vehicle horns is not permitted except for valid "warning" situations specifically covered in the motor vehicle code of the state.

ARTICLE FOUR
NOISE CONTROL ADMINISTRATION AND ENFORCEMENT

501 **ADMINISTRATION AND ENFORCEMENT** The Chief of Police, or a designated representative, and/or the Zoning Officer shall be responsible for the administration and enforcement of this Ordinance.

502 **INSPECTIONS** The Chief of Police, or a designated representative, and/or the Zoning Officer shall be authorized to make inspections of all noise sources, performing tests or taking noise measurements, whenever necessary to determine the quantity and character of the noise. If any person, partnership or corporation refuse or restrict entry and free access to any part of a premise, or refuses inspection, testing or noise level measurement of any activity, device, facility, motor vehicle, or process where inspection is sought, the Chief of Police, or a designated representative, and/or the Zoning Officer may seek any appropriate action or proceeding to allow entry and free access without interference, restriction or obstruction, at a reasonable time, for the purpose of inspecting, testing or measuring noise levels.

503 **ENFORCEMENT NOTICE** Any person, partnership, or corporation, who violates this Ordinance, or any part of this Ordinance, shall receive a verbal order to cease or abate the noise immediately or within a reasonable time period. A written enforcement notice shall be served upon the person, partnership, or corporation within twelve (12) hours of receiving a verbal order to cease or abate the noise immediately or within a reasonable time period. Any person, partnership, or corporation shall have the right to file an Appeal with the Municipal Manager within three (3) working days of receiving the written enforcement notice.

504 **ENFORCEMENT PENALTIES** Any person, partnership, or corporation who or which shall violate the provisions of this Ordinance shall, upon conviction thereof in a summary proceeding, be sentenced to pay a fine of not more than five hundred dollars. In default of payment of the fine, such person, the members of such partnership, or the officers of such corporation shall be liable to imprisonment for not more than sixty days. Each day that a violation is continued shall constitute a separate offense.

505 **ENFORCEMENT REMEDIES:** In case any building, structure or land is, or is proposed to be, erected, constructed, reconstructed, altered, converted, maintained or used in violation of this Ordinance, Council may, in addition to other remedies, institute in the name of the Municipality any appropriate action or proceeding to prevent, restrain, correct, or abate such building, structure or land, or to prevent, in or about such premises any act, conduct, business or use constituting a violation.
