

## ARTICLE XI

### SUPPLEMENTARY USE REGULATIONS

#### PART I. NON-RESIDENTIAL PERFORMANCE STANDARDS

**Excerpt:**

**Section 15-163 Noise (AMENDED 6/22/04)**

(a) No 4.000, 9.400, or 2.150 classification use in any permissible business or PID district may generate noise that tends to have an annoying or disruptive effect upon (i) uses located outside the immediate space occupied by the 4.000 or 9.400 use if that use is one of several located on a lot, or (ii) uses located on adjacent lots. Noises that exceed the levels set forth below shall be deemed annoying or disruptive. Low frequency noises shall be considered annoying and disruptive if they exceed the decibel levels set forth below when measured without using an A-weighted filter, or if such noises generate a perceptible vibration within structures located beyond the boundaries referenced above. (AMENDED 6/22/82; 10/20/92; 05/25/99)

(b) Except as provided in subsection (f), the table set forth in subsection (e) establishes the maximum permissible noise levels for 4.000 classification uses in the M-1 and M-2 districts. Measurements shall be taken at the boundary line of the lot where the 4.000 classification use is located, and, as indicated, the maximum permissible noise levels vary according to the zoning of the lot adjacent to the lot on which the 4.000 classification use is located.

(c) A decibel is a measure of a unit of sound pressure. Since sound waves having the same decibel level “sound” louder or softer to the human ear depending upon the frequency of the sound wave in cycles per second (i.e., whether the pitch of the sound is high or low) an A-weighted filter constructed in accordance with the specifications of the American National Standards Institute, which automatically takes account of the varying effect on the human ear of different pitches, shall be used on any sound level meter taking measurements required by this section. And accordingly, all measurements are expressed in dB(A) to reflect the use of this A-weighted filter.

(d) The standards established in the table set forth in subsection (e) are expressed in terms of the Equivalent Sound Level (Leq), which must be calculated by taking 100 instantaneous A-weighted sound levels at ten second intervals (see Appendix F-1) and computing the Leq in accordance with the table set forth in Appendix F-2.

(e) **Table 1:** Maximum Permitted Sound Levels, dB(A), for 4.000 Uses (AMENDED 10/20/92)

Zoning of Lot Where 4.000 Use is Located	ZONING OF ADJACENT LOT (re: 0.0002 Microbar)				
	Residential	PUD	B-1-G, B2, B-1-C, B3 B4, PF	M1	M2
TIME OF DAY OF OPERATIONS	7:00 AM-7:00 PM	7:00 PM-7:00 AM	ANYTIME	ANYTIME	ANYTIME
M-1	50	45	55	60	65
M-2	50	45	60	65	70
O/A	50	45	55	60	65

**Table 2:** Maximum Permitted Sound Levels, dB(A), for 9.400 Uses (AMENDED 10/20/92)

ZONING OF LOT WHERE 9.400 USE IS LOCATED	ZONING OF ADJACENT LOT (re: 0.0002 Microbar)			
	RESIDENTIAL OR PUD	B-1-C, B2, CT, B-1-G, B3, B4, O, O/A	M1	M2
B-1-G, B4 or B-3-T	50	55	60	70
M-1	50	55	60	70
M-2	50	60	65	70

**Table 3:** Maximum Permitted Sound Levels, dB(A), for 2.150 Uses (AMENDED 04/15/97)

ZONING OF LOT WHERE 2.150 USE IS LOCATED	ZONING OF ADJACENT LOT (re: 0.0002 Microbar)			
	RESIDENTIAL OR PUD	B-1-C, B2, CT, B-1-G, B3, B4, O, O/A, PF	M1	M2
B-1-C	50	55	60	70

(f) Impact noises are sounds that occur intermittently rather than continuously. Impact noises generated by sources that do not operate more than one minute in any one hour period are permissible up to a level of 10 dbA in excess of the figure listed in subsection (e), except that this higher level of permissible noise shall not apply from 7:00 P.M. to 7:00 A.M. when the adjacent lot is zoned residential. The impact noise shall be measured using the fast response of the sound level meter.

(g) Noise resulting from temporary construction activity that occurs between 7:00 A.M. and 7:00 P.M. shall be exempt from the requirements of this section.

(h) The operation of dry cleaning machinery in the B-3 zoning district, including but not limited to steam boilers, vacuum units, steamers, dry cleaning machines, pressing machines and air compressors, shall not be permissible outside of the hours between 7:00 a.m. and 6:00 p.m. Monday through Friday, 12:00 noon and 5: 00 p.m. on Saturday, if and to the extent that such

operation results in noise that is audible at the property line of the lot on which the business operating such machinery is located. Any business that is not in compliance with this provision shall be required to bring their dry cleaning operations into compliance within 90 days of the effective date of this ordinance.

### **Section 15-164 Vibration.**

(a) No 4.000, 9.400, or 2.150 classification use in any permissible business or PID district may generate any ground transmitted vibration that is perceptible to the human sense of touch measured at (i) the outside boundary of the immediate space occupied by the enterprise generating the vibration if the enterprise is one of several located on a lot, or (ii) the lot line if the enterprise generating the vibration is the only enterprise located on the lot. **(AMENDED 6/22/82; 10/20/92; 05/15/97)**

(b) No 4.000 classification use in an M-1 or M-2 district may generate any ground-transmitted vibration in excess of the limits set forth in subsection (e). Vibration shall be measured at any adjacent lot line or residential district line as indicated in the table set forth in subsection (d).

(c) The instrument used to measure vibration shall be a three component measuring system capable of simultaneous measurement of vibration in three mutually perpendicular directions.

(d) The vibration maximums set forth in subsection (e) are stated in terms of particle velocity, which may be measured directly with suitable instrumentation or computed on the basis of displacement and frequency. When computed, the following formula shall be used:

$$\begin{aligned} \text{P.V.} &= 6.28 F \times D \\ \text{P.V.} &= \text{Particle velocity, inches per second} \\ F &= \text{Vibration frequency, cycles per second} \\ D &= \text{Single amplitude displacement of the vibration, inches} \end{aligned}$$

The maximum velocity shall be the vector sum of the three components recorded.

(e) Table of Maximum Ground Transmitted Vibration.

PARTICLE VELOCITY, INCHES PER SECOND		
ZONING DISTRICT	ADJACENT LOT LINE	RESIDENTIAL DISTRICT
<b>M-1</b>	<b>0.10</b>	<b>0.02</b>
<b>M-2</b>	<b>0.20</b>	<b>0.02</b>

(f) The values stated in subsection (e) may be multiplied by two for impact vibrations, i.e., discrete vibration pulsations not exceeding one second between pulses.

(g) Vibrations resulting from temporary construction activity that occurs between 7:00 A.M. and 7:00 P.M. shall be exempt from the requirements of this section.