1161.01 PURPOSE.

The requirements herein are intended to provide a basis for determining the compatibility of land uses that may produce measurable adverse environmental effects on their surroundings. (Ord. 87-94. Passed 7-27-87.)

1161.02 APPLICABILITY.

The performance standards herein shall apply as follows:

Performance Standard For	Applies To
(a) Heavy industrial uses	The conditional uses allowed in I-1 located in any district.
(b) Other uses	Conditional uses in all districts except I-1 Permitted uses in all districts
(c) (Unspecified)	Permitted uses in all districts Conditional uses in all districts.

(Ord. 87-94. Passed 7-27-87.)

1161.03 NOISE.

(a) Maximum Sound Levels. No operation or activity shall cause or create noise above the sound pressure levels in Tables 36 and 37, subsections (d) and (e) hereof, at the locations specified therein.

(b) Measurement. A sound level meter and associated octave band analyzer shall be employed to measure the intensity and frequency of sound. The flat network slow meter response of the sound level meter shall be used.

(c) Exemptions. The following shall be exempt from noise performance standards:

(1) Noises of construction or maintenance activities from 7:00 a.m. to 9:00 p.m.;
(2) Noises of safety signals, warning devices and emergency pressure relief valves;
(3) Transient noises of moving sources such as transportation vehicles;
(4) Noises associated with snow plowing, street sweeping and mosquito abatement;
(5) Church bells, chimes and carillons; and
(6) Other noises not under the direct control of the property user.

(d) Table 36: Permitted Sound Levels.

Preferred Center Frequency in Hertz	Maximum Permitted Sound Pressure Level in Decibels at Boundaries of Nearest Residentially Zoned Lot
31.5	75
63	74
125	69
250	64
500	58
1,000	52
2,000	47
4,000	43
8,000	40

Above figures for octave band analyzers calibrated with Preferred Frequencies (American National Standards Institute S1.6-1960, Preferred Frequencies for Acoustical Measurement).

Sound levels above shall be modified where applicable by the adjustments in Table 37, subsection (e) hereof.

(e) Table 37: Adjustments to Permitted Sound Levels.

	Adjustment in Decibels
(1) Duration of noise in any one-hour period (use one adjustment only):	
A. Under 12 minutes	Add 5 dB
B. Under 3 minutes	Add 10 dB
C. Under 1/2 minute	Add 15 dB
(2) At boundaries of nearest office or commercial zoned lot	Add 5 dB
(3) Noise is impulsive in character (e.g., hammering)	Subtract 5 dB
(4) Noise is periodic in character (e.g., hum, screech)	Subtract 5 dB
(5) Noise may be heard between hours of 7:00 p.m. and 7:00 a.m.	Subtract 5 dB

(Ord. 87-94. Passed 7-27-87.)

1161.04 VIBRATION.

(a) Maximum Vibration. Ground-transmitted vibration shall not exceed the maximum permitted particle velocities in Table 38, subsection (c) hereof, at the locations specified therein.

(b) Measurement. A seismograph or other three-component measuring system capable of simultaneous measurement of vibration in three mutually perpendicular directions shall be used to measure vibration.

Particle velocity may be measured directly or computed by the following formula:

PV = 6.28 x F x D

PV: Particle velocity in inches per second.
F: Vibration frequency in cycles per second.
D: Single amplitude displacement of the vibration in inches.

(c) Table 38: Maximum Ground Transmitted Vibration.

	Maximum Permitted Particle Velocity*	
Use	**At Adjacent Lot Line**	**At Nearest Residentially Zoned Lot Boundary****
Heavy Industrial	0.2	0.02
Other	0.1	0.02

Notes for Table 38

* Where vibration is produced as discrete impulses (impact vibrations) not exceeding 100 per minute, maximum permitted velocities may be doubled.
** Between 7:00 a.m. and 7:00 p.m., maximum permitted velocity at residentially zoned lot boundaries shall be reduced fifty percent (50%).
(Ord. 87-94. Passed 7-27-87.)

1161.05 SMOKE.

(a) Maximum Emissions. Emissions of smoke shall not exceed the maximum permitted smoke units as defined herein and Ringelmann Number ratings in Table 39, subsection (b) hereof.

(b) Table 39: Maximum Smoke Emissions.

	During 1 Hour Per 24-Hour Day*		All Other Times	
	Heavy Industrial	Other	Heavy Industrial	Other
Maximum permitted smoke units per hour per stack***	32	16	16	8
Highest Ringelmann number permitted	3**	2**	2	1

Notes for Table 39

* When blowing soot or cleaning fires.
** For a maximum duration of three minutes.
*** The number of smoke units is the product of the Ringelmann Number and the number of minutes the smoke is visible.
(Ord. 87-94. Passed 7-27-87.)

1161.06 PARTICULATE MATTER.

(a) Maximum Emissions. Particulate matter is fine solid or liquid particles small enough to be carried in the air, including products of combustion such as soot and fly ash, industrial dust, and products of wind erosion.

The rate of emission of particulate matter from all sources within the boundaries of any lot shall not exceed the values in Table 40, subsection (b) hereof, as adjusted by the factors in Table 41, subsection (e) hereof.

(b) Table 40: Particulates Standards.

Use	Maximum Pounds Per Acre of Net Site Area Per Hour	Maximum Tonnage Per Acre of Net Site Area Per Year
Heavy industrial	5	10
Other	1	5

(c) Measurement. The emission rate in pounds per hour from any single stack shall be determined by selecting the continuous four-hour period which shall result in the highest average emission rate.

(d) Control of Wind Erosion. Emission of particulate matter from materials, products or surfaces subject to wind erosion shall be minimized by paving, oiling, wetting, covering, landscaping, fencing or other means.

This shall apply to vacant lots; unpaved roads; yards and storage piles of bulk materials such as coal, sand, cinders, slag and sulfur; and similar sources of windborne particulates.

(e) Table 41: Adjustments to Particulates Standards.

User should interpolate for values not listed.

Minus sign indicates value is to be subtracted from particulate standard.

(1) Height of Emission.

Height of Emission Above Grade in Feet	Adjustment in Lbs./Hour/Acre
50	-0.01
100	-0.06
150	-0.1
200	-0.16
300	-0.3
400	-0.5

(2) Velocity of Emission.

Exit Velocity in Feet Per Second	Adjustment in Lbs./Hour/Acre
0	-
20	-0.03
40	-0.09
60	-0.16
80	-0.24
100	-0.5

(3) Temperature of Emission.

Temperature in Degrees Fahrenheit	Adjustment in Lbs./Hour/Acre
200	-
300	-0.001
400	-0.002
500	-0.003
1,000	-0.01
1,500	-0.04
2,000	-0.1

(Ord. 87-94. Passed 7-27-87.)

1161.07 TOXIC MATTER.

(a) Maximum Emissions. Release of any airborne toxic matter shall not exceed the permitted standards in Table 42, subsection (b) hereof, at the locations specified therein.

(b) Table 42: Permitted Emission of Toxic Matter.

Use	Maximum Fraction of Threshold Limit Value*	Location Where Applicable
Heavy industrial	1/30	At district boundary
Other	1/30	At lot lines

Notes for Table 42

* Threshold limit value adopted by American Conference of Government and Industrial Hygienists

(c) Measurement. Measurement of toxic matter shall be at ground level or habitable elevation and shall be the average of any twenty-four hour sampling period.
(Ord. 87-94. Passed 7-27-87.)

1161.08 ODOR.

(a) Maximum Emissions. Odorous material released shall not exceed the odor threshold concentration at the following locations:

All Industrial Uses	Other Uses
At boundaries of nearest residentially zoned lot	At lot lines

(b) Measurement. Odor shall be measured by odor threshold concentrations with the American Society for Testing and Materials Method D1391-57, Standard Method for Measurement of Odor in Atmospheres (Dilution Method), or its equivalent.

Odor shall be measured at ground level or habitable elevation.
(Ord. 87-94. Passed 7-27-87.)

1161.09 FIRE AND EXPLOSION.

(a) Other Regulations Applicable. In addition to the requirements herein, all materials regulated in this chapter shall be utilized, stored, manufactured and handled in accordance with the City Fire Protection Code, Chapter 1501 of the Codified Ordinances, and the standards of the National Fire Protection Association.

(b) Detonable Materials. Detonable materials are all materials or products that decompose by detonation, including, among other materials:

(1) All primary explosives such as lead azide, lead styphnate, fulminates and tetracene;

(2) All high explosives such as TNT, RDX, HMX, PETN and picric acid;

(3) Propellants and components thereof such as dry nitrocellulose, black powder, boron hydrides and hydrazine and its derivatives;

(4) Pyrotechnics and fireworks such as magnesium powder, potassium chlorate and potassium nitrate;

(5) Blasting explosives such as dynamite and nitroglycerine;

(6) Unstable organic compounds such as acetylides, tetrazoles and ozonides;

(7) Strong unstable oxidizing agents such as perchloric acid, perchlorates and hydrogen peroxide in concentrations greater than thirty-five percent (35%); and

(8) Nuclear fuels, fissionable materials and products, and reactor elements such as Uranium 235 and Plutonium 239.

The storage, utilization or manufacture of detonable materials shall be permitted only as licensed by the City or as incidental to a principal use subject to requirements of Table 43, subsection (c) hereof.

(c) Table 43: Standards for Detonable Materials.

Storage, Utilization or Manufacture of 5 Lbs. or Less	Storage or Utilization of Over 5 Lbs.	Manufacture of Over 5 Pounds
Permitted use	Conditional use	Prohibited

(d) Flammable Solid Materials. The utilization, storage and manufacture of flammable solid materials are permitted subject to the following restrictions:

Rating	Restrictions
Incombustible to moderate burning	None
Free to active burning to intense burning	Only in completely enclosed buildings with minimum 2-hour fire-resistive construction that are either:
	(1) Protected with an automatic fire extinguishing system; or
	(2) Located at least 40 feet from all lot lines.

(e) Flammable Liquids and Gases. The storage, utilization and manufacture of flammable liquids or gases that produces flammable or explosive vapors shall be limited to the quantities specified in Table 44, subsection (f) hereof.

(f) Table 44: Standards for Flammable Liquids and Gases.

Open Cup Flash Point in Degrees Fahrenheit	Maximum Gallons			
	Above Ground		Below Ground	
	Heavy Industrial	Other	Heavy Industrial	Other
Under 100	62,000	3,000	No maximum	100,000
100-139	100,000	10,000	No maximum	100,000
140 and over	200,000	20,000	No maximum	100,000

Storage of finished products in original sealed containers of fifty-five gallons or less is exempt from above standards. Maximum cubic feet of flammable gases at standard temperature and pressure shall be thirty times the gallonage figures above.

(Ord. 87-94. Passed 7-27-87.)

1161.10 GLARE.

No operation shall produce direct or indirect illumination greater than 0.5 footcandles in any Residential District. Sources of lighting shall be directed, shaded, shielded or otherwise arranged so as not to produce glare in surrounding properties.
(Ord. 87-94. Passed 7-27-87.)

1161.11 HEAT.

No heat from operations or processes shall be sensed at any lot line to the extent of raising the temperature of air or materials more than five degrees Fahrenheit.
(Ord. 87-94. Passed 7-27-87.)

1161.12 RADIOACTIVE RADIATION.

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 in effect as of the day of application for a certificate of occupancy.
(Ord. 87-94. Passed 7-27-87.)

1161.13 ADMINISTRATION.

The procedures herein are intended to enforce the performance standards herein, to protect businesses from arbitrary enforcement, and to protect the public from unnecessary enforcement costs.

(a) New Uses. An application for a conditional use permit or a building permit for an industrial use within the I-1 Industrial District shall include a certification by a licensed engineer, licensed architect or scientific laboratory that the use involved in the application is able to meet all applicable performance standards to the extent that this can be judged based on the submitted building plans and other information available prior to construction.

This certification shall be accompanied by copies of all data or information supplied by the applicant and used as the basis of the certification. The Zoning Administrator may refer the certification and data to the Director of Public Service for review.

The Zoning Administrator may also require such certification for a land use in any other zoning district when in his or her judgment the use has potential to exceed any performance standard herein. Such certification may include all performance standards or only individual standards specified by the Zoning Administrator.

(b) Existing Uses. In enforcing performance standards on existing uses, the Zoning Administrator may issue a written notice of violation to an alleged violator.

The Zoning Administrator shall, before issuing such notice, make technical determinations of violation when such determinations can be made using equipment and trained personnel normally available to the City or obtainable without extraordinary expense.

In other cases, however, technical complexity or extraordinary expense may make it unreasonable for the City to maintain personnel or equipment for making determinations of violation prior to issuing a notice of violation. In such cases, a notice of violation may be issued when the Zoning Administrator has other reason to believe there is probable violation.

The Zoning Administrator shall give notice of violation by any means that ensures a signed receipt for such notice to the party responsible for the alleged violation.

The notice shall describe the alleged violation and the results of technical determinations or the other reasons why the Zoning Administrator believes there is a violation. The notice shall require either an answer or correction of the alleged violation to the satisfaction of the Zoning Administrator and within a time limit he or she shall specify in the notice.

The notice shall also state that failure to provide an answer or correct the alleged violation within this time limit shall constitute admission of a violation.

The notice shall further state that, if technical determinations have not already been made, upon request of the alleged violator such determinations shall be made. If a violation is found as a result of such determinations, the cost of the determinations shall be assessed against the properties or parties responsible in addition to any other penalties provided for. If no violation is found, the City shall pay the cost of the determinations.

(Ord. 87-94. Passed 7-27-87.)

1161.14 TELECOMMUNICATION AND RADIO TOWERS AND TELECOMMUNICATION EQUIPMENT ON EXISTING STRUCTURES.

(EDITOR'S NOTE: Former Section **1161.14** was repealed by Ordinance 98-132, passed September 28, 1998.)