

ARTICLE 19: I-2 HEAVY INDUSTRIAL DISTRICT

19.1 Intent:

The I-2 District is intended to provide areas for high intensity uses that may be objectionable as a consequence of having a high nuisance factor. These uses are likely to have a high degree of noise, dirt, smoke, odor, vibration, visual annoyance, traffic or some other single or combination of dangerous or obnoxious factors. Although the I-2 District recognizes the necessity for accommodating such uses, it is mindful of the need to minimize the effects of such objectionable factors on adjacent areas. Therefore, it is specifically recommended that corrective measures be taken to protect the health and property of adjacent owners.

The foregoing statements should not be construed as being obstructions to heavy industrial development, but rather as attempts to make such development a compatible asset to the remainder of the community.

19.2 Principal Permitted Buildings/Structures and Uses:

The following buildings/structures and uses are permitted in the I-2 District.

- A. Railroad yards, and their associated storage areas and repair shops.
- B. Stations, terminals, and other public buildings related to transportation and the parking facilities associated with them.
- C. Commercial communication towers.
- D. Public/government buildings or properties, which are administrative, cultural, recreational, or public-service in nature, including storage yards, warehouses and garages.
- E. Fire and rescue services.

19.3 Accessory Permitted Buildings/Structures and Uses:

The following accessory buildings/structures, and uses permitted in the I-2 District.

- A. Those buildings, structures, and uses customarily accessory and incidental to the principal permitted uses or authorized special exceptions of the I-2 District.
- B. Parking, in accordance with Article 23.
- C. Fences, in accordance with Section 5.10.
- D. Signs, in accordance with Article 22.
- E. Solar Collection Systems, in accordance with Section 21.12.

F. Solar arrays, in accordance with Section 21.13.

(Ord. 487)

19.4 Special Exceptions:

The following buildings/structures and uses are permitted with Board of Appeals approval only. Conditions of approval may be imposed by the Board of Appeals.

- A. Any use that is determined by the Board of Appeals to be of the same general character as the principal permitted uses of the I-2 District.

19.5 Height Restrictions:

No height restrictions.

19.6 Performance Standards:

The following performance standards for the I-2 District are designed to reduce the impact of industrial uses on surrounding districts by lessening traffic congestion, protecting the health and safety of workers and nearby residents, and by preventing detrimental effects on properties adjoining or in the neighborhood. At the discretion of the Planning Commission, any site plan of an industrial use may be required to be accompanied by a registered engineer's certification that the use complies with all applicable performance standards. After occupancy, if frequent or continuous (including intermittent) violations of the performance standards and provisions of this Ordinance occur without bona fide and immediate corrective action, the Zoning Administrator or authorized agent may suspend or revoke the zoning certificate issued for the use, and the use shall immediately cease until it is able to operate in accordance with the performance standards and provisions of this Ordinance, at which time the zoning certificate shall be reinstated.

A. Storage and operations.

- 1. A use is permitted either indoors or outdoors but in conformance with the following.
 - a. Storage. Storage in an I-2 District within 500 feet of a residential district boundary may be outdoors but will be effectively screened by a solid wall, fence, or plantings so that the materials will not be visible from the Residential District.

B. Noise.

- 1. Noise level compliance will be measured with a sound level meter. Impact noise will be measured using the fast response of the sound level meter. Impact noises are intermitted sounds such as from a punch press or drop force hammer.

2. The following table describes the maximum sound pressure level from any industrial source and measured in any adjacent Residential District, Commercial District, or I-1 Lot.

Maximum permitted sound levels, dB(A)				
Sound Measured to:	Decibels Continuous Slow Meter Responses		Impact Fast Meter Response	
	I-1	I-2	I-1	I-2
Residential District	55	55	60	60
Commercial District	64	64	70	75
I-1 District Lot, adjacent to noise source	70	75	80	---

3. The following sources of noise are exempt.

- a. Transportation vehicles not under control of the industrial use.
- b. Occasionally used safety signals, warning devices, and emergency pressure relief valves required by State and Federal law.
- c. Temporary construction activity between 7:00 A.M. and 7:00 P.M.

C. Vibrations. No vibration will be produced which is transmitted through the ground and is discernible without the aid of instruments at or any point beyond the lot line; nor will any vibration produce a particle velocity of 2 inches per second measured at or beyond the lot line.

D. Dust and particulates.

1. The total emission rate of dust and particulate matter from all vents, stacks, chimneys, flues, or other opening or any process, operation, or activity within the boundaries of any lot, will not exceed the levels set forth below. Emissions of dust and particulates shall be in accordance with the State of Maryland rules and regulations governing air contamination and air pollution, and in case of conflict, the most restrictive will apply.
2. Particulate matter emission from materials or products subject to becoming windborne will be kept to a minimum by paving, sodding, oiling, wetting, covering, or other means, such as to render the surface wind resistant. Such sources include vacant lots, unpaved roads, yards and storage piles or bulk material such as coal, sand, cinders, slag, sulfur, and the like.

Ambient Air Quality Standard
(I-2 District)
Particulate Matter

Suspended

Annual arithmetic mean ug/m ³	65
24-hour maximum ^b , ug/m ³	140

Ambient Air Quality Standard
(I-2 District)

Settleable

Annual arithmetic average, mg/cm ² /month	0.35
Monthly maximum	0.7

- E. Sulfur oxides. Emission of oxides of sulfur (as sulfur dioxide) from combustion and other processes will be limited in accordance with ambient air quality standards of the State or those of the County, whichever are the more restrictive.

Ambient Air Quality Standard
(I-2 District)

Sulfur Oxides

Annual arithmetic mean, ug/m ³	60
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- F. Smoke. For the purpose of grading the density or equivalent capacity of smoke, the Ringelmann Chart as most recently published by the United States Bureau of Mines shall be used.

1. The emission of smoke darker than Ringelmann No. 1 from any chimney, stack, vent, opening, or combustion process is prohibited; however, smoke of a shade not to exceed Ringelmann No. 2 is permitted for up to four (4) minutes total in any one (1) hour period.

- G. Odor. Odor thresholds shall be measured in accordance with ASTM d1391-57 "Standard Method for Measurement of Odor in Atmospheres (Dilution Method)" or its equivalent.

1. Odorous materials released from any operation or activity shall not exceed the odor threshold concentration at or beyond the district boundary line measured either at ground level or habitable elevation.

- H. Toxic matter. The ambient air quality standards for the State of Maryland shall be the standard for the release of airborne toxic materials across lot lines. Where toxic

materials are not listed in the ambient air quality standards of the State, the release of such materials shall be in accordance with the fractional quantities permitted below, of those toxic materials currently listed in the threshold limit values adopted by the American Conference of Governmental Industrial Hygienists. Unless otherwise stated, the measurement of toxic matter shall be at ground level or habitable elevation, and shall be the average of any 24-hour sampling period.

1. The release of airborne toxic matter shall not exceed one-thirtieth of the threshold limit value beyond the district boundary line.

I. Detonable materials.

1. Activities involving the storage, utilization or manufacture of products which decompose by detonation shall be in accordance with these new regulations.
2. Such materials shall include but are not limited to: all primary explosives such as lead azide, lead styphnate, fulminates, and tetracene; all high explosives such as TNT, RDX, HMX, PETN, and picric acid; propellants and components thereof, such as dry nitrocellulose, black powder, boron hydrides, hydrazine and its derivatives; pyrotechnics and fireworks such as magnesium powder, potassium chlorate and potassium nitrate; blasting explosives such as dynamite and nitroglycerine; unstable organic compounds such as acetylides, tetrazoles and ozonides; unstable oxidizing agents such as perchloric acid, perchlorates, and hydrogen peroxide in concentration greater than 35%; and nuclear fuels, fissionable materials and products, and reactor elements such as Uranium 235 and Plutonium 239.
 - a. The manufacture of materials or products which decompose by detonation is limited to five (5) pounds; however, such materials may be stored or utilized in any quantity.

J. Fire hazards. Solid materials susceptible to fire hazards shall be subject to the following:

1. The storage, utilization, or manufacture of solid materials which are active to intense burning shall be conducted within walls having a fire resistance no less than two (2) hours or protected by an automatic fire extinguishing system or the building shall be no less than 40 feet from all lot lines. The outdoor storage of such materials shall be permitted no closer than 50 feet from all lot lines.
2. The storage, utilization, or manufacture of flammable liquid or gases which produce flammable or explosive vapors shall be permitted only in accordance with this Section, exclusive of the storage of finished products in original sealed containers (60 gallons or less), which shall be unrestricted.
3.
 - a. The total storage capacity of flammable liquids and gases shall not exceed those quantities permitted in the following table for each of the Industrial Districts.

Liquid – Storage Capacity

I-2 District		120,000 gal.
	Gases	
	Above Ground	Below Ground
I-2 District	300,000SCF*	600,000SCF

*SCF – Standard Cubic Feet at 60°F and 29.92 inches Mercury.

- b. The following setback requirements will apply to the location of any container which holds flammable liquids or gases.

Container Setback From Lot Lines

Water Capacity Per Container (gallons)	Containers		Between Above Ground Containers (Feet)
	Under Ground (Feet)	Above Ground (Feet)	
0 to 2,000	25	25	3
2,001 to 30,000	50	50	5
30,001 to 60,000	50	75	
In excess of 60,000	75	100	¼ the sum of diameters of adjacent containers

4. Notwithstanding the above-listed capacities for flammable liquids and gases, an owner or operator shall be permitted to exceed such capacities provided that the Zoning Administrator determines that the excess storage capacity is for an emergency fuel supply only. For purposes of this section, the term EMERGENCY FUEL SUPPLY means any fuel that is stored on site for use solely in the event of a disruption in the normal fuel supply. In no event shall the total storage capacity for an emergency fuel supply approved pursuant to this subsection exceed that amount of fuel required to operate the subject facility for a maximum of five (5) consecutive 24-hour periods. The facilities to hold an emergency fuel supply shall be designed, constructed, and operated in compliance with the Frederick County Fire Prevention Code, § 1-2-64 of the Frederick County Code and the National Safety Codes and standards applicable to the specific emergency fuel.

- K. Glare. Any operation or activity producing glare shall be conducted so that direct or indirect light from the source shall not cause illumination in excess of 0.5 footcandle when measured in an adjoining Residential District.

(Ord. 421)

19.7 Lot Area, Width, and Setback Requirements of the I-2 District

PRINCIPAL PERMITTED AND SPECIAL EXCEPTION USES	MINIMUM LOT AREA (SQ. FT.)	MINIMUM LOT AREA PER DWELLING UNIT OR USE (SQ. FT.)	MINIMUM LOT WIDTH (FT.)	FRONT YARD* SETBACK (FT.)	REAR YARD SETBACK (FT.)	SIDE YARD** SETBACK (FT.)	OTHER SETBACK REQUIREMENTS
Communication Towers							All setbacks must be equal to or greater than the height of the structure.
All other uses	10,000			25	50	15***	25' side yard setback from any adjacent Residential District

*As measured from the lot line (does not include a portion of the right-of-way).

**Corner lots shall provide two front yards and one side yard.

***Side yard setbacks shall be as shown or equal to the height of the building/structure, whichever is greater, with a minimum side yard setback of twenty-five feet (25') from any adjacent Residential District.

(Ord. 421)