

ARTICLE 11. I INDUSTRIAL DISTRICT

Section 11.01 Intent

The intent of the I Industrial District is to permit certain industries which are of a light manufacturing character to locate in planned areas of the Township. So that such uses may be integrated with nearby land uses, such as commercial uses; limitations are placed upon the degree of noise, smoke, glare, waste and other features of industrial operations so as to avoid adverse effects. Aviation facilities and certain commercial uses which are desirable to service the employees and visitors of the industrial uses are also permitted in this District.

Section 11.02 Permitted Uses

The following uses shall be permitted uses in the I Industrial District when the manufacturing compounding or processing is conducted entirely within a completely enclosed building

- A. Wholesale and Warehousing.** The sale at wholesale or warehousing of automotive equipment, dry goods and apparel, groceries and related products; raw farm products except livestock; computer hardware and software; electrical goods; hardware, plumbing, heating equipment and supplies; machinery and equipment; tobacco and tobacco products; paper and paper products; furniture and home furnishings, and any commodity the manufacture of which is permitted in this district; excluding transportation terminals and petroleum product bulk stations and terminals.
- B. Industrial Establishments.**
 - 1. The assembly, fabrication, manufacture, packaging or treatment of such products as food products (excluding butchering, animal slaughtering), candy, pharmaceuticals, cosmetics and toiletries, musical instruments, office equipment, optical goods, toys, novelties, electrical instruments, and appliances; electronics, radio and phonographs; scanners, pottery and figurines or other ceramic products using only previously pulverized clay.
 - 2. The assembly, fabrication, manufacture, packaging, or treatment of such products from the following previously prepared materials; bone, canvas, cellophane, cloth, cork, felt, fiber, glass, leather, paper, plastics, precious or semi-products metals or stones, sheet metal (excluding large stampings such

as automobile fenders or bodies), shell, textiles, wax, wire, wood (excluding saw and planing mills) and yarns.

3. Tool and die shops; metal working machine shops involving the use of grinding or cutting tools; manufacturing of tools, dies, jugs and fixtures; publishing, printing or forming of box, carton and cardboard products.
4. Laboratories – research and testing.
5. Central dry cleaning plants and laundries.

C. Industrial Parks. Subject to the following provisions:

1. Permitted uses shall include all principal permitted uses in this I- Industrial District.
2. The minimum site area for an industrial park shall be five (5) acres.
3. All industrial parks shall be so located as to have at least one (1) property line abutting a major thoroughfare. All ingress and egress shall be directly onto a county primary or paved county local road.
4. No main or accessory building shall be situated less than fifty (50) feet from any residential property line.
5. No parking access or service area may be located less than twenty-five (25) feet from any residential property line.
6. Parking, loading or service areas used by motor vehicles shall be located entirely within the boundary lines of the industrial park and shall be in accordance with Article 15, Off-Street Parking and Loading-Unloading Standards.
7. A planting strip of at least ten (10) feet wide shall be provided around the entire perimeter of the site except for driveways onto the public road system. A wall or barrier of suitable material not less than five (5) feet high shall be constructed along these property lines which abut residential districts.
8. A landscape plan which includes the entire site shall be submitted for approval to determine compliance with screening and planting strips.
9. Lighting facilities shall be required where deemed necessary for the safety and convenience of employees and visitors.

These facilities will be arranged in such a manner so as to protect abutting street and adjacent properties from unreasonable glare or hazardous interference of any kind.

- D. Accessory buildings and uses customarily incidental to the above principal permitted uses.
- E. Airports and heliports.

Section 11.03 Special Approval

- A. The following uses may be permitted subject to the conditions hereinafter imposed and subject further to the approval of the Planning Commission pursuant to the standards of Article 13 Special Land Uses.
 - 1. Public Utility Uses. Electric transformer station and substation; electric transmission towers; municipal buildings and uses; gas regulator and municipal utility pumping stations.
 - 2. Retail and Service. The following retail and service establishments may be permitted provided that such establishments are clearly ancillary to the permitted industrial uses and are in keeping with the intent of this district:
 - a. Eating and drinking establishments, when food or beverage is consumed, within a completely enclosed building. Establishments with a character or drive-in or open front store are prohibited.
 - b. Barber and beauty shops.
 - c. Truck, tractor, construction equipment, agricultural implement and trailer sales, rental and repair.
 - d. Motels.
 - e. Service stations and self-service stations.
 - 3. Dog Kennels, Rabbitries and the Raising of Fur-bearing Animals.
 - 4. Drive-in Theaters. Drive in theatres may be permitted provided that any such site is adjacent to a major thoroughfare, that there shall be no vehicular access to any residential street; that suitable screening is provided to insure that there shall be no high light tower or other illumination directed upon any residentially zoned or developed property;

and so that the picture is not visible from a major thoroughfare; and that any such drive-in theaters shall be located no closer than five hundred (500) feet to any residentially zoned or developed property.

5. Junkyards.
6. Adult regulated uses (See Section 13.05(V));
7. Small, Medium, and Large Wind Energy Turbines (See Section 6.24).

Section 11.04 Industrial Performance Standards

Any use established in the I Industrial District shall not be permitted to carry on any activity, operation, use of land, building or equipment that produces irritants to the sensory perceptions greater than the measures herein established which are hereby determined to be the maximum permissible to humans or human activity.

- A. Noise.** No operation or activity shall be carried out in the I Industrial District which causes or creates measurable noise levels exceeding the maximum sound intensity levels prescribed below, as measured on or beyond the boundary lines of said district.

A sound level meter (that measures decibels or sound levels) and an octave band analyzer (that measures the decibels or sound levels for each of a set of octave bands) shall be used to measure the intensity and frequency of the sound or noise levels encountered. Sounds of very short duration, which cannot be measured accurately with the sound level meter, shall be measured by an impact noise analyzer (that measures decibels or sound levels of sounds with a very sharp attack, such as a hammer or punch press) and the measurements so obtained may be permitted to exceed the maximum levels provided in Table A by no more than five (5) decibels. For purposes of this ordinance, impact noises shall be considered to be those noises whose peak values are more than seven (7) decibels higher than the values indicated on the sound level meter.

Where street traffic noises directly adjacent to the property line exceed these maximum permitted levels, the intensity levels permitted may then exceed those levels specified in the table but may not exceed the level of the subject adjacent street traffic noises.

In addition, sound of an intermittent nature or characterized by high frequencies which the building inspector deems to be objectionable in adjacent districts, shall be controlled so as not to generate a

nuisance in adjacent districts even if the decibel measurement does not exceed that specified in the table.

Cycle Frequency (Cycles Per Second)	Decibels
31.5	72
63.0	68
125.0	62
250.0	57
500.0	50
1,000.0	46
2,000.0	39
4,000.0	32
8,000.0	28

- B. Smoke, Dust, Dirt and Fly Ash.** The emission of smoke, dust, dirt and fly ash shall in no manner be unclean, destructive, unhealthful, hazardous or deleterious to the general welfare. Such emission shall be in strict conformance with all applicable state and county health laws as pertaining to air pollution and smoke abatement.

A person shall not discharge into the atmosphere, from any single source of emission, any smoke of a density equal to, or greater than the density described as No. 2, on the Ringelmann Chart as published by the United States Bureau of Mines, provided that the following exceptions to the provisions of this rule shall be permitted:

1. Smoke the shade or appearance of which is equal to but not darker than No. 2 on the Ringelmann Chart for a period or periods aggregating four (4) minutes in any thirty (30) minutes.
2. Smoke the shade or appearance on which is equal to, but not darker than No. 3 on the Ringelmann Chart for a period or periods aggregating three (3) minutes in any fifteen (15) minutes when building a new fire or when breakdown of equipment occurs such as to make it evident that the emission was not reasonably preventable.

- C. Glare and Heat.** Any operation producing intense glare or heat shall be performed within an enclosed building or behind a solid fence in such a manner as to be completely unperceivable from any point

beyond the lot lines of the lot upon which the source of glare or heat is located.

- D. Odor.** The emission of noxious, odorous matter in such quantities as to be readily detectable at a point along any property line, when diluted in the ratio of one volume of odorous air to four (4) or more volumes of clean air, so as to produce a public nuisance or hazard beyond lot lines is prohibited.
- E. Vibration.** Machines or operations that cause vibration shall be permitted, but no operation shall be permitted to produce ground transmitted oscillations which cause a displacement exceeding that specified in the following Table B and C as measured at the property line. These vibrations shall be measured with a seismograph or accelerometer, preferably the former.

For purposes of the Ordinance, steady state vibrations are vibrations that are continuous, or vibrations in discrete impulses more frequent than sixty (60) per minute. Discrete impulses that do not exceed sixty (60) per minute shall be considered impact vibrations.

TABLE B	
MAXIMUM PERMITTED STEADY STATE VIBRATION IN INCHES	
Cycle Frequency (Cycles Per Second)	Permitted Vibration
10 and below	0.0010
10 to 19	0.0008
20 to 29	0.0005
30 to 39	0.0003
40 and above	0.0001

TABLE C	
MAXIMUM PERMITTED IMPACT VIBRATION IN INCHES	
Cycle Frequency (Cycles Per Second)	Permitted Vibration
10 and below	0.0020
10 to 19	0.0015
20 to 29	0.0010
30 to 39	0.0005
40 and above	0.0002

Between the hours of 8:00 p.m. and 6:00 a.m., all of the above maximum vibration levels, as measured on or beyond the boundary line of residentially used areas adjacent to an I Industrial District, shall be reduced to one-half (1/2) the indicated permissible values.

- F. Fire and Safety Hazards.** The storage and handling of flammable liquids, liquefied petroleum gases and explosives shall comply with all state rules and regulations and regulations as established by the Michigan Fire Prevention Code, 1941 PA 207, MCL 29.1 et seq, as amended. Further, all storage tanks for flammable liquid materials above ground shall be located at least one hundred fifty (150) feet from all property lines and shall be completely surrounded by earth embankments, dikes or other types of retaining walls which will contain the total capacity of all tanks so enclosed. Bulk storage tanks of flammable liquids below ground shall be located not closer to the property line than the greater depth to the bottom of the buried tank.
- G. Gases.** The escape of or erosion of any gas that is injurious or destructive or explosive shall be unlawful and may be summarily caused to be abated. Sulphur dioxide gas, as measured at the property line at ground elevation, shall not exceed an average of 0.3 p.p.m., hydrogen sulfide shall not exceed 0.1 p.p.m., nitrous fumes shall not exceed five (5) p.p.m., and carbon monoxide shall not exceed fifteen (15) p.p.m., all as measured as the average intensity during any twenty-four (24) hours sampling period.
- H. Electromagnetic Radiation.** Applicable rules and regulation of the Federal Communications Commission in regard to propagation of electro-magnetic radiation are hereby made a part of this Ordinance.
- I. Drifting and Airborne Matter, General.** The drifting or airborne transmission beyond the lot line of dust, particles or debris from any open stock pile shall be unlawful and shall be summarily caused to be abated.

Section 11.05 Compliance with County and State Regulations

Any use permitted in the I Industrial District must also comply with all applicable County and State health and pollution laws and regulations.

Section 11.06 Site Plan Approvals Required

For all uses permitted in an I Industrial District, a site plan shall be submitted to the Planning Commission, and no building permit shall be issued until after the Planning Commission has reviewed and approved the site plan in accordance with Article 14 Site Plan Review.

Section 11.07 Area, Height, Bulk, and Placement Requirements

All uses permitted in this District including structures, outdoor storage, outdoor placement, outdoor operations or activity (except periodic activity of ingress or egress) shall be located a minimum of 100 feet from center line of a secondary roadway and 110 feet from the center line of a primary roadway. Unless otherwise provided, all other area, height, bulk, and placement requirements are as provided in the Schedule of Regulations.