

Report to the Manitowoc Plan Commission

Date: December 17, 2015

Request: Interpretation of the I-43 Technology and Enterprise Campus (I-TEC Park) Covenants (PC 37-2015)

Reason for Request: The advice of a Plan Commission can be sought relative to the interpretation of Zoning Code provisions. In this case, the land use regulations for the I-43 Tech Park have been adopted as protective covenants, and the Industrial Development Corporation is specifically named as the interpretive body for any areas that are unclear or conflicting. However, the provisions are based on the Industrial districts of the Zoning Code, and it is beneficial for the sake of consistency for the Plan Commission to also be involved in such interpretations and discussions.

Report: The I-43 Tech Park Protective Covenants state that all uses permitted in the I-1 Light Industrial District of the City shall be permitted, with certain exceptions or prohibitions. Please see the attached excerpt from the Covenants for the specific language. Some of the prohibited uses include all uses permitted in the I-2 Heavy Industrial District, such uses deemed similar, and die casting foundries in particular. The Covenants go on to set specific performance standards for noise, air contaminants, liquid and solid waste, electrical emission, glare and heat, and vibration. These standards are set to ensure that allowed uses do not negatively impact neighboring uses and therefore devalue surrounding properties or create land use conflicts

A business in our community is interested in utilizing an existing available building within the Tech Park, but it is not clear how their potential use would be defined. The proposed manufacturing process is a sand casting aluminum foundry. The company has provided the following explanation toward noise and waste/environmental impacts of sand casting as opposed to die casting.

Sand Casting and Die Casting are Not The Same.

Sand casting and die casting do have some similarities, but are worlds apart in terms of the realities of production. Both processes are methods for producing castings out of various types of metals. Both methods of casting use a pattern or mold to create the cavity, then molten metal is used to fill the cavity creating the desired part. That is where the similarities between the two methods end.

In the sand casting process a pattern, or mold, is needed to create the empty cavity within the sand to create the shape of the desired part. The pattern then becomes part of a core box which is necessary for final production. A core box is a box that the pattern is placed in, filled with sand, then packed to form the shape of the pattern. The sand, which is chemically bonded to hold its shape, is then removed and can be filled with molten metal.

Die casting also requires a pattern, or mold, to produce the metal casting, except these patterns require much more. The process of die casting involves forcing molten metal into a mold under high pressures. Unlike sand casting, the molten metal will be in direct contact with the mold during the die casting process. This means that the pattern/mold must be able to withstand

immense pressures and extreme heat repeatedly. Typically, the mold is created out of hardened steel as it can withstand the heat and pressure associated with die casting.

Due to the high costs, die casting tends to be reserved for high volume production runs as it would just not be cost effective for smaller quantities. Sand casting is much more cost effective at smaller quantities due to the resources and equipment needed to produce them.

Most Salient Differences in Environmental Risk

Leaving scale of production issues aside, there are two unique aspects of die casting that probably explain the prevailing perception that it poses more of an environmental risk than sand casting.

The first, and perhaps the more minor of these in the context of an industrial park, is the noise stemming from the fact that the process itself relies on sudden hydraulic injection of metal under high pressure. Molten metal is rammed at high pressure into a heavy mold using powerful hydraulic ram to pound liquid metal out of a storage cylinder. This produces a loud boom. To put the violence of this process into perspective, a die press is measured in tens of thousands of tons. That is the pressure necessary hold the tool in shape to withstand the pressure with which the metal is pounded into the mold. There is no equivalent pressurized pounding associated with the process of sand casting.

The second, and most significant difference between die casting and sand casting arises out of the use of a release agent (or "wash")--a chemical cocktail sprayed into the mold immediately before the metal is rammed in. This is necessary to enable the foundry to remove the metal that was ponded in from the mold. This liquid is piped in, sprayed into the mold and, in part pulled out by the vacuum necessary to allow the injection, entering the environment.

Historically, a key component of die casting release agents have been polychlorinated biphenyls, or PCBs. The spray and evacuation results in PCBs entering the floor, ceilings and walls over time. In addition, leakages can pool in the substructure and may enter the water table, causing contamination in river beds and soils. A significant example of this, and of the resulting costs to Milwaukee can be found here:

<http://www.jsonline.com/news/milwaukee/demolition-unearths-legacy-of-toxic-pollution-at-milwaukee-plant-b99307839z1-266937051.html>

While PCB use has been banned for some time, and the modern regulatory environment is much stricter as to storage and recovery of the die cast release agent formulas that replaced it, the inherent use of washes in the die casting process continues to add a level of risk of site and watershed contamination and associated cleanup costs that is not present in sand casting.

If the performance standards and mitigation of any potential negative impacts on surrounding properties are the focus, then such a use may be approvable as being similar to an I-1 Light Industrial use. Other metal-working manufacturing has been allowed in the Tech Park, but this is potential use is challenging how close the terminology is to a specifically prohibited use.

Additional information has been requested relative to the other components of the performance standards (Air Contamination, Electrical Emission, Glare and Heat, and Vibration). Once those explanations are provided, a more complete assessment can be made.

Recommendation: None at this time.

**MANITOWOC I-43 INDUSTRIAL PARK
PROTECTIVE COVENANTS**

FEBRUARY 1990

IV. LAND USE REGULATIONS

Said property, or any portion thereof, shall be occupied and used only for light manufacturing and production, fabrication, packaging and assembly of goods, warehousing, and distribution activities; offices directly related to the principal permitted use of the property; as well as scientific, research, laboratory and testing facilities involved in light manufacturing. Commercial and service uses of a consumer nature shall not be permitted.

A. Use Regulations

All uses permitted in the I-1, Light Industrial District of the City shall be permitted, except that the following uses are expressly prohibited:

- (1) Uses permitted in the B-3, General Business District.
- (2) Uses permitted in the C-1, Commercial District except that awning and siding manufacturing and sales; printing, publishing and distribution; rental agencies for semi-trailers, trucks, and heavy equipment; wholesale sales; and water conditioning manufacturers shall be permitted.
- (3) Bag cleaning; airports; construction materials and equipment sales; die casting foundry; dry goods at retail; dwelling units; house moving, shoring or underpinning establishments; kennels; loft buildings; motor vehicle service shops, including body repair, automobile painting, radiator and engine repair; paint shops; race courses of all types; bulk storage; storage yards; repair shops; television and radio towers; and tractor and tractor accessory sale, service and repair.
- (4) Uses permitted in the I-2, Heavy Industry District or such uses which are deemed similar to such permitted uses.

B. Interpretation of Provisions

In cases where it is unclear if a proposed use is permitted or prohibited, or where uncertainty exists as to the meaning or application of any part of these Protective Covenants, an interpretation shall be made by the Director of Building Inspections and the Corporation.

C. Minimum Setback/Building Regulations

All structures and buildings constructed within the Park shall conform to the following minimum setback regulations:

- (1) **Front yard:** Minimum of 25 feet which can be used only for landscape treatment, walks, identification sign, flagpoles, and driveways

E. Maintenance

Each Owner shall keep their property in a well maintained, safe, clean, and attractive condition at all times. Such maintenance includes, but is not limited to the:

- (1) Removal of noxious weeds, rubbish and debris.
- (2) Mowing and maintenance of all lawn areas to a height of less than five (5) inches. Those designated and approved unused lot areas shall be cut a minimum of three (3) times per year, or maintained as an agricultural crop subject to approval of the City Planning Department.
- (3) Maintenance of landscape areas in a healthy and attractive condition.
- (4) Care and pruning of trees and shrubbery outside of easements within property boundaries.
- (5) Maintenance of exterior lighting, signs, and mechanical facilities in working order.
- (6) Keeping of all exterior building surfaces in a clean, well maintained condition.
- (7) Snow and ice removal.

F. Utility Easements

All Owners of said lands shall cooperate with the City in the planning and granting, at no cost to the City, of all necessary and reasonable utility/drainage easements, and shall grant such easements provided they do not unduly restrict future development. No building or structure will be constructed over a utility/drainage easement.

Each Owner shall be responsible for required maintenance within identified easements on their properties. The City will retain control and management of retention ponds developed as part of the Park drainage system.

G. Performance Standards

(1) Noise

The sound level recurrently generated from any property in the Park shall not exceed 70 decibels at any zoning district boundary line.

(2) **Air Contaminants**

No smoke, soot, flyash, dust, cinders, dirt, noxious or obnoxious acids, fumes, vapors, odors, toxic or radioactive substance, waste or particulate, solid, liquid or gaseous matter shall be introduced into the outdoor atmosphere alone or in any combination, in such quantities and of such duration that they would interfere with the safe and comfortable enjoyment of life or property or any use permitted in this Park, or adjacent zoning districts.

The limits on emission for particular contaminants shall be determined and enforced as provided for under the Wisconsin DNR Administrative Code NR 154.02, and 14.51 of the Manitowoc Municipal Code.

(3) **Liquid and Solid Waste**

Any disposal of wastes on the property shall be done in such a manner that it will conform to the regulations of this section. No wastes shall be discharged into a storm sewer or roadside ditch or drainage area, except clear and unpolluted water. All liquid waste disposal shall be in conformance with the Wisconsin Division of Health Administrative Code Chapter 62, Wisconsin DNR Administrative Code NR 125.01, and Chapter 17 of the Manitowoc Municipal Code.

(4) **Electrical Emission**

There shall be no electrical emission beyond the property line which would adversely affect any other use. Any activity causing or resulting in electro-mechanical or electro-magnetic disturbance or radiation, shall require a written application to, and the approval by the Corporation and the City.

(5) **Glare and Heat**

There shall be no reflection or radiation, directly or indirectly, of glare or heat beyond the boundary of this Park under any conditions, nor beyond the property line if it would adversely affect any other use within the Park. The Wisconsin, Division of Health Administrative Code Chapter 57 shall be enforced.

(6) **Vibration**

There shall be no operation or activity which would cause ground transmitted vibrations in excess of the limits set forth below beyond the boundary of this Park under any conditions, nor beyond the property line if it would adversely affect any other use within the Park.

<u>Frequency Cycles Per Second</u>	<u>Maximum Permitted Displacement Along Subdivision Boundaries</u> (in inches)
0 to 10	.0008
10 to 20	.0005
20 to 30	.0002
30 to 40	.0002
40 and over	.0001

H. Site Storm Drainage

No land shall be developed and no use shall be permitted that results in the flooding, erosion, or sedimentation of adjacent properties. All runoff shall be properly channeled into a storm drain, watercourse, storage area, or other storm water management facility.

V. **SITE PLAN APPROVAL**

No building permits for development within the Park shall be obtained from the Department of Building Inspections without first having a site plan submitted to and reviewed by the City, and approved by the Corporation in accordance with 15.37(2) of the Manitowoc Municipal Code.

In addition to the requirements of 15.37(2), the following shall be submitted in order to satisfy site plan submittal requirements:

- (1) Building elevations which identify and show that construction and finish materials requirements have been met.
- (2) Fence elevations, plans or other relevant information showing how stored materials (indicate type and quantity) will be screened.
- (3) A sketch of all proposed signs, indicating their size, location, height above ground level, materials to be used, sign information, and lighting characteristics.

- (4) Location and description of planting materials to be installed, and accompanying planting schedule identifying landscaping to be installed within 12 months after date of occupancy.

In the event the Corporation fails to approve or disapprove a site plan within 30 days after submittal to the City, such approval will not be required, and the site plan will be deemed to have been in compliance with this covenant.

VI. ARCHITECTURAL AND DESIGN CONTROLS

A. Buildings

For parcels located east of Dufek Drive, at least 30% of each exterior wall is to be faced with brick, decorative masonry, natural stone, architectural metal, concrete panels, glass curtain walls, or equivalent finish material. For all other parcels in the Park, at least 30% of the exterior wall area fronting on a public right-of-way shall be faced with brick, decorative masonry, natural stone, architectural metal, concrete panels, glass curtain walls, or equivalent finish material. Standard cinder block, concrete block, painted concrete or prefabricated sheet metal shall not be considered appropriate finish materials. A suitable amount of metal or other trim materials will be allowed as approved in the site plan. Exterior walls not facing public right-of-ways must be coated with a colored finish representing at least 25% of the exterior wall area, and which is a contrasting color to the predominant color on said exterior wall.

B. Non-Building Site Elements

All operations shall be carried on within fully enclosed buildings and no outside activities shall be carried on, except storage of materials used in or resulting from an on-site manufacturing operation, and the parking, loading or unloading of vehicles.

Barbed wire in any form is specifically prohibited unless a demonstrated need for security is evident, upon which written approval shall be obtained from the Corporation.

All storage areas must be located in a rear or side yard area not fronting on a public right-of-way. Storage areas are to be sight screened a maximum of eight (8) feet in height, as approved by the City Planning Department. Such areas shall be maintained to present a clean appearance at all times.

Storage of wood or combustible materials, including pallets or skids, must be on a hard surface and enclosed in a sight screen at least 20 feet from any structure, building or property line.