

Prohibition on Certain Research & Development Laboratories in Boxborough

Introduction

this is a proposed revision to the zoning by law.

- Which would **protect** Boxborough from hazards inherent to laboratories using animals
- It's **consistent** with hazardous materials zoning bylaws and is specific to these laboratories
- **Other** life science operations would be **allowed**
- These laboratories pose **more problems** and **expenses** than other businesses
- Boxborough does not now have the necessary **infrastructure** for these laboratories

Changes to zoning bylaw

- **Add life sciences** to the definition of Research and Development

As written in the Warrant

- **Add Life Sciences** to the list of Definitions

As written in the Warrant

- **Change footnote 3** in the Use Regulations of the Zoning Bylaw

As written in the Warrant

Potential hazards

- Biological
 - Infection or contamination of lab personnel
 - Escaped animals
- Hazardous Materials

Animal Biosafety Levels (ABSL)

- 1: Microorganisms not known to cause ***disease***
- 2: Microorganisms associated with ***human disease***
- 3: Microorganisms causing ***serious or lethal disease*** with ***high individual risk – low community risk***
- 4: Microorganisms causing ***infections that are frequently fatal***, with ***no vaccines or treatments*** – ***high individual risk – high community risk***

Release via lab personnel

- ***Infection***

- Lab workers sticking themselves with needles containing pathogens
- Animal bites and scratches
- Ruptures and tears in protective suits

- ***Contamination***

- On clothing or on skin

Escape of infected animals

- These events are unlikely but it does happen and the consequences could be severe
- Facility engineered infectious agents can be more virulent than those found in nature.
- Releasing an infected animal into the environment may cause an uncontrollable event.

Hazardous chemicals

- ***Carcinogens***
- ***Irritants, corrosives***
- ***Neurotoxins***
- ***Asphyxiants***
- ***Reproductive and developmental toxins***
- ***Flammable, reactive, explosive chemicals***
- ***Radioisotopes and radionuclides***

Hazardous Waste

- ***Generated*** from chemicals, biologics, radioisotopes, and animals
- ***Animal Carcasses*** contain ***a combination of all of these***
- ***Incineration*** on-site is one disposal method
- ***Tissue digestion*** uses thermal or hot alkaline hydrolysis leaving a liquid waste.

Risks to Community

- ***Exposure*** of fire and police personnel during an emergency
- ***Accidental*** release of material from facility into ground or septic, contaminating wells
- ***Accidental*** release into the air
- Accidents during ***transport*** of materials, waste, or animals
- ***Escape*** of infected test animals
- ***Contact*** with infected lab personnel

Disaster Planning

- ***Kinds of emergencies:***
 - ***Extreme weather***
 - ***Human error or incorrect operating procedures***
 - ***Facility malfunctions***
 - ***Chemical spills, plumbing leaks, and biologic exposures.***

Summary

this is a proposed revision to the zoning by law.

- Which would **protect** Boxborough from hazards inherent to laboratories using animals
- It's **consistent** with hazardous materials zoning bylaws and is specific to these laboratories
- **Other** life science operations would be **allowed**
- These laboratories pose **more problems** and **expenses** than other businesses
- Boxborough does not now have the necessary **infrastructure** for these laboratories

Other businesses prohibited in Boxborough

- 4003(2) - Airports, Heliports, Or like facilities
- 4003(4) - Fast Food Restaurants
- 4003(4) - Retail Stores containing more than 25,000 square feet gross floor area
- 6402 Nuisances
 - Rendering plants, Slaughterhouses, Junk yards, Commercial dumps, Fur farms, Tank farms
- 6403 Storage of Waste or Refuse
 - No facilities for hazardous waste
 - No facilities for disposal of hazardous waste
 - No facilities for the garaging or temporary storage of vehicles used in the transportation of such hazardous waste

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