



## Legislation Text

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### **BUILDING REVIEW BOARD AGENDA ITEM**

#### **ACTION REQUESTED:**

Consider a request by the Plastic Pipe & Fittings Association to repeal the City of Naperville's local amendment to Section 890.320 of the Illinois State Plumbing Code that prohibits the use of certain plastic pipe and fittings for domestic water distribution systems and continue discussion to the September 18, 2019 BRB meeting. - BRB Case #101 (Continued from 8/21/2019)

**DEPARTMENT:** Transportation, Engineering and Development

**SUBMITTED BY:** Peter Zibble, Operations Manager

#### **BOARD/COMMISSION REVIEW:**

N/A

#### **BACKGROUND:**

In 1996, the City of Naperville adopted the 1993 edition of the Illinois Plumbing Code with local amendments (Ord 96-014). At that time, numerous local amendments were proposed, including a local amendment to Section 890.320.I.2 to prohibit the use of certain plastic pipes and fittings.

"Plastic pipe, joints and fitting made from Polyethylene (PE), Polyvinyl Chloride (PVC) or Polybutylene (PB) made by either solvent welding or fusion welded connections, compression or insert fittings, metal clamps and screws or threaded joints shall be prohibited for water service or the domestic water distribution system of any building except for the distribution and conveyance of distilled or deionized water."

Beginning in 2000, the City of Naperville chose to adopt the latest versions of the international family of building codes and other pertinent building codes every six years. The process, which takes the better part of a year, involves the review of the new codes and the preparation of local amendments to modify the codes to meet the specific needs of the city. Working groups comprised of city staff, representatives from the business, building and residential community, the Building Review Board, and City Council were formed to complete the work. In 2000, 2006, and 2012, the city conducted a review and adoption of the updated codes, and at each interval, the above local amendment to the plumbing code was reevaluated and approved.

In 2014, the Illinois Department of Public Health (IDPH) significantly revised the Illinois Plumbing Code and required all municipalities to adopt the code every three years. Local amendments to the code are permitted, but the amendments must be at least as stringent as the Illinois Plumbing Code, approved by IDPH, and formally adopted by the municipality. The following year, the city reviewed the new Illinois Plumbing Code. It was adopted (Ord 15-179) with two local amendments: a new requirement to supply WaterSense fixtures and the original prohibition of certain plastic pipes and

fittings. IDPH approved these two local amendments for a period of three years.

In 2018, city staff conducted a review and adoption of the 2018 International Building Codes including a review of the latest edition of the Illinois Plumbing Code. Working groups were established and the various building codes and local amendments were scrutinized. It was determined that the two local amendments to the plumbing code were still applicable, and they were submitted to IDPH for approval. IDPH approved the amendments for a period of five years. The Illinois Plumbing Code with local amendments was approved by the City Council by Ord. 18-032.

### **DISCUSSION:**

Numerous times over the past 23 years, and as recently as last year, staff, local community members, Building Review Board members, and City Council members have reviewed and confirmed the city's desire to prohibit the use of certain types of plastic pipe and fittings in the City of Naperville. The request has been reviewed and approved by IDPH.

In arriving at its recommendation, the working groups considered information which showed that:

- Unlike copper, plastics are not shown to be bacteriostatic materials, that is, bacteria can grow on their surface. Copper has been shown to inhibit the growth of *Pseudomonas fluorescens*, *Bacillus subtilis*, and Bacteriophage MS2, which can cause gastrointestinal disturbance. Copper surfaces have also been shown to be inhospitable to other more serious bacteria such as *Legionella*, *e. Coli* and polio.
- Plastic products present the potential for many undesirable chemicals to leach into the drinking water.

This local amendment to prohibit plastic pipe is not uncommon. Numerous other municipalities in the area have similar restrictions.

### **References:**

There are numerous articles and studies published and available for review that discuss the attributes of copper and plastic piping. Sources considered by staff include the following:

- Proctor (2014), *Effect of Various Water Chemistry Factors on Legionella Proliferation and the Premise Plumbing Microbiome Composition*.
- Stern & Logos (2007), *Scholarly Review, Are There Health Risks from the Migration of Chemical Substances from Plastic Pipe into Drinking Water? A Review*.
- Venerem (2014), *Drinking water odors, chemicals above health standards caused by 'green building' plumbing*

### **CONCLUSION:**

City staff and the other members of the working groups having many years of experience in the industry, have reviewed published information on the topic and have made the best decisions they can make in the interests of public safety. The safety of public drinking water is a topic that is frequently in the news, from lead contamination to Legionnaire's Disease. Staff has opted for a more conservative approach to the plumbing code until such time as long-term studies can demonstrate that plastic is as safe as copper for domestic water supply.