



**BRIAN TAYLOR**  
STATE FIRE MARSHAL

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**VIA EMAIL ONLY**

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**RE: 2018 NCPC Sections 702.1, 702.4, 1102.2, and 1102.7 – Use of Plastic Pipe for Above-ground Sanitary Drainage and Storm Drainage in Buildings over 75 Feet in Height**

Mr. Latham:

The Office of State Fire Marshal (“OSFM”) has been informed of conflicting interpretations of 2018 North Carolina Plumbing Code (“NCPC”) Sections 702.1, 702.4, 1102.2, and 1102.7 regarding the use of plastic pipes for above-ground sanitary drainage and storm drainage in buildings where the top occupied floor exceeds 75 feet in height. OSFM submits this formal code interpretation to resolve any ambiguities and provide the operative interpretation of the relevant sections of the 2018 NCPC to code enforcement officials.

**Code Analysis:** Sections 702.1, 702.4, 1102.2, and 1102.7 of the 2018 NCPC each contain exceptions limiting the sanitary drainage (Chapter 7) and storm drainage (Chapter 11) use of plastic pipe with an inside diameter of 2 inches and larger in buildings in which the top occupied floor exceeds 75 feet in height: The exception to Section 702.1 provides that plastic pipe with an inside diameter of 2 inches and larger shall not be used for storm drainage, drain, waste and vent conductors; The exception to Section 702.4 provides that plastic pipe fittings and plastic plumbing appurtenances with an inside diameter of 2 inches and larger shall not be used for drain, waste and vent conductors; The exception to Section 1102.2 provides that plastic pipe with an inside diameter of 2 inches and larger shall not be used for storm drainage conductors; and the exception to Section 1102.7 provides that plastic pipe fittings and plastic plumbing appurtenances with an inside diameter of 2 inches and larger shall not be used for storm drainage conductors in buildings in which the top occupied floor exceeds 75 feet.

**OFFICE OF STATE FIRE MARSHAL**



### **702.1 Above-ground sanitary drainage and vent pipe.**

Above-ground soil, waste and vent pipe shall conform to one of the standards listed in Table 702.1. Pipe fittings shall not be solvent-cemented inside of plastic pipe.

Exception: Plastic pipe with an inside diameter 2 inches (51 mm) and larger shall not be used for storm drainage drain, waste and vent conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.

### **702.4 Fittings.**

Pipe fittings shall be *approved* for installation with the piping material installed and shall comply with the applicable standards listed in Table 702.4. Pipe fittings shall not be solvent cemented inside of plastic pipe.

Exception: Plastic pipe fittings and plastic plumbing appurtenances with an inside diameter 2 inches (51 mm) and larger shall not be used for drain, waste and vent conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.

### **1102.2 Inside storm drainage conductors.**

Inside storm drainage conductors installed above ground shall conform to one of the standards listed in Table 702.1.

Exception: Plastic pipe with an inside diameter of 2 inches and larger shall not be used for storm drainage conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.

### **1102.7 Fittings.**

Pipe fittings shall be *approved* for installation with the piping material installed, and shall conform to the respective pipe standards or one of the standards listed in Table 1102.7. The fittings shall not have ledges, shoulders or reductions capable of retarding or obstructing flow in the piping. Threaded drainage pipe fittings shall be of the recessed drainage type.

Exception: Plastic pipe fittings and plastic plumbing appurtenances with an inside diameter of 2 inches and larger shall not be used for storm drainage conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.

Additionally, Section 36 of S.L. 2023-137, which became law on October 10, 2023, amended G.S. 143-138(b24) to preserve these existing limitations on the use of plastic pipe. G.S. 143-138(b24), which remains effective law, provides:

(b24) Limitation on Use of Plastic Pipes. - No State, county, or local building code or regulation shall allow for the use of plastic pipes, plastic pipe fittings, and plastic plumbing appurtenances with an inside diameter 2 inches (51 millimeters) and larger in either of the following circumstances:



- (1) Drain, waste, and vent conductors in buildings in which the top occupied floor exceeds 75 feet (23 meters) in height.
- (2) Storm drainage conductors in buildings in which the top occupied floor exceeds 75 feet (23 meters) in height.

The 2024 NCPC, which becomes effective on January 1, 2025, contains the same exceptions listed in Sections 702.1, 702.4, 1102.2, and 1102.7, in compliance with G.S. 143-138(b24).

**Conclusions:** Plastic pipes, including PVC pipes, plastic pipe fittings, and plastic plumbing appurtenances with an inside diameter of 2 inches and larger cannot be used in buildings in which the top occupied floor exceeds 75 feet in height for storm drainage, drain, waste, and vent conductors, fittings and appurtenances. It is the interpretation of this office that, notwithstanding the definition of “conductor” provided in Section 202 of the 2018 NCPC as “a pipe inside the building that conveys storm water from the roof to a storm or combined building drain,” the prohibition on the use of plastic pipes in buildings in which the top floor exceeds 75 feet in height also includes above-ground sanitary drainage piping. The intent of both the 2018 NCPC and G.S. 143-138(b24) is to prohibit the use of plastic pipes in this application because the language in G.S. 143-138(b24) relies on the plain meaning of the term “conductor” and is not restricted to the definition provided in the 2018 NCPC. Moreover, the relevant 2018 NCPC code provisions include conveyances (i.e., waste and vent conductors) that are distinct from storm water. Consequently, the intent of G.S. 143-138(b24) and Sections 702.1, 702.4, 1102.2, and 1102.7 is to prohibit the sanitary drainage (Chapter 7) and storm drainage (Chapter 11) use of plastic pipes with an inside diameter of 2 inches or larger in buildings in which the top occupied floor exceeds 75 feet in height for above-ground drain, waste, vent, and storm drainage conductors, fittings and appurtenances. Code enforcement officials are advised that there are no alternative means or methods available to render the use of plastic piping for the aforementioned uses in buildings in which the top occupied floor exceeds 75 feet in height permissible. Please contact the Office of State Fire Marshal, Codes & Interpretations Division with any questions you may have regarding the requirements of the 2018 NCPC and G.S. 143-138(b24) with respect to plastic pipes.

Sincerely,

David Rittlinger, PE, LEED AP  
Division Chief – Codes & Interpretations  
North Carolina Office of State Fire Marshal



**OFFICE OF STATE  
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