

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
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Hose Bibbs – freeze protection

Code: 2018 Residential Code

Date: 09/08/2020

Section: P2903.10

Code: 2018 Plumbing Code

Section: 305.4

Question:

Can frostproof hose bibbs with their stem installed into ventilated crawl spaces (or unconditioned basementsⁱ) use the Exception to P2903.10, even though ventilated crawl spaces are not a heated or semi-conditioned space?

P2903.10 Hose bibb. Hose bibbs subject to freezing, including the “frostproof” type, shall be equipped with an accessible stop-and-waste type valve inside the building so that they can be controlled and drained during cold periods.

Exception: Frostproof hose bibbs installed such that the stem extends through the building insulation into an open heated or *semiconditioned* space need not be separately valved...

Answer:

Yes.

See the Web interpretation for Section **P2603.5 Areas subject to freezing**. Although ventilated crawl spaces do not meet the definition of a heated or semi-conditioned space, in most cases these spaces have shown to have enough residual heat from the ground that prevent pipes from freezing in that space.

However, as discussed in the interpretation to P2603.5, the code or this interpretation does not provide a blanket exemption from insulating plumbing piping for the purpose of freeze protection in all ventilated crawl spaces. The [permit holder](#) is responsible for knowing the local climatic conditions and the construction of the building to determine if the space will experience freezing temperatures. Code officials are not trained to predict which designs will or will not freeze in any given ventilated crawl space.

Follow up question #1:

Are hose bibbs mounted on the exteriorⁱⁱ of a dwelling subject to freezing?

Answer:

Yes.

All areas of NC have winter temperatures that dip below freezing, and exterior mounted hose bibbs would be exposed to these freezing conditions during those times. Many older houses in NC may have less, or even no floor insulation, and an unknown amount of duct leakage to the crawl space. While this heat leakage has in many older homes kept piping warmer, including exterior hose bibbs, it may not be practical to rely on leaked heat to a ventilated crawl space to prevent freezing hose bibbs.

Key Words:

None

ⁱ Unconditioned basements anecdotally perform as well or better than vented crawl spaces with regards to heat retention for the climate zones in NC, zones 3,4, and 5.

ⁱⁱ Prior to the 2012 NC Code, the NCDOI web interpretations did clarify that hose bibbs mounted on the exterior of a building were subjected to freezing conditions. It was not rolled forward in 2012, but there was no change in interpretation. Therefore, this web interpretation pertaining to standard hose bibbs is not a change in interpretation.