

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
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Footing Widths in 140 and 150 MPH Wind Zones

Code: 2018 Residential Code
Section: R4503.1.1 & R4503.2.2

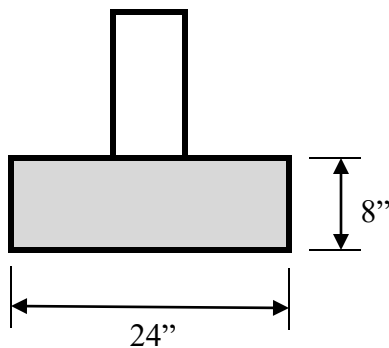
Date: May 2, 2019

Question:

The NC Residential Code, Sections R4503.1.1 and R4503.2.2 prescriptively require wall (foundation and curtain) footings in the 140 and 150 mph wind zones to be 24 inches in width. Are there any circumstances where a narrower width footing may be used?

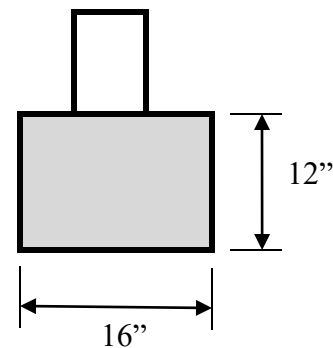
Answer:

Yes. The footing size of 8 inches thick and 24 inches wide as included in the NCRC, Sections R4503.1.1 and R4503.2.2 has the intent of providing adequate mass to resist uplift in the high wind areas. A minimum footing width of 24 inches is not necessary for bearing with normal soil conditions except for certain 3-story conditions as noted in Table R403.1(1). An acceptable alternate to the 24-inch wide footing described in Section R4503.1 and R4503.2.2 is to design the width in accordance with the NCRC, Table R403.1 with a thickness that will provide a mass equivalent to the prescriptive requirements of Chapter 45. Examples A” and “B” below illustrate how to determine equivalent footing mass. An alternate footing design still requires compliance with the reinforcement requirements of Chapter 45.



24 inches x 8 inches = 192 square inches

EXAMPLE A



16 inches x 12 inches = 192 square inches

EXAMPLE B

Keywords:
high wind