

STATE BUILDING CODE INTERPRETATION NO. I-21-03

December 1, 2003

The following is offered in response to your letter dated November 25, 2003 in which you request a formal interpretation of the 1999 State Building Code with respect to the fire separations required between attached multiple single-family dwelling units.

Question: Does the two-hour fire separation between attached (side by side) multiple single-family dwellings have to extend from the foundation to the underside of fire-retardant plywood or 5/8 inch Type X gypsum board for four feet on either side of the common wall?

Answer: The answer to this question is dependant on the Use Group chosen to govern construction. If the permit applicant chooses R-3 as the Use Group, the answer is no. Section 310.5 of the BOCA National Building Code/1996 portion of the 1999 State Building Code, which regulates construction of Use Group R-3, requires a two-hour fire separation assembly between multiple single-family dwellings. Section 709.4 of the same code requires that vertical fire separation assemblies extend from the top of the fire-resistance rated floor ceiling assembly below to the underside of the floor or roof slab or deck above, and be securely attached thereto. In the BOCA Code, there is no requirement for parapets or special treatment of the roof sheathing at the top of a fire separation wall. Those special requirements are found at Section 707.6, but apply only to fire walls, which are entirely different from fire separation assemblies. The fire separation wall used as the common wall in an R-3 multiple single-family dwelling unit may terminate at the underside of the non-treated or unprotected plywood sheathing, as long as it is securely attached to it.

If the building contains 4800 square feet of area per floor or less and does not exceed two stories plus a habitable attic, the permit applicant may choose R-4 as the Use Group as an alternative to R-3. If they so choose, the requirements of the 1995 CABO One and Two Family Dwelling Code portion of the 1999 State Building Code that regulates Use Group R-4 attached single-family dwelling units (referenced in CABO as Townhouses) differ from the requirements for R-3, and are more stringent. With restrictions, as an alternative to independent one-hour fire-resistance rated walls, Section 320.2 of the CABO Code allows a common two-hour fire-resistance rated wall between townhouses. This wall must be continuous from the foundation to the underside of the roof sheathing and must either have a parapet, or per the exception to Section 320.2.2, must have a minimum of class C roofing and non-combustible or fire-retardant treated sheathing for a distance of four feet on either side of the common wall. As an alternative to the special sheathing, the CABO Code allows one layer of 5/8 inch Type X gypsum board applied directly to the underside of combustible roof sheathing for a distance of four feet on either side of the common wall.

So, you see that the requirements are dependant on the Use Group. If the building is designed as Use Group R-3, the special treatment at the top of the fire-separation wall is not required. If the Use Group is R-4, the special treatment at the top of the common two-hour wall is acceptable as an alternative to the required parapet.