



BUILDING CODE DETERMINATION

To: Mark Van Vleck, P.E. Executive Director Utilities *MV*

Thru: Dan Grimsbo, P.E. Director of Development Services *DG*

From: Gene Delauro, Building Official *GFD*

Date: July 23, 2015

Subject: Fire Sprinkler System Requirements for Townhouses

Issue/Problem Residential attached townhouse buildings are being constructed under the International Residential Code (IRC) which contain sleeping units that allow transient uses without automatic residential fire sprinkler systems. The IRC, designed primarily for non-transient use, requires an automatic fire sprinkler system to be installed on all townhouses.¹

Background & Findings The 2009 IRC requires automatic sprinkler systems in all one and two family dwellings and townhouses. The State of Texas prohibited municipalities from requiring automatic sprinkler systems in one and two family dwellings under legislation passed in 2009.² The prohibition applies specifically to one and two family dwellings, not attached townhouses. A conservative classification for townhouses used for transient occupancies is R-1 under the International Building Code (IBC). The classification allows residential occupancies containing sleeping units where the occupants are primarily transient³ in nature. However, applying full IBC commercial requirements to townhouse buildings based on potential transient use is not warranted. A more reasonable approach, in keeping with the requirements of the IRC would be to require an automatic residential fire sprinkler system. Residential sprinkler systems do not require a dedicated fire line or backflow protection. The system utilizes existing potable water piping already installed within each unit. The associated cost to install an automatic residential fire sprinkler system is estimated to be \$1.00 per sf.

¹ 2009 IRC: Chapter 3 Planning; Section R313.1 – Townhouse Automatic Fire Sprinkler Systems. An automatic residential fire sprinkler system shall be installed in townhouses.

² Senate Bill 1410: Section 1301.551 Occupations Code; is amended by adding Subsections (e) and (f) to read as follows: (e) Notwithstanding any other provision of state law, after January 1, 2009, a municipality may not enact an ordinance, bylaw, order, building code or rule requiring the installation of a multipurpose residential fire protection sprinkler system or any other fire sprinkler protection system in a new or existing one or two family dwelling.

³ 2009 IBC: Chapter 3 Use and Occupancy Classification; Section 310 Residential Group R. Transient – Occupancy of a dwelling unit or sleeping unit for not more than 30 days.

The IRC definition of a townhouse⁴ conflicts with language in the City's Unified Development Code (UDC). Table 4.4.4 Multifamily Housing Types of the UDC defines a townhouse as; two or more attached single family units located on separately owned lots where the units are lined up in a row and share side walls, individually units may be mixed vertically. The definition of a townhouse should align in the Building Code and the UDC to prevent conflicting construction methods.

Conclusion Residential attached townhouse buildings containing three or more dwelling units shall continue to be constructed under the IRC. Where transient uses are allowed, the units shall be required to install an automatic residential fire sprinkler system conforming to NFPA 13D.

⁴ 2009 IRC: Chapter 2 Definitions; Townhouse - A single family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with a yard or public way on at least two sides.