MEMO

To: Mayor and City Council

From: Paul R. Tice, Planning & Development Director

Re: Fire Sprinkler Requirement for Single Family Homes Exceeding 5,000 sq. ft.

Staff has completed a review of the Building and Fire Codes to determine the current status of the requirement to install fire sprinkler systems in single family homes larger than 5,000 sq. ft. A review of the current and previously adopted Building and Fire Codes indicates that the requirement to provide a fire sprinkler system in all buildings, including single family residential, in excess of 5,000 sq. ft. was first put into place in 1988 and has remained in effect with the adoption of all subsequent Building and Fire Codes. The last time that single family homes, along with two other occupancy types, were specifically exempted from fire sprinkler requirements was in 1983 with adoption of Ordinance 897.

The requirement to provide a fire sprinkler system in all buildings in excess of 5,000 sq. ft., including single family homes, is proposed to be carried forward in the 2012 Fire (IFC) and Residential (IRC) Codes. However, there is specific provision in the 2012 IRC (R313.2 – Exception) that would exempt single family homes that were originally constructed with less than 5,000 sq. ft., but which have subsequent additions that result in the home exceeding 5,000 sq. ft., from having to provide a fire sprinkler system.

Staff has also verified that:

1) Under both the current and 2012 Codes the 5,000 sq. ft. area only pertains to portions of the home that are fully enclosed. Open patios and Arizona rooms are not included in determining the 5,000 sq. ft. area.

2) From a Fire Code perspective residential sprinklers (13R) can operate with a water flow of 18 gallons per minute (gpm). Accordingly they can typically operate with the use of a standard 5/8 inch sized residential water meter which has a maximum flow of 20 gpm. Up-sizing of the meter to a 1 inch size is only required in cases where the plumbing fixtures and the fire sprinkler system result in a water demand greater than 20 gpm. Accordingly, there are typically no additional impact fees charges associated with homes that contain fire sprinkler systems.

3) No separate water system is required as the residential sprinkler system can operate off from the standard domestic water system.

4) Current 13R type of residential fire sprinkler systems are constructed of PVC piping and operate off from the same water system as the domestic supply. These systems, on average, add $1.35/sq. ft. to a home construction cost.