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Top 10 Questions When Considering Installation of a Fire Sprinkler System

- 1. How do fire sprinkler systems work?** A sprinkler system consists of a network of sprinkler heads connected to water supply pipes. Each sprinkler head consists of a glass bulb or a fusible link. The bulb contains a liquid as well as a quantity of vapor. The liquid expands under the influence of heat as do the fusible liquid heads. When the temperature reaches a certain level, typically 165 degrees Fahrenheit, it will expand the liquid and break the bulb or fusible link, which in turn releases water from the sprinkler head.
- 2. What are the costs of retrofitting an existing fraternity facility with an automatic sprinkler system?** The cost to retrofit a sprinkler system into an existing facility varies depending on the size of the structure, number of rooms, amount of occupied versus non-occupied space etc. Having said this, most facilities can be retrofitted for a cost ranging from \$5.00/SF to \$10.00/SF.
- 3. How do I determine the specific design and type of fire sprinkler system?** The National Fire Protection Association (NFPA) is the governing body for building codes relating to fire protection systems. The NFPA has developed three types of fire sprinkler design standards which apply to different types of construction. The fire sprinkler design standards and specifications known as NFPA 13R have been developed for residential facilities which are four stories or less. These design standards apply to fire sprinkler retrofits in most fraternity and sorority facilities. The NFPA 13R design standards do not require installation of fire sprinklers in unoccupied areas of the facility, which may include the attic. They also allow for the use of materials which are more cost effective from both a material and labor standpoint.
- 4. What is the Life Safety Record for fully sprinkled facilities?** A National Fire Protection Association study revealed that approximately twenty (20) lives are lost each year in the United States in sprinkled buildings as compared to approximately four thousand (4,000) per year in non-sprinkled buildings. Approximately 68% of the fatalities were due to the fact that the fire originated in a non-sprinkled area of the building. **Although this is the case, there has never been a fire related in a fraternity or sorority house in which a fire sprinkler system was present.**
- 5. How reliable are fire sprinklers?** Fire sprinkler systems are very reliable as they are the only system that can detect a fire, sound the alarm, call the fire department and control or extinguish the fire. Fire sprinkler systems control approximately 99% of all fires at the origin of the fire before it has time to spread and cause more significant damage.
- 6. Are fire sprinkler retrofits creating an obtrusive appearance?** Due to advances in sprinkler technology, sprinklers look better than ever, if you can see them at all. Sprinklers can be concealed behind ceilings and walls and are available in a range of colors and sizes to blend into the background of any room.

7. **Does the presence of a fire sprinkler system, create a water damage exposure?** The presence of a fire sprinkler system does not create a significant water discharge exposure. On average, only one in 500,000 sprinkler heads discharge accidentally each year. Further, a sprinkler system utilizes approximately 341 gallons of water to control a fire, while firefighters, on average, use approximately 2,935 gallons to control and extinguish a fire which results in more significant water damage. Sprinkler system heads typically operate independent of other sprinkler heads. In other words, if one sprinkler head discharges water, other sprinkler heads will not necessarily discharge water. The majority of fires in build ings equipped with sprinklers are handled by one or two individual sprinklers.
8. **What should I consider in determining whether to use a wet pipe system versus a dry pipe system?** By a wide margin, wet pipe sprinkler systems are installed more often than dry pipe systems. Wet pipe systems have been proven to be the most reliable type of system as their design is relatively simple and the only major operating components are the automatic sprinkler heads and automatic alarm check valve. An automatic water supply provides water under pressure to the system piping and the sprinkler heads do not discharge until a sufficient amount of heat is present. Dry pipe systems are typically utilized in facilities and spaces that may be cold enough to freeze the water in a wet pipe system. Dry pipe systems are pressurized with air. When a sprinkler head is exposed to sufficient heat, it opens allowing the air to vent from the sprinkler. As the air pressure in the piping drops, water enters the piping system. Water flow from sprinklers needed to control the fire is delayed until the air is vented from the sprinklers. For this reason, dry pipe systems are usually not as effective as wet pipe systems in controlling a fire during the initial stages of it. Disadvantages of using a dry pipe fire sprinkler system include the fact that the design is more complex, resulting in higher installation and maintenance cost; there is less flexibility in the actual design of the system, increased fire response time and an increased potential for corrosion.
9. **What should I consider in choosing a contractor to design and install the fire sprinkler system?** Choosing a reputable contractor to design and install your fire sprinkler system is critical. Consult with university officials and inquire about potential contractor referrals as they are likely familiar with multiple local contractors. Consult with other local Fraternity and Sororities relating to which contractors they have used in the past to install fire sprinkler systems. The National Fire Sprinkler Association website (www.NFSA.org) can also be utilized to search for local fire sprinkler contractors. When selecting a contractor, obtain referrals from them and contact these referrals. When a contractor is selected, be certain they carry liability insurance with a minimum required limit of liability of at least \$1,000,000 also carry Workers Compensation Insurance. Request that they add the local chapter and National Fraternity or Sorority as an Additional Insured on their policy.
10. **How do I apply for a FPMA Sprinkler Discount?** In an effort to encourage the installation of fire sprinklers in Greek housing facilities, discount are provided for facilities in which a fire sprinkler system is installed or present if it meets the National Fire Protection Association (NFPA) 13R standards and specifications. Discounts of up to 50% are applied for the first two years immediately following the installation of a qualified fire sprinkler system and up to 30% for all subsequent years. In order to apply for this discount you need to complete and remit the Fire Sprinkler Application located on the Willis website at www.WillisFraternity.com/FPMA_Property_Program/Sprinkler_Discount_Application

Additional Fire Sprinkler Resources:

Simplex Grinnell – Joe Renie: Joe can be contacted at (317) 710-7920 or at jrenie@simplexgrinnell.com for sprinkler related information pertaining to specific questions pertaining to fire sprinkler installation and design, questions relating to specific projects as well as for sprinkler installation proposals.

Florida Fire Sprinkler Association – Buddy Dewar: Buddy can be contacted at (850) 222-2070 or at dewar@nfsa.org for general questions and general information regarding fire sprinklers, fire sprinkler design and fire sprinkler installation.