21 10 00 Water Based Fire Suppression System
Revision 01/04/19

Purpose:
The Architect and/or Engineer shall incorporate the Rice specific requirements indicated in this standard’s section into their design. The Architect and/or Engineer shall further produce project specifications in line with industry standards that are updated to reflect these Rice specific requirements.

1. General Requirements
   a. All Rice University Buildings must be provided with an automatic sprinkler system, unless directed otherwise. Remodels should be upgraded with sprinkler systems.
   b. A hydraulic analysis needs to be done on each site to determine if a fire pump is required. Typically one and two story buildings do not require a fire pump. Typically four stories and higher do require a fire pump.
   c. If a fire pump is required, it will also need:
      i. A break tank with a minimum of 2,500 gallons
      ii. Bypass line in case of pump or power failure.
      iii. Two sources for electrical power
         1. Two independent and isolated electrical feeds
         2. One feed and a backup life-safety generator

2. Design Standards
   a. Each sprinkler system must be monitored by floor and provided with separate valve and water flow switch.
   b. All sprinkler valves/sprinkler control stations must be accessible and located no higher than 7'-0" above finished floor. Do not locate above ceilings.
   c. Provide sprinkler system drain piping to building drains, or sumps, or, as approved by the University’s project manager, provide direct discharge to the building exterior.
   d. Locate inspector test valves in mechanical and storage areas with a drain sized to accommodate the water discharged.
   e. Rice University prefers Fire Department Siamese connections to be wall mounted.
   f. Rice University prefers wall indicator OS&Y gate valves for the sprinkler system. If not possible, locate post indicator OS&Y gate valve as close to the building as possible.
   g. Sprinkler piping shall be unpainted, black, or red.
   h. All dry pipe and pre-action system piping shall be hot dipped galvanized piping.
   i. No flexible head piping shall be utilized.
   j. Pre-action systems shall have a separate isolation and drain valve above the pre-action valve for testing purposes.
   k. Fire sprinkler piping shall be schedule 40 to the heads in buildings equipped with fire pumps.
   l. Installation should comply with current adopted NFPA and City of Houston standards.