Top 10 – Fire Sprinklers

1. **Water Supply Flow Testing**: Indicate the water flow tests results, the date and time taken, and who conducted the test. A small scale drawing showing the locations of firepumps, fire water tanks, test and flow hydrants and routing of underground pipe shall be included in submittals. Where a water flow test is performed for the purpose of a system design, the test shall be conducted no more than 12 months prior to working plan submittal. *(BSRV 5.2.2 #5 and 2007 edition of NFPA Chapter 22).*
2. **Hazard and Commodity Classifications:** Sprinkler systems shall be designed to the correct hazard and commodity classification as listed per code. *(2009 VUSBC 903.2 and BSRV 5.2.2 #1 and 2007 edition NFPA 13 Chapters 5 and 11)*
3. **Sprinkler Spacing and Obstructions**: The layout and arrangement of sprinkler heads, dependent upon the Hazard and Commodity Classification, shall provide adequate coverage and meet the design requirements per code. *(BSRV 5.2.2 #1 and 2007 edition of NFPA Chapter 8)*
4. **Hydraulic Calculations**: If calculations are required, calculate the most hydraulically demanding portion of the fire system (which shall include fire hose demand) back to the water supply source (flowtest, firepump, fire water tank, etc.) and provide a reference piping schematic, or reference drawings, indicating pipe arrangement and hydraulic nodes back to the source. *(BSRV 5.2.2 and 2007 edition of NFPA Chapter 22)*
5. **Hanger Support:** Requirements for proper hanging of sprinkler piping shall meet the intent of NFPA 13. *(2007 edition NFPA 13 Chapter 9)*
6. **Seismic Protection**: When required by the seismic design category of the building - Seismic protection (sway bracing, branchline restraint, flexible couplings, etc.) locations, details and calculations shall be provided. *(VUSBC 1613.6.3 and 2007 edition of NFPA Chapter 9)*
7. **Hose Valve and FDC Threads**: Fire Hose Valve (FHV) and Fire Department Connection (FDC) threads shall comply with City of Charlottesville and Albemarle County. *(VUSBC 901.4 and VUSBC 903.3.6 and FDG – BSRV 5.2.4)*
8. **Inspectors Test and Drains**: Location of all system drains, inspector's test station(s) and associated discharge/draining piping shall be routed to the exterior. *(BSRV 5.2.2 #8)*
9. **Drawing Submittals:** Each design phase; Schematic, Preliminary, and Construction Document, require a specific detail of scope in their submittal for OUBO review. The HECOM manual, section 8.6, 8.7, and 8.8 details each design phase's required submittal for "fire protection". In addition, NFPA 13 also has specific "plans and calculations" that shall be meet as part of the "fire protection" submittals. *(HECOM 8.6, 8.7, 8.8 and 2007 edition NFPA 13 Chapter 22)*
10. **System Acceptance:** All components of the designed sprinkler system shall be tested per NFPA 13 and witnessed by OUBO. Required documentation shall be provided, hydraulic nameplates posted, and as-builts submitted. In buildings where an automatic sprinkler system is required by the VUSBC it shall be successfully tested and approved before occupancy. *(VUSBC 3312 and 2007 edition NFPA 13 Chapter 24)*