



Phoenix Fire Department

Plan Review of 13-R Systems

REFERENCED FIRE CODES

NFPA 13-R, 2002 ed. and IFC Section 903, 2003 ed.

OBJECTIVE OF THIS CHECKLIST

This checklist is designed to guide the plan reviewer and contractor for the plan review of 13-R systems. This checklist shall be used in conjunction with the appropriate NFPA, Phoenix Fire Code, and IBC code books. This checklist is merely a general guideline to assist in the plan submittal and reviewer.

SEQUENCED PLAN REVIEW

Reference to Phoenix Fire Code, Section 903 (Automatic Sprinkler Systems) and NFPA 13-R along with the appropriate suppressant system manual.

REQUIRED PLAN REVIEW INFORMATION

REQUIREMENT	Section	Complete
<u>The following points need to be addressed when conducting a plan review for 13-R systems which include commercial buildings up to 4 stories in height:</u>		
<input type="checkbox"/> Verify plan has address.	903.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Verify installing contractor's information is provided on plan.	903.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Verify the plan being reviewed is a 13-R system.	903.3.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check and verify the scale.	105.2.8.1	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check to ensure the appropriate sprinkler cut sheets are included.	903.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check to ensure hydraulic calculation sheets are provided.	901.2	
<input type="checkbox"/> Ensure a maximum of 4-head calculations is provided per compartment.	13R 6.7.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Verify areas being calculated are in fact the most demanding areas.	903.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check and verify K-factor, starting GPM, and PSI, for type of sprinkler heads being calculated, are correct per data sheet.	Plan Review	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check calculations against the plans for the following: fittings, pipe sizing/lengths.	Data Sheets	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Ensure an FDC (Fire Department Connection) is included on structures over 2,000 sq. ft.	IFC 912.1	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Verify 10 PSI has been deducted from static pressure (NOT 10%).	903.3.1.8.3	YES <input type="checkbox"/> NO <input type="checkbox"/>



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REQUIREMENT	Section	Complete
<input type="checkbox"/> Check spacing between sprinkler heads and spacing off walls.	Plan Review	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check coverage in areas with soffits to ensure adequate protection. (Use figure 8.10.6.1.2b in NFPA 13)	IFC 903.3.1.3.1	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Ensure garages, carports, and balconies below living spaces are covered with sprinklers.	IFC 903.3.1.9	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Ensure that any sprinklers that are exposed to the outside elements and subjected to freezing are insulated.	Flow Chart Cut Sheets	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> If a ceiling has beams and slopes, check attached flow chart and manufacturers cut sheets.	NFPA 13 Section 8.10	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Check for any obstruction and reference accordingly.	Plan Review	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Ensure that a backflow device has been included in plans and a friction loss accounted for in hydraulic calculations.	COP Fire Marshal	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Ensure system is tapped into a commercial line (i.e. city main) and not a domestic water supply.	IFC 903.3.1.2.4	YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="checkbox"/> Ensure all 13R devices and materials are listed for fire service.	13R 5.1.2	YES <input type="checkbox"/> NO <input type="checkbox"/>