Fire Sprinkler Plan Review

This checklist is provided for the convenience of our customers. Complete and accurate plan submittals help speed the plan review process. Attention to the completeness and accuracy of information at the beginning of the process generally leads to fewer delays and requests for revisions by City staff. Please use the following information to assure that your application includes all of the information that is necessary for a complete review of your plans.

### Part. 1
**Applicant’s Responsibility**

Applicants are responsible for ensuring applications submitted are complete. Incomplete applications will result in plans being rejected for acceptance, or returned to the applicant during the review process. City service commitments will not apply to incomplete submissions.

### Part. 2
**Prerequisites**

**Plan Readability**
- Easily Read; legible; a readable typeface.
- Vivid contrast or difference in brightness between the light and dark areas of the drawing.

### Part. 3
**Applicable Codes**

Plans shall meet the requirements of the adopted codes, ordinances and regulations.

- 2006 International Building Code with local amendments
- 2006 International Fire Code with local amendments
- Applicable NFA Standards as Adopted
- Nevada State Fire Marshal Regulations
- Life Safety Report, if Applicable

### Part. 4
**Submittal Package**

Provide the following information at the time you submit your application for a fire alarm annunciator permit.

- A completed application form
- 1. Plan Reviewer’s Name: ______________________
   
   Date: ______________________

- 2. Project: ______________________

- 3. Address: ______________________

- 4. Fire Protection Contractor: ______________________

- 5. Contractor’s Address: ______________________

- 6. Contractor’s Phone #: ______________________
   
   Fax #: ______________________

- 7. Contact Name: ______________________
8. Date of Plan: ________________

Last Revision: ________________

Date of Revision ________________

9. Sprinkler Head Legend Filled out, with total sprinkler head count:

10. NICET Level: I II III IV or P.E.

Name: ____________________________________________


12. General Comments: ____________________________________________

13. Readability – Piping Plan – Pipe Size:

Dimensions: ____________________________________________

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Part 5
Plan Contents
Site Plans

Plans must contain the following minimum content requirements. This list is not intended to be all inclusive of every detail required on a set of civil improvement plans. Rather, it is provided to give an overview of the basic plan contents needed for the review of plans.

(Section 11)

Instructions to Plans Reviewers: Circle Answer or Fill In Blank or Draw Line through blank space if it is “Not Applicable”:

Y- N- 11.1 Underground Fire Main Size: ____________________________
Located & Dimensioned

Y- N- 11.2 Flow Test Paper Work Included

Y- N- 11.3 North Direction Indicated (NFPA-13, 22.1.3)

Y- N- 11.4 Scale of all Drawings Graphically Indicated (NFPA-13, 22.1.3)

Y- N- 11.5 Fire Department Connection (FDC) Location is Accessible (NFPA-13, 22.1.3)

Y- N- 11.6 FDC Located on the Building Wall (NFPA-13, 22.1.3)

Y- N- 11.8 FDC Located toward the Fire Lane (NFPA-13, 22.1.3)

Y- N- 11.9 Horn/Strobe Located above FDC (NFPA-13, 22.1.3)

Y- N- 11.10 Post Indicator Valve Shown (No Closer to The Building Than 5 Feet) (NFPA-24, 6.3)

Other _________________________________________________________________________

Comments for Section 11: ____________________________________________

__________________________________________________________________________

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Hazard Classification
(Section 12)

Y- N- 12.1 Light Hazard: ____________________ (NFPA-13, 5.1)

Description: __________________________________________________________________
12.2 Ordinary Hazard: 1 2
( NFPA-13, 5.1)
Description: ________________________________

12.3 Extra Hazard: 1 2
( NFPA-13, 13.1)
Description: ________________________________

12.4 General Storage to 12 ft. Height ( NFPA-13, 5.1)
Commodity Class: ________________________________

12.5 General Storage Over 12 ft. Height ( NFPA-13, 12.1)
Storage Height: ________________________________

Y- N 12.6 Rack Storage, Storage Height: ________________________________
In Rack Heads

12.7 Interior Hose Station Information ( NFPA-13, 8.17.5):
Y- N Required
Y- N Supply from Overhead
Y- N Supply from Adjacent Overhead System
Y- N Supply is Separate Piping System

12.8 Applicable NFPA Standard: 13 13D 13R
Other: ________________________________

12.9 Type of System: Wet Dry Pre-Action
Combined Dry/Pre-Action Antifreeze
Deluge Foam Foam/Water
Other: ________________________________

12.10 System Configuration: Tree Looped Mains Grid
12.11 Design Configuration: Pipe Schedule
Hydraulic Calculations

12.12 System Area Limitations:
Light & Ordinary Hazard: ________________________________
( NFPA-13, 8.2): 52,000 sq. ft. Max
Warehouse: (General & Rack Storage over 12 ft.) ________________________________
( NFPA-13, 8.2): 40,000 sq. ft. Max
Extra Hazard: (calculated) ________________________________
( NFPA-13, 8.2): 40,000 sq. ft. Max
Extra Hazard: (non-calculated) ________________________________
( NFPA-13, 8.2): 25,000 sq. ft. Max
Dry System Capacity: ________________________________
Anti-Freeze System Capacity: ________________________________

12.13 System Design Criteria: Density: ________________________________
Remote Area Size: _________________ sq. ft.

☐ 12.14 Remote Area Length Determined By:
   (NFPA 13) (1.2 Remote Area Size) _________________
   Other: _________________

☐ 12.15 Dry System Remote Area Increased by 30%:
   Minimum 1960 sq. ft (NFPA-13, 11.2.3.2.5) _________________ sq. ft.

☐ 12.16 Sloped Ceiling Exceeding 2" in 12", increased by 30%
   (NFPA-13, 11.2.3.2.4) _________________ sq. ft.

☐ Y ☐ N- 12.17 Quick Response Area Reduction Calculation Shown on Drawing
   (if used) (NFPA-13, 11.2.3.2.3.1)

☐ Y ☐ N- 12.18 Extra Hazard High Temperature Area Reduction: (25%)
   (NFPA-13, 11.2.3.2.6)

☐ Other _________________

☐ Comments for Section 12: _________________

Type of Construction (Section 13)

☐ 13.1 Type and Description of Obstructed Construction
   (NFPA-13, A.3.7.1):
   Beam & Girder: (Spacing 3’ to 7’-6” on center)
      Size: _________________ Spacing: _________________
   Composite Wood Joist: (Spacing Less Than 3’)
      Size: _________________ Spacing: _________________
   Panel Construction: (Beams Spaced More Than 7’-6” On Center, not over
   300 sq. ft.)
      Beam Sizes: Sizes: ____________ Spacing: _________________
   Wood Joist Construction
      Size: _________________ Spacing: _________________
   Concrete Twin "TT":
      Size: _________________ Spacing: _________________
   Other: _________________

☐ 13.2 Type and Description of Unobstructed Construction
   (NFPA-13, A.3.7.2):
   Bar Joist: Size: Size: _________________ Spacing: _________________
Open Grid Ceilings: 

Smooth Ceiling: 

Standard Mill Construction: 

Wood Truss Construction: Size: __________  Spacing: __________

Other: ____________________________________________

☐ 13.3 Roof Construction:

- Combatible: __________
- Non-Combustible: __________

☐ 13.4 Ceiling Construction:

- Combatible: __________
- Non-Combustible: __________

☐ 13.5 Attic Space Used As an Air Plenum: ____________________________________________

- Steel Fire Proofed: ____________________________________________

☐ Y-☐ N-☐ 13.6 All Combustible Concealed Spaces Protected

☐ Y-☐ N-☐ 13.7 Remote Area Increased for Combustible Concealed Spaces Not Protected  
(NFPA-13, 11.2.3.1.4)

☐ Y-☐ N-☐ 13.8 Draft Curtains

☐ Y-☐ N-☐ Smoke/Heat Vents

☐ Y-☐ N-☐ 13.9 Skylights/Glass Roofs

☐ Y-☐ N-☐ Ceiling Elevation Defined

☐ Y-☐ N-☐ 13.10 Ceiling Pockets

- Total Volume: ____________________________________________

☐ Y-☐ N-☐ 13.11 Hanger Details Provided  
(NFPA-13, 22.1.3)

☐ Y-☐ N-☐ Trapeze Hangers

☐ Y-☐ N-☐ 13.12 Method of Attachment for Hangers Acceptable  
(NFPA-13, Chapter 9)

☐ Y-☐ N-☐ 13.13 Earthquake Bracing Details Provided  
(NFPA-13, 22.1.3)

☐ Y-☐ N-☐ Calculations Provided  
(NFPA-13, 22.1.3)

☐ Y-☐ N-☐ 13.14 Method of Attachment for Earthquake Bracing Acceptable  
(NFPA-13, Figure 9.3.5.9.1)

☐ Other: ____________________________________________
### Sprinkler Head Spacing and Information

14.1 Material Submittals Included with The Plans

Complete:

- Actual Head Spacing On Drawing:
  - Light Hazard: $\text{sq. ft. per head}$
  - Ordinary Hazard: $\text{sq. ft. per head}$
  - Extra Hazard Pipe Schedule: $\text{sq. ft. per head}$
  - Extra Hazard Calculated: $\text{sq. ft. per head}$

- High Piled Storage with Density
  - Below .25: (Max. 130 sq. ft.): $\text{sq. ft. per head}$
    - *(NFPA-13, Table 8.6.2.2.1(c))*
  - High Piled Storage with Density Over .25:
    - (Max. 100 sq. ft.) $\text{sq. ft. per head}$
      - *(NFPA-13, Table 8.6.2.2.1(c))*
  - ESFR Sprinkler Heads: (Max. 100 sq. ft.): $\text{sq. ft. per head}$
    - *(NFPA-13, Table 8.12.2.2.1)*
  - Large Drop Sprinkler Head: $\text{sq. ft. per head}$
  - Extended Coverage Upright or Pendent Head: $\text{sq. ft. per head}$
  - Sidewall Sprinkler Head: $\text{sq. ft. per head}$
  - Extended Sidewall Sprinkler Head: $\text{sq. ft. per head}$
  - Extended Sidewall Sprinkler Head Distance Calculated to Throw $\text{ft.}$

- Small Room Rule Properly Applied
  - *(NFPA-13, A.8.6.3.2.4(a,b,c,& d))*:
14.3 Deflector Distance Below Roof or Ceiling: (Refer to listing or Manufacturer’s Data Sheets Extended Coverage and Special Sprinklers, i.e. Large Drop, ESFR.)

Unobstructed Construction:
- Spray Heads 1” to 12’” (An Exception May Apply) (NFPA-13, 8.6.4.1.1)
- Sidewall Heads 4” to 6” (An Exception May Apply)

Obstructed Construction:
- Spray Heads 1” to 6” Under Structural Member: (NFPA-13, 8.6.4.1.2)
  (Max. Of 22” Below Ceiling / Roof Deck.)

14.4 SPECIAL CONSIDERATIONS:
- Min. 18” Clearance from Deflector to Top of Storage (Standard Head)
- Min. Clearance from Deflector to Top of Storage (Special Head Listing)
- Temperature Ratings Identified (NFPA-13, 22.1.3)
- Heater Zones
- Attic Area’s (212°F) (NFPA-13, Table 6.2.5.1)
- Skylights (Plastic/Glass - 212°F) (NFPA-13, Table 6.2.5.1)
- Single Level of Sprinklers in Rack (½” 165°F)
- Multiple Level of Sprinklers in Rack (½” 165°F) w/ Deflector Shield

Other

Comments for Section 14:

Riser and Valve Arrangements (Section 15)
- Single Wet Riser (NFPA-13, Figure A8.15.1.1)
- Single Dry Riser (NFPA-13, Figure 8.15.1.1)
- Single Pre-Action Riser (NFPA-13, Figure 8.15.1.1)
- Single Deluge Riser (NFPA-13, Figure 8.15.1.1)
- Dry/Pre-Action/Deluge Valve Trim Shown On the Drawings (NFPA-13, 22.1.3)
- Auxiliary System Off the Main System (NFPA-13, 7.1.3)
- Floor Control Stations (Multiple Story Building)
Checklist
Fire Sprinkler Plan Review

15.8 Multiple System Riser Valve Arrangement *(NFPA-13, Figure A8.16.1.1)*

15.9 Required Relief Valve on a Grid System *(NFPA-13, 7.1.2)*

15.10 Water Pressure Gauges are Provided Above & Below the Main Check Valve *(NFPA-13, 7.1.1)*

15.11 Is the Inspectors Test Located In/Around the Remote Area

15.12 Auxiliary Drains Are Indicated on Secondary Mains of Gridded System *(NFPA-13, 8.16.2.5)*

15.13 Are Auxiliary Drains and Discharge for Trapped Sections of Piping Shown *(NFPA-13, 8.16.2.5)*

15.14 Are Drum-Drip’s Drains Shown for Dry System Auxiliary Drains

15.15 Are All Control Valves Supervised *(NFPA-13, 8.16.1.1.2)*

Other

Other Comments for Section 15:

Hydraulic Calculations (Section 16)

16.1 Area/Density Method

16.2 Cover Sheet Completely Filled Out *(NFPA-13, 22.1.3)*

16.3 Water Flow Used Matches Accepted Paperwork

16.4 Water Flow Test is Current (Year Old Maximum)

16.5 10 PSI Safety Factor *(COH ORD., 14.4.1.6.1)*

16.6 Occupancy Classification Match Drawings

16.7 Hose Allowance Added

16.8 Sprinkler Head Matches Sprinkler Head Legend on Drawings

16.9 Equivalent “K” Factors Calculations *(NFPA-13, 22.1.3)*

16.10 Required Designed Minimum Flow from Remote Sprinkler

16.11 Required Designed Minimum Pressure from Remote Sprinkler

16.12 Node Points Flowing Match Remote Area *(NFPA-13, 22.1.3)*

16.13 Correct “C” Factor Used *(NFPA-13, 22.1.3)*

16.14 Elevation Changes Match Drawings *(NFPA-13, 22.1.3)*

16.15 Pipe ID’S Match Plans/Manufactures Cut Sheets
<p>| | | | | |</p>
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<td>Maximum Velocity Shall Not Exceed 32 fps <em>(COH. ORD., 14.4.1.5.1)</em></td>
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<td>Grid System “Peaked” <em>(NFPA-13, 22.1.3)</em></td>
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<td>Y</td>
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<td>16.21</td>
<td>Grid Flow Chart Provided <em>(NFPA-13, 22.3.5.6)</em></td>
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<td>Fixed Flows Added at the Proper Location <em>(NFPA-13, 11.1.5)</em></td>
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Other

**COMMENTS FOR SECTION 16:**

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Part 6

Other Information