

## **SECTION 15900**

### **FIRE PROTECTION**

#### **PART 1 - GENERAL**

##### **1.01 RELATED DOCUMENTS**

- A. All work in this section shall conform to the General Documents and General Requirements and with all other contract documents.
- B. Review all drawings and all sections of the specifications for provisions therein affecting the work of this section.
- C. As used in this Section the word "Provide" means "Furnish and Install". The words "FP Contractor" shall mean the Fire Protection Contractor under this Section 15900.

##### **1.02 SCOPE OF WORK**

- A. Provide new sprinkler system such that the entire structure be properly protected.
- B. Systems shall be in accordance with the latest standards of Factory Mutual Fire Insurance Company, the NFPA, the State Inspection Bureau and all Local Agencies having jurisdiction. It will be this Contractor's responsibility to provide all systems complete and operable.
- C. Fabrication and installation shall be by experienced, competent workmen and regularly engaged in the work.
- D. Work shall include, but shall not necessarily be limited to the following:
  - 1. Provide new service line, check valves, claxton, pumper connection and all piping required for the installation of new heads as required for a completely sprinkled building.
  - 2. Connect branch lines to mains including all required fittings, etc.
- E. The contractor shall obtain all permits and pay all fees required for the work.
- F. The contractor shall get approval of building owner and local fire marshals office before installing the new fire suppression system.

## **PART 2 - PRODUCTS**

### **2.01 SPRINKLERS**

- A. Sprinklers shall be approved automatic spray sprinkler to comply with NFPA 13. Sprinklers shall be of operating temperature as required by NFPA and the Fire Marshall's Office. Provide approved number of heads of various types and quantities as required by Insuring Agency and local Fire Marshall.
- B. Standard chrome semi-recessed sprinklers with 1/2-inch discharge orifice in a two piece escutcheon finished areas where shown on drawings.

### **2.02 CEILING PLATES**

- A. Provide Ritter, Carpenter and Patterson, Beaton, and Cadwell No. 10 chrome plates on lines passing through ceiling in finished areas. Provide chrome button plates on hanger rods passing through finished ceilings.

### **2.03 HANGERS**

- A. Hangers must be NFPA approved type for construction used. Hangers must be properly spaced and secured to building structure to adequately support lines. Support from suspended ceilings and/or similar construction will not be accepted. Support and anchors must be approved by Architect/Engineer prior to installation.

### **2.04 PIPING**

- A. Pipe shall be new, designed for 175 PSI working pressure, conforming to ASTM Specifications.
- B. Pipe shall be black steel, Schedule 40, and in accordance with Specifications ASTM A 135 and A 53.
- C. Schedule 40 black steel pipe shall be joined by screwed joints in accordance with Specification ANSI B 1,20.1-1983 (ANSI/ASME B 2.1) by mechanical grooved couplings or push-on couplings, joined by NFPA 13 approved combination of couplings, gaskets and grooves.
- D. Screwed fittings shall be cast iron, 150 lb. class, black and in accordance with ANSI B16.4 or malleable iron, 150 lb. class, black and in accordance with ANSI B 16.3.

- E. Grooved couplings and mechanical fittings shall be malleable iron, 500 PSI working pressure, in accordance with ASTM A 47. Grooved couplings and mechanical fittings shall be tested and listed by UL, FM, or NFPA 13 approved.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Drawings were prepared with intent that all lines clear all obstructions such as pipes, beams, lights, hangers, and similar items. Examine building and plans confirming dimensions before pipe is cut, fabricated and/or installed, to determine if offsets are necessary. Where required, offsets shall be made without additional cost to Owner.
- B. Following general scheme shall be employed when locating sprinkler heads unless restricted by Rules and regulating bodies.
  - 1. Unless otherwise indicated, conceal pipe in finished portions of building and exposed elsewhere. Locate concealed piping above suspended ceilings. Install exposed piping parallel or perpendicular to walls.
  - 2. Lines at or above ceilings shall be held as high as possible and be run to avoid conflicts. Include fittings and material required to accomplish this result.
  - 3. Sprinkler heads are to be centered in ceiling tile or ceiling pattern as directed by Architect/Engineer.
- C. Hangers must be properly spaced and secured to building structure to adequately support lines. Support from suspended ceilings and/or similar construction will not be accepted.
- D. Devices shall be in accordance with Rules and Regulations of NFPA and Insuring Agency and shall bear their label of approval.
- E. Reducing bushings are not permitted in more than one outlet of any tee or any two outlets of any cross. Bushings are not permitted in any elbow or when the reduction in size of the outlet is less than 1/2 inch.

### **3.02 TESTING**

- A. Test new and existing systems under normal operating conditions and demonstrate that parts are functioning properly. Conduct test and secure final certificates of approval. Deliver copies of Certificate to Architect/Engineer.

- B. Tests shall include but not be limited to the following:
1. Two hour, 200 pound hydrostatic test aboveground system.
  2. Working test all systems. Testing of sprinkler piping system to be witnessed by Fire Marshal and Owner or his representative.
  3. Include cost and run such tests as may be necessary to demonstrate that equipment equals or exceeds capacities specified upon request.
- C. Notify Owner's representative twenty-four hours before testing.

**END OF SECTION**