

**SECTION 210000
FIRE SPRINKLERS**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

General Provisions of Contract, including General and Supplementary conditions and General Requirements (if any) apply to work specified in this Section.

1.03 DEFINITIONS

- A. Equal: Shall mean essentially the same as that product specified, but a model of a different manufacturer.
- B. Concealed: Shall mean in walls, in chases, above ceilings, within enclosed cabinets, otherwise enclosed.
- C. Exposed: Shall mean in finished spaces, in closets, under counters, behind and/or under equipment and/or otherwise visible.
- D. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawl spaces, and tunnels.
- E. Others: Shall mean provided by sections other than this section. If not purposely assumed by another section, shall be provided by the General Contractor.
- F. Materials: Shall mean any product used in the construction, including but not limited to: fixtures, equipment, piping and supplies.
- G. Piping: Shall mean pipe, fittings, hangers and valves.
- H. Provide: Shall mean the furnishing and installing of materials.
- I. Reviewed equal: Shall mean that the Engineer, not the contractor, shall make final determination whether materials are an equal to that which is specified.
- J. Substitution: Shall mean materials of significantly different physical, structural or electrical requirements, performance, dimensions, function, maintenance, quality or cost, than that specified.

1.04 DESCRIPTION OF WORK

A. Work Included

Provide all design services, construction documents, labor, transportation, equipment, permits, materials, tools, inspections, incidentals, tests and perform all operations in connection with the **modification of the existing Wet Pipe Sprinkler System in the building to accommodate new wall partitions.** Comply with requirements of all Authorities Having Jurisdiction. Include aesthetic considerations into the design. Coordinate with interfacing trades. Submit equipment and components for review. Prepare Shop and Record Drawings and Owner's Manuals. Assure quality of workmanship. Provide guarantees and warranties. All work shall meet the standards of the most recent edition of the National Fire Protection Association's (NFPA) NFPA 13 Standard for the Installation of Sprinkler Systems.

1.05 SUBMITTALS

A. Shop Drawings:

1. Within 30 working days after the General Contractor has received a fully executed contract, prepare and submit Plans / Shop Drawings in accordance with the requirements of NFPA and obtain the Engineer's approval and Owner's Insurance Underwriter approval before proceeding with the fabrication and work.
2. Drawings shall include, but not be limited to:
 - a. Name of Owner and Occupant
 - b. Name and address of Contractor.
 - c. Physical Location
 - d. Plan view of system
 - e. Full height cross section or schematic diagram including ceiling construction and spray obstructions, if required.
 - f. Locations of all partitions, with fire partitions noted.
 - g. Locations of any added concealed spaces
 - h. Make, model and nominal K factor of sprinkler heads.
 - i. Pipe sizes, if any change.
3. To obtain an electronic copy of the building plan and sections, contact the Engineer. Specify required CAD format when requesting the files.
4. Procedure
 - a. As soon as possible after award of Contract, before any material or equipment is purchased, this Contractor shall submit to the Engineer no less than 6 (six) copies for approval. Shop drawings shall be properly identified and shall describe in detail the material and equipment shall be provided, including all dimensional data, performance data, curves, computer selection print-outs, etc.
 - b. Corrections or comments made on the submittals do not relieve the contractor from compliance with requirements of the specification. Shop drawing review is only for review of general conformance with the

design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades and performing his work in a safe and satisfactory manner.

- c. All related items shall be submitted as a package.
- 4. Submit data on the following items:
 - a. Piping, fittings and couplings.
 - b. Flow valves, if any added.
 - c. Valves and supervisory devices, if any added.
 - d. Sprinkler heads and escutcheon plates.
 - e. Supports, hangers and accessories.
 - f. Any other significant item valued over \$100.00
- 5. Submit to the Owner's Insurance Underwriter sufficient copies for approval to allow one copy to be incorporated into each Owner's Manual in addition to the required As-Built Plans

1.06 HYDRAULIC DESIGN DATA

- A. Water Density and Square Foot Requirements: Provide per NFPA.
- B. Codes and Requirements:
 - 1. Comply with the standards of most recent edition of the National Fire Protection Association.
 - 2. Comply with the BOCA International Building Code, all Maine State laws as well as local codes and ordinances.
 - 3. Comply with the requirements of the State Fire Marshals Office, Local Fire Chief, Owners Insurance Underwriter, Local Water District and other Authorities Having Jurisdiction

1.07 GUARANTEE

This Contractor shall guarantee all materials and workmanship furnished by him or his sub-contractors to be free from all defects for a period of no less than one (1) year from date of final acceptance of completed system and shall make good, repair or replace any defective work which may develop within that time at his own expense and without expense to the Owner.

1.08 MAINTENANCE MANUAL

On completion of this portion of the work, and as a condition of its acceptance, submit for review two copies of a manual describing the system. Prepare manuals in durable 3-ring binders approximately 8.1/2" by 11" in size with at least the following:

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- A. Project name on the spine and front cover, and identification on the front cover stating the project name, general nature of the manual, and name, address and telephone number of the General and Sprinkler Contractors.
- B. Neatly typewritten index.
- C. Complete instructions regarding operation and maintenance of all equipment involved.
- D. Complete nomenclature of all frequently replaceable parts and supplies, their part numbers, and name, address and telephone number of the vendor.
- E. Copy of all guarantees and warranties issued, and dates of expiration.
- F. Shop drawings and equipment/fixtures manufacturer's catalog pages.

PART 2 – PRODUCTS

All products shall be new and must be either Factory Mutual (FM) or Underwriters' Laboratory (U.L.) listed or both.

2.02 MATERIALS

- A. Piping:
 - 1. Match existing.
- B. Sprinkler Heads:
 - 1. Match existing
- C. Hangers: Match existing. . Provide seismic protection unless specifically exempt by the Authority Having Jurisdiction. Hang from building structure, not piping of other trades.
- E. Sleeves:
 - 1. Fire caulk all penetrations through floors and fire rated partitions.
- F. Valves:
 - 1. Match existing.
- G. Provide all miscellaneous items required for a complete system, such as: paint, signs, valve tags, pipe markers, chains and locks, relief valves, and water additives. Match existing whenever possible.

PART 3 – EXECUTION

3.01 PREBID EXAMINATION AND INVESTIGATION

- A. Visit the site and become acquainted with the conditions.
- B. Study all Drawings and Specifications for all related and interfacing trades. No claim will be recognized for extra compensation due to failure to become familiarized with the conditions and extent of the proposed work as indicated within.
- C. Ascertain all Authorities Having Jurisdiction, and consult where needed.

3.02 OBTAINING DRAWINGS AND SPECIFICATIONS

- A. Obtain a FULL set of drawings and specifications as soon as is practical.

3.03 SPECIFIC INSTALLATION REQUIREMENTS

- A. All piping in finished areas shall be run concealed wherever possible.
- B. For aesthetic reasons, locate sprinkler heads neatly and symmetrically, relative to the walls, ceiling grid, diffusers and light fixtures. Line-up heads whenever possible. Locate heads in tiles in suspended ceilings, such that they are: centered whenever possible or at quarter points when so required.
- C. All sprinkler work shall avoid proposed locations of, and installation clearances for, lighting, ducts, piping, framing and equipment.

3.04 COORDINATION

- A. Coordinate sprinkler work with that of other trades of these floor and any other interfacing floors. Coordinate early for locations of large piping. Ductwork, mechanical equipment, electrical panels and large gravity piping will be given priority over sprinkler piping, unless all effected parties agree otherwise. No compensation will be given for neglect to comply with the above and no claim will be recognized for sprinkler piping, heads and miscellaneous appurtenances which must be modified, removed and reinstalled or relocated, due to conflicts with other work which is or will be installed per the Contract Documents.
- B. If any electrical work is required, contact the Electrical Contractor and assure that all requirements for power and fire alarm system have been met.

3.05 TESTS

- A. The entire installation shall be tested with water in accordance with all NFPA requirements, all requirements of the local Fire Department and local Water District; and the Owner's Insurance Underwriter; this includes the testing of all alarms.

END OF SECTION 21000