City of Portsmouth
Department of Public works

Bid # 58-23
City Hall Signage and Lobby Renovations

ADDENDUM 2

ADDITIONAL WORK

Remove six (6) sprinkler heads in main corridor. Replace with new heads concealed in acoustic ceiling tile per Fire Department requirements and specifications.

Contact Dan Hartrey at djhartrey@cityofportsmouth.com to arrange a site visit if needed.

Bidder will acknowledge this addendum within your proposal. Failure to do so may subject bidder to disqualification.

Portsmouth Fire Department Bureau of Fire Prevention and Control
170 Court St., Portsmouth NH 03801
603-427-1515

General Information for Fire Sprinkler Designers / Installation Contractors

1. Engineer (FPE) of record is required for this work.
2. The registered design professional's license must designate them as qualified in the field of fire protection.
3. All documents shall be reviewed and stamped by the FPE to be considered a complete permit application.
4. Any deviations from the approved plan shall be submitted to the FPE of record for review, stamped and submitted to the Bureau before a final inspection.
5. Permits and inspections shall be required for:
    a. New installations of any fixed fire suppression system including sprinkler, standpipes, & clean agent systems
    b. Alterations of existing systems (relocating a head, nozzle etc. is an alteration)
    c. Repairs of existing systems
6. Electronic shop drawings will show all applicable items listed in 2016 NFPA 13 Chapter 23 including:
        1. A signed copy of the owners certificate (2013 NFPA 13.4.3)
        2. Water supply capacity information from a waterflow test conducted no more than 12 months prior
        3. Floor plans with piping, heads, riser locations etc. This shall *not* be on a reflected

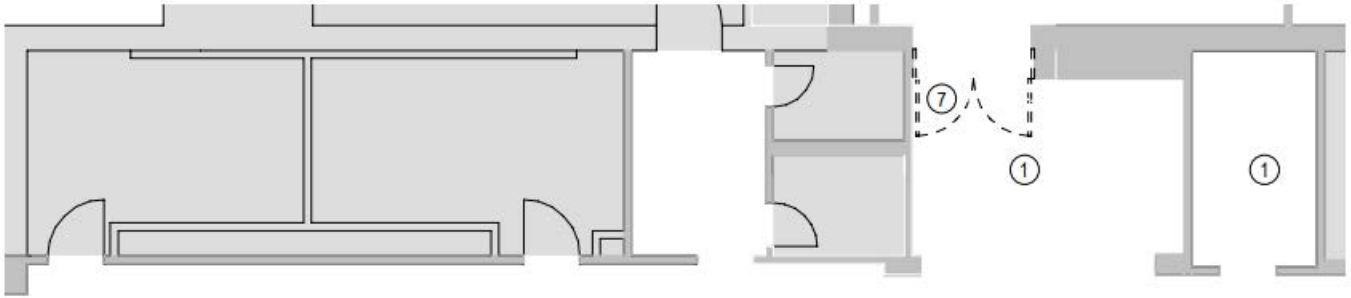
ceiling drawing

4. Hydraulic calculations, including a graph sheet, node analysis and detailed worksheet
5. Specification sheets shall only be for materials specified in the system proposed. Documents that do not pertain to the alarm shall not be included with the submittal and shall lead to the plans being returned.
6. Failure to adhere to the additional requirements listed below

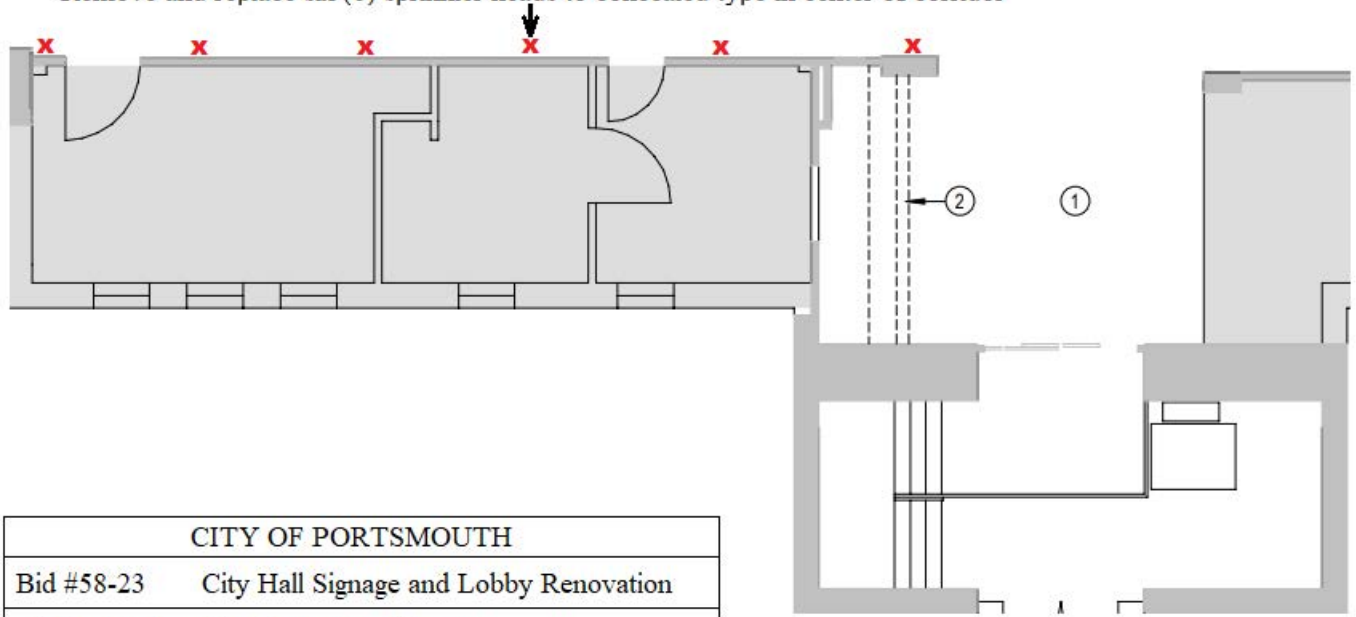
7. Additional Installation, Inspection, and Acceptance Requirements:
    a. NFPA 13 and 13R systems hydraulic calculations shall demonstrate a safety margin of 10% of system demand pressure or 10 psi, whichever is greater (A 10 PSI minimum will be strictly enforced)
    b. The hydraulic data nameplate and general information sign and a list of all control, drain, venting and test connections SHALL be provided on a weatherproof metal or rigid plastic material permanently secured to the riser. If this is not in place, the inspection shall end and be rescheduled at a later date. A re-inspection fee shall be paid prior the rescheduled inspection.
    c. A rough inspection of all system components shall be scheduled and completed prior to being covered or enclosed
    d. Failure to have a properly operating system will cause the system to be rejected at the final inspection. A re- inspection fee shall be charged for all additional inspections for failed and/or incomplete inspections. This includes any fire alarm system components connected to the sprinkler system
    e. All NFPA 13 and 13R fire protection sprinkler and standpipe system valves shall be supervised. All waterflow devices shall be supervised and automatically report as a fire alarm via a UL listed central station. See fire alarm info sheet
    f. Upon system completion, the system installer shall notify the Portsmouth Water Department for a final backflow preventer test. The backflow preventer test certificate shall be shown to the building inspector during the final building inspection.
    g. Provisions for a full forward flow of the backflow preventer at the minimum flow rate of the system demand shall be demonstrated on shop/drawings/plans.
    h. Exterior key boxes are required from www.knoxbox.com for any structure with a sprinkler system. Be sure to select Portsmouth, NH Fire Department to ensure proper keying. Consult with Bureau on the type, number of boxes, master key quantity/requirements and installation location(s) prior to ordering

The installer shall schedule a final system test and inspection with the Fire Prevention Bureau. The contractor shall submit a Contractor's Material and Test Certificate for Aboveground Piping to certify the system has been 100% tested and functions in compliance with the approved system design, prior to the requesting a final inspection. Figure 25.1 in 2016 NFPA 13 shall be the only acceptable format. A copy is available on the department

web site. *Final inspection shall not be scheduled by the Bureau without this form. Partial or incomplete forms shall not be accepted.*



Remove and replace six (6) sprinkler heads to concealed type in center of corridor



CITY OF PORTSMOUTH	
Bid #58-23	City Hall Signage and Lobby Renovation
Addendum 2	Fire Protection Changes

BID 58-23 City Hall Signage and Lobby Renovations

SECTION 211000 - WATER-BASED FIRE-SUPPRESSION SYSTEMS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals:

1. Product Data for valves, sprinklers, specialties, and alarms.
2. Submit sprinkler system drawings identified as "working plans" and calculations according to NFPA 13. Submit required number of sets to authorities having jurisdiction for review, comment, and approval. Include system hydraulic calculations.
3. Submit test reports and certificates as described in 2016 NFPA 13.

B. Work conditions

1. If a shutdown of the building fire suppression system is required for this work, contractor will arrange with the City to perform the shut down on a weekend.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Design and Installation Approval: Acceptable to authorities having jurisdiction.

B. Hydraulically design sprinkler systems according to 2016 NFPA 13.

C. Comply with **NFPA 16** and NFPA 70.

D. UL-listed and -labeled and FM-approved pipe and fittings.

2.2 PIPE AND FITTINGS

A. Steel Pipe: ASTM A 53/A 53M, ASTM A 135, or ASTM A 795.

B. Copper Tube: ASTM B 88, Type L or M (ASTM B 88M, Type B or C); drawn temper.

C. CPVC Plastic Pipe: ASTM F 442/F 442M, UL 1821, 175-psig (1207-kPa) rating, made in NPS ((DN)) for sprinkler service. Include "Listed" and "CPVC Sprinkler Pipe" marks on pipe.

D. Cast-Iron Threaded Flanges: ASME B16.1, Class 250, raised ground face, bolt holes spot faced.

E. Cast-Iron Threaded Fittings: ASME B16.4, Class 250, standard pattern.

F. Grooved-End Fittings: UL-listed and FM-approved, ASTM A 536, Grade 65-45-12 ductile iron or ASTM A 47, Grade 32510 malleable iron, with grooves or shoulders designed to accept grooved couplings.

G. Grooved-End Couplings: UL 213, ASTM A 536 ductile-iron or ASTM A 47 malleable-iron housing, with enamel finish. Include gaskets, bolts, and accessories.

H. Wrought-Copper Fittings: ASME B16.22, streamlined pattern.

I. Steel Press-Seal Fittings: UL 213, FM approved, 175-psig (1207-kPa) pressure rating, for use with Schedule 5, plain-end, steel pipe and fittings; with butylene O-rings, and pipe stop.

J. CPVC Plastic Pipe Fittings: ASTM F 438 for NPS 3/4 to NPS 1-1/2 (DN 20 to DN 40) and ASTM F 439 for NPS 2 (DN 50), UL listed, 175-psig (1207-kPa) rating, for sprinkler service. Include "Listed" and "CPVC Sprinkler Fitting" marks on fittings.

K. Provide hangers, supports, and seismic restraints with UL listing and FM approval for fire-protection systems.

2.3 VALVES

A. Two-Piece Ball Valves with Indicators:

1. Description: UL 1091, and FM Global Class Number 1112, Forged brass or bronze, 175 psig working pressure.
2. End Connections for Valves NPS 1 through NPS 2): Threaded ends.
3. End Connections for Valves NPS 2-1/2 : Grooved ends.

B. Bronze Butterfly Valves with Indicators:

1. Description: UL 1091 and FM Global Class Number 1112, Bronze, 175 psig working pressure.
2. End Connections for Valves NPS 1 through NPS 2: Threaded ends.
3. End Connections for Valves NPS 2-1/2: Grooved ends.

C. Bronze OS&Y Gate Valves:

1. Description: UL 262, cast bronze, solid wedge, outside screw and yoke, rising stem, 175 psig working pressure.

D. Check Valves:

1. Description: UL 312 and FM Global standard for swing check valves, Class Number 1210, 175 psig working pressure, cast iron, or bronze with bronze clapper.

E. Alarm Check Valves:

1. Description: UL 193, 175-psig working pressure, designed for horizontal or vertical installation, with cast-iron, bronze grooved seat with O-ring seals, and single-hinge pin and latch design. Include trim sets for bypass, drain, electric sprinkler alarm switch, pressure gages, retarding chamber, fill-line attachment with strainer, and drip cup assembly.

F. Automatic (Ball Drip) Drain Valves:

1. Description: UL 1726, 175-psig working pressure NPS 3/4, ball check device with threaded end connections.

2.4 SPRINKLERS

A. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide" listing published by FM Global.

1. Pressure Rating for Residential Sprinklers: 175 psig maximum.
2. Pressure Rating for Automatic Sprinklers: 175 psig minimum.

B. Automatic Sprinklers with Heat-Responsive Element:

1. Nonresidential Applications: [**UL 199**]
2. Residential Applications: [**UL 1626**].
3. Early-Suppression, Fast-Response Applications: [**UL 1767**].
4. Characteristics: Nominal 1/2-inch orifice with Discharge Coefficient K of 5.6, and for "Ordinary" temperature classification rating unless otherwise indicated or required by application.

C. Sprinkler Finishes: recessed in ceiling .

2.5 SLEEVES

A. Galvanized-Steel-Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, with plain ends.

B. Galvanized-Steel-Sheet Sleeves: 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint.

C. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.

2.6 SLEEVE-SEAL SYSTEMS

A. Description: Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.

1. Sealing Elements: **EPDM-rubber** interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: **Carbon steel**.
3. Connecting Bolts and Nuts: **Carbon steel, with corrosion-resistant coating** of length required to secure pressure plates to sealing elements.

2.7 FLOOR PLATES

A. One-Piece Floor Plates: Cast-iron flange with holes for fasteners.

B. Split-Casting Floor Plates: Cast brass with concealed hinge.

3.1 GENERAL PIPING INSTALLATIONS

A. Install piping free of sags and bends.

B. Install fittings for changes in direction and branch connections.

C. Sleeves:

1. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.
2. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide [**1-inch (25-mm)**] <**Insert dimension**> annular clear space between piping and concrete slabs and walls.
3. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.

D. Escutcheons and Floor Plates:

1. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.
2. Install escutcheons with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.
3. Install floor plates for piping penetrations of equipment-room floors.
4. Install floor plates with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.

E. Install unions at final connection to each piece of equipment.

3.2 SPRINKLER PIPING INSTALLATION

A. Install "Inspector's Test Connections" in sprinkler piping, complete with shutoff valve.

B. Install sprinkler zone control valves, test assemblies, and drain headers adjacent to standpipes.

C. Install ball drip valves to drain piping between fire department connections and check valves. Drain to floor drain or outside building.

D. Install alarm devices in piping systems and connect to fire-alarm system.

E. Protect piping from earthquake damage as required by NFPA 13.

F. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Install gages to permit removal, and install where they will not be subject to freezing.

G. Install fire-protection service valves supervised-open, located to control sources of water supply except from fire department connections. Where there is more than one control valve, provide permanently marked identification signs indicating portion of system controlled by each valve.

H. Install check valve in each water supply connection. Install backflow preventers in potable-water supply sources.

I. Install alarm check valves for proper direction of flow, including bypass check valve and retard chamber drain line connection.

3.3 SPRINKLER SCHEDULE

A. Rooms with Suspended Ceilings: **Concealed sprinklers**.

B. Special Applications: Extended coverage or quick-response sprinklers as indicated.

C. Sprinkler Finishes: **White enamel** in finished spaces.

D. Install sprinklers in suspended ceilings in center of ceiling panels.

3.4 PIPING SCHEDULE

A. Use steel pipe with threaded, press-seal, roll-grooved, or cut-grooved joints.

1. For steel pipe joined by threaded fittings, use Schedule 40.
2. For steel pipe joined by welding or roll-grooved pipe and fittings, use Schedule 10.
3. For steel pipe NPS 2 and smaller, joined by press-seal fittings, use Schedule 5 pipe, fabricated with manufacturer's press-seal tools.

B. Use copper tube with wrought-copper fittings and brazed joints.

C. Pipe between Fire Department Connections and Check Valves: Use galvanized-steel pipe with flanged or threaded joints.

3.5 TESTING

A. Flush, test, and inspect sprinkler piping systems according to NFPA 13.

END OF SECTION 211000

Bidder will acknowledge this addendum within your proposal. Failure to do so may subject bidder to disqualification.

End of Addendum 2