



ARCHITECTS

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ADDENDUM No. 02

DATE: April 15, 2024

PROJECT: TOBACCO ROAD ELEMENTARY SCHOOL ROOFING PROJECT

PROJECT NO. 2313

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This Addendum is hereby made a part of the Contract Documents on the subject work as though originally included therein. The following clarifications, amendments, additions, deletions and/or modifications to the Specifications and Drawings change the original documents only in the manner and the extent stated.

#### A - REVISIONS TO THE PROJECT MANUAL

1. TABLE OF CONTENTS: **ADD** DIVISION 078413 PENETRATION FIRESTOPPING
2. Section B PROPOSAL FORM: **REPLACE** section in its entirety. The following paragraph has been added:  
ADD sub paragraph 2 as shown below for ADD ALTERNATE #2.  
2) ADD ALTERNATE # 2: Provide repairs to Soffit Panels that are sagging or falling out of soffit area  
Re attach nailer strips to building per detail provided on sheet A1.4  
  
ADD SUM OF \_\_\_\_\_ DOLLARS  
(\$ \_\_\_\_\_) per **lineal foot of soffit. Lengths of soffits vary.**
3. **ADD** section 078413 PENETRATION FIRESTOPPING.
4. **SECTION 07015 PREPARATION FOR REROOFING:**
  - a. PARAGRAPH A.1: **MODIFY PARTIAL** to FULL tear off of entire roof.
5. **SECTION 0753 EPDM ROOFING:**
  - a. Paragraph 2.2: **CLARIFICATION:** Double stripping is not required at joints.
  - b. Paragraph 2.6: **MODIFY:** "...The intent is to remove and reuse existing coping..." to "The intent is to remove and **replace** existing coping..."

#### B - REVISIONS TO THE DRAWINGS:

1. SHEET CS1.1: **ADD** A1.4 to the Index of Drawings

#### ATTACHMENTS:

SECTION B PROPOSAL FORM  
Section 078413 PENETRATION FIRE STOPPING  
SHEET A1.4

END OF ADDENDUM TWO

SECTION B - PROPOSAL FORM

\_\_\_\_\_  
INSERT NAME AND ADDRESS

DATE \_\_\_\_\_

RE: Project No. B21-016-0294  
TOBACCO ROAD ROOFING PROJECT  
2397 TOBACCO ROAD, AUGUSTA, GA 30906

Ladies and Gentlemen:

B-01 Having carefully examined the specifications entitled, "Project No. B21-016-0294, TOBACCO ROAD ELEMENTARY SCHOOL ROOFING PROJECT, Richmond County", and the drawings similarly entitled, numbered, all dated **11.08.2023** and addendum (a) Nos. \_\_\_\_\_, as well as the premises and conditions affecting the work, the undersigned proposes to furnish all services, labor and materials called for by them for the entire work, in accordance with said documents for the sum of:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

which sum is hereafter called the "BASE BID"

B-02. The undersigned further proposes that should any of the following alternates or unit prices be accepted and is incorporated in the contract, the Base Bid may be altered if elected by the Owner as follows:

a) **ADD ALTERNATE # 1: Change EPDM Roof Membrane from 60 mil (Base Bid) to 90 mil**

**ADD SUM OF \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)**

2) **ADD ALTERNATE # 2: Provide repairs to Soffit Panels that are sagging or falling out of soffit area Re attach nailer strips to building per detail provided on sheet A1.4**

**ADD SUM OF \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_) per**  
lineal foot of soffit. Lengths of soffits vary.

B-03 a) If rock, boulders, weathered shale or other unsuitable materials as defined in the General Conditions is encountered by the contractor during the general overall grading operation, the Owner will pay the contractor \$ \_\_\_\_\_ per cubic yard for the removal and disposal of said materials off site.

b) If rock, boulders, weathered shale or other unsuitable materials as defined in the General Conditions is encountered by the contractor during the trench excavation, the Owner will pay the contractor \$ \_\_\_\_\_ per cubic yard for the removal and disposal of said materials off site.

c) The quantity of rock, boulders, weathered shale or other unsuitable materials as defined in the General Conditions will be as computed by the architect on the basis of measurements taken by the architect—excavation of said unsuitable materials is to be carried out only when authorized by the architect.

- d) Rock payment lines are limited to the following:
  - 1. Two feet outside concrete work for which forms are required, except footings.
  - 2. One foot outside perimeter of footings
  - 3. In pipe trenches, 6 inches below invert elevation of pipe and 2 feet wider than inside diameter of pipe, but not less than 3 feet minimum trench width.
  - 4. Outside dimensions of concrete work where no forms are required.
  - 5. Under slabs on grade, 6 inches below bottom of concrete slab.

B-04 For and in consideration of the sum of \$1.00, the receipt of which is hereby acknowledged, the undersigned agrees that this proposal may not be revoked or withdrawn after the time set for the opening of bids but shall remain open for acceptance for a period of thirty-five (35) days following such time

B-05 In case he be notified in writing by mail, email, or delivery of the acceptance of this proposal within thirty-five (35) days after the time set for the opening of bids, the undersigned agrees to execute within ten (10) days a contract (Form of Agreement Between Contractor and Owner, Form No. 418) for the work for the above stated compensation and at the same time to furnish and deliver to the Owner a performance bond and a payment bond in accordance with the forms shown in Article E-30 of the General Conditions of the Contract, both in an amount equal to 100% of the contract sum. Contractor shall also provide the required certificates of insurance (in accordance with Article E-27 of the General Conditions). Contractor will also provide a list of subcontractors, noting their business trade, estimated value of their work and business classification (MBE/WBE) for the Local Participation Report to the Board.

B-06 The undersigned agrees to commence actual physical work on the site with an equal force and equipment within ten (10) days after the notice-to proceed by the owner and to complete in \_\_\_\_\_ consecutive calendar days from and including said date.

B-07 Enclosed herewith is a bid bond in the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_)

being not less than 5% of the Base Bid.

The undersigned agrees that the above stated amount is the proper measure of liquidated damages which the Owner will sustain by the failure of the undersigned to execute the contract and to furnish the performance bond and the payment bond in case this proposal is accepted and further agrees to the following:

B-08 If this proposal is accepted within thirty-five (35) days after the date set for the opening of bids and undersigned fails to execute the contract within ten (10) days after written notification of such acceptance or if he fails to furnish both a performance bond and a payment bond, the obligation of the bid bond will remain in full force and effect and the money payable thereon shall be paid into the funds of the Owner as liquidated damages for such failure; otherwise the obligation of the bond will be null and void.

B-09 The following subcontractors are listed for review by the Owner and Architect.

- 1. Plumbing \_\_\_\_\_
- 2. Mechanical \_\_\_\_\_
- 3. Electrical \_\_\_\_\_
- 4. Roofing \_\_\_\_\_
- 5. Sitework \_\_\_\_\_

- B-10 The bidder submits the following statement of bidder's qualifications: (see next page)
- B-11 The bidder submits the attached E-Verify Contractor Affidavit.
- B-12 The bidder submits the attached Sex Offender Acknowledgement Form

Certified Checks Not Acceptable

STATEMENT OF BIDDER'S QUALIFICATIONS

To accompany bids submitted for  
Augusta, Georgia

Name of Bidder \_\_\_\_\_

Business Address \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax Number \_\_\_\_\_

When Organized \_\_\_\_\_

Where Incorporated \_\_\_\_\_

Type of Business: General Contractor \_\_\_\_\_

Subcontractor \_\_\_\_\_

Other \_\_\_\_\_

Credit Available for this Contract \$ \_\_\_\_\_ \*

Contracts now in Hand \$ \_\_\_\_\_ \*

\* Within ten calendar days after bid date and prior to the award of the construction contract the contractor must furnish Program Manager/Owner a current audited financial statement.

Plan of Organization (Proprietorship, Partnership, Corporation)

\_\_\_\_\_

The Bidder has never refused to sign a contract at the original bid.

(True \_\_\_\_\_) (False \_\_\_\_\_)

The Bidder has never declared in default on a contract.

(True \_\_\_\_\_) (False \_\_\_\_\_)

By signing this document, I (the bidder) certify that construction, under this company's name, is my primary means of business and employment.

Remarks: \_\_\_\_\_

(The above statements must be subscribed and sworn to before a Notary Public).

Date \_\_\_\_\_

Firm Name \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

\_\_\_\_\_  
(Notary Public)

Respectfully submitted,

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

The full names and addresses of persons and firms interested in the foregoing bids as principals are as follows:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The legal name of the bidder is:

\_\_\_\_\_

**Contractor Affidavit under O.C.G.A. § 13-10-91 (b) (1)**

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of Richmond County Board of Education has registered with, is authorized to use and uses the federal work authorization to use and uses federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91 (b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Name of Project

Richmond County Board of Education  
Name of Public Employer

I hereby declare under penalty that the foregoing is true and correct.

Executed on \_\_\_\_\_, \_\_\_\_\_ 20\_\_\_\_ in \_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:  
  
\_\_\_\_\_

### Sex Offender Acknowledgement Form

**Read, sign and return this form to the Richmond County Board of Education**

The Contractor (or Vendor) shall not knowingly send any employee, agent or subcontractor personnel who is a registered sex offender or who has been convicted of sexual abuse to any school building or school property when students are attending school or a school related activity.

The Contractor (or Vendor) shall make periodic criminal history record inquiries as authorized by O.C.G.A. §35-3-34, as now written, or here-after amended; or allowed by all or any other laws allowing such inquiry, to identify these persons who have been convicted of sexual abuse or any other act which would require such person to be entered into a national or state sexual offender registry.

For the purpose of this policy, the term periodic shall mean that the criminal history record inquiries shall be made current upon the awarding of a successful bid on contract and checked no less than annually during the duration of the contract.

Upon notification and acceptance of the bid, the Contractor (or Vendor) shall certify to the Richmond County Board of Education that periodic criminal history record checks are made by the company for all employees and that to the best of the Contractor's (or Vendor) knowledge it has no employee or agent who has been convicted of a sex offense or who is a registered sex offender, who will be assigned to any school building or school property while students are attending school or a school related activity.

I have read and understand the above Richmond County Board of Education Policy regarding my or my company's obligation as a contractor (or vendor). I further acknowledge that the failure to comply with the requirements to identify a sex offender, to comply with any part of this policy, to assign a sex offender to any school building or school property while students are attending school or a school related activity will constitute a breach of the contract.

\_\_\_\_\_  
Contractor (or Vendor) signature

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Witness signature

\_\_\_\_\_  
Date signed



## **SECTION 078413 - PENETRATION FIRESTOPPING**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Penetration firestopping systems.
  - 2. Penetrations in fire-resistance-rated walls.
  - 3. Penetrations in horizontal assemblies.
  - 4. Penetrations in smoke barriers.
  - 5. Exposed penetration firestopping systems.

- B. Related Requirements:

#### **1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For Installer.
- B. Listed System Designs: For each penetration firestopping system, for tests performed by a qualified testing agency.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

#### **1.5 FIELD CONDITIONS**

- A. Environmental Limitations: Do not install penetration firestopping systems when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping system materials in accordance with manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

#### **1.6 COORDINATION**

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be accessed and installed in accordance with specified firestopping system design.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

### **PART 2 - PRODUCTS**

#### **2.1 SOURCE LIMITATIONS**

- A. Obtain penetration firestopping systems for each type of opening indicated from single manufacturer.

#### **2.2 PERFORMANCE REQUIREMENTS**

- A. Fire-Test-Response Characteristics:

1. A qualified testing agency, acceptable to authorities having jurisdiction, will perform penetration firestopping system tests.
2. Test in accordance with testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:
  - a. Penetration firestopping systems installed with products bearing the classification marking of a qualified testing agency.
    - 1) UL in its online directory "Product iQ."
    - 2) Intertek Group in its "Directory of Building Products."
    - 3) FM Approvals in its "Approval Guide."
  - B. Provide components for each penetration firestopping system that, upon curing, do not re-emulsify, dissolve, leach, break down, or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water, or other forms of moisture characteristic during and after construction.
  - C. Provide components for each penetration firestopping system that do not contain ethylene glycol.
  - D. Provide components for each penetration firestopping system that are sufficiently flexible to accommodate movement, such as pipe vibration, water hammer, thermal expansion, and other normal building movement without damage.
  - E. Provide components for each penetration firestopping system that are appropriately tested for the thickness and type of insulation utilized.

### 2.3 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems must be compatible with one another, with the substrates forming openings, and with penetrating items if any.
  1. [3M](#) Building and Construction
  2. Balco, a CSW Industrials Company.
  3. Specified Technologies Inc.
- B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined in accordance with ASTM E814 or UL 1479.
  1. F-Rating: Not less than the fire-resistance rating of the wall penetrated.
  2. Membrane Penetrations: Install recessed fixtures such that the required fire resistance will not be reduced.
- C. Penetrations in Horizontal Assemblies: Penetration firestopping systems with ratings determined in accordance with ASTM E814 or UL 1479.
  1. T-Rating: At least one hour, but not less than the fire-resistance rating of the floor. The following floor penetrations do not require a T-rating:
    - a. Those within the cavity of a wall.
    - b. [4-inch \(200-mm\)](#) or smaller metal conduit penetrating directly into metal-enclosed electrical switchgear.
- D. Penetrations in Smoke Barriers: Penetration firestopping systems with ratings determined in accordance with UL 1479.

### PENETRATION FIRESTOPPING

## 2.4 ACCESSORIES

- A. Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated, including but not limited to:
  - 1. Permanent forming/damming/backing materials.
  - 2. Substrate primers.
  - 3. Collars.
  - 4. Steel sleeves.

## 2.5 FILL MATERIALS

- A. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.
- B. Firestopping Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- C. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.
- D. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.
- E. Intumescent Wrap Strips: Single-component intumescent elastomeric strips for use around combustible penetrants.
- F. Pillows/Bags: Compressible, removable, and reusable intumescent pillows encased in fire-retardant polyester or glass-fiber cloth. Where exposed, and when required by a listed system, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed or dislodged.
- G. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- H. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.
- I. Retrofit Device for Cable Bundles: Factory-made, intumescent, collar-like device for firestopping existing over-filled cable sleeves and capable of being installed around projecting sleeves and cable bundles.
- J. Wall-Opening Protective Materials: Intumescent, non-curing putty pads or self-adhesive inserts for protection of electrical switch and receptacle boxes.
- K. Fire-Rated HVAC Retaining Angles: Steel angle system with integral intumescent firestopping gasket for use around rectangular steel HVAC ducts without fire dampers.
- L. Firestopping Plugs: Flexible, re-enterable, intumescent, foam-rubber plug for use in blank round openings and cable sleeves.

## 2.6 MIXING

- A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items

or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings in accordance with manufacturer's written instructions and with the following requirements:
  - 1. Remove foreign materials from substrate surfaces that could interfere with adhesion of penetration firestopping materials.
  - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.
  - 3. Remove laitance and form-release agents from concrete.
- B. Prime substrates in accordance with penetration firestopping system manufacturer's written installation instructions, using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

#### 3.3 INSTALLATION

- A. General: Install penetration firestopping systems in accordance with manufacturer's written installation instructions and published drawings for products and applications.
- B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
  - 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.
- C. Install fill materials by proven techniques to produce the following results:
  - 1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items to achieve required fire-resistance ratings.
  - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
  - 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

#### 3.4 IDENTIFICATION

- A. Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS,"

### PENETRATION FIRESTOPPING

using lettering not less than 3 inches (76 mm) high and with minimum 0.375-inch (9.5-mm) strokes.

1. Locate in accessible concealed floor, floor-ceiling, or attic space at 15 ft. (4.57 m) from end of wall and at intervals not exceeding 30 ft. (9.14 m).

B. Penetration Identification: Identify each penetration firestopping system with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of penetration firestopping system edge so labels are visible to anyone seeking to remove penetrating items or firestopping systems. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Designation of applicable testing and inspecting agency.
4. Date of installation.
5. Manufacturer's name.
6. Installer's name.

### 3.5 FIELD QUALITY CONTROL

- A. Owner will engage a qualified inspection agency to conduct and report on inspections in accordance with ASTM E2174.
- B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.
- C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

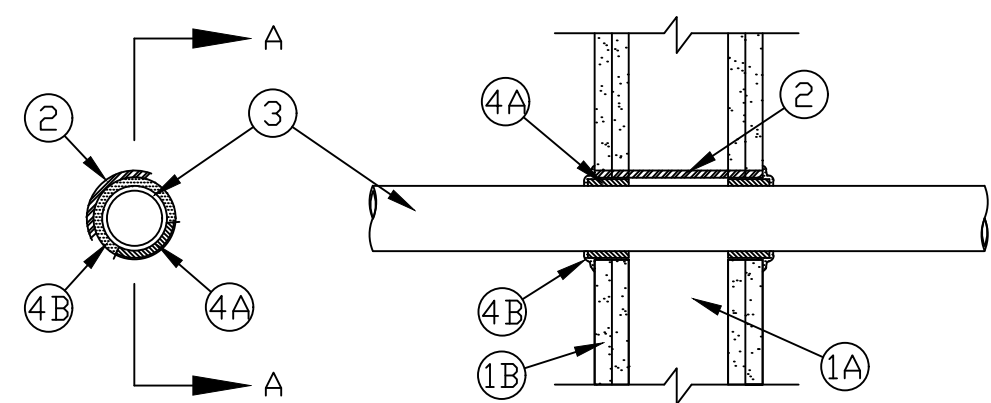
### 3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

END OF SECTION 078413

**System No. W-L-2048**

F Ratings - 1 and 2 Hr (See Item 1)  
 T Ratings - 1, 1-3/4 and 2 Hr (See Items 2 and 4A)  
 L Rating At Ambient - Less Than 1 CFM/sq ft  
 L Rating At 400 F - Less Than 1 CFM/sq ft



Section A-A

1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

- A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
- B. **Gypsum Board** - The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).  
 The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
- 2. **Steel Sleeve (Optional)** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 (or thinner) steel pipe friction-fit into wall assembly, flush with both surfaces of wall. **When steel sleeve is used, T Rating is 1 hr.**
- 3. **Through Penetrants** - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be min 1/4 in. (6 mm) to max 1-1/4 in. (32 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
  - A. **Polyvinyl Chloride (PVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
  - C. **Rigid Nonmetallic Conduits** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).
  - D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - E. **Flame Retardant Polypropylene (FRPP) Pipe** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - F. **Polypropylene (PP) Pipe** - Nom 1 in. (25 mm) diam (or smaller) Schedule 80 PP pipe for use in closed (process or supply) piping systems.
  - G. **Polyvinylidene Fluoride (PVDF) Pipe** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) piping systems.

4. **Firestop System** - The firestop system shall consist of the following:

- A. **Fill, Void or Cavity Material - Wrap Strip** - Nom 1/8 in. (3.2 mm) or 3/16 in. (4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or 1/8 or 1/4 in. (3.2 or 6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. Single layer of wrap strip wrapped around the through penetrant with the ends butted and held in place by means of foil tape. The wrap strip is slid along the through penetrant into annulus such that 1/4 in. (6 mm) of the wrap strip protrudes from the wall. One set of wrap strips to be installed on each side of wall. As an option when 1/8 in. (3.2 mm) thick wrap strip (BLU2) is used, the strips may be cut to a width of 1-1/2 in. (38 mm).

The T Rating of the firestop system is dependent upon the hourly rating of the wall, the type of through penetrant and the type of wrap strip used as tabulated below:

| Type Of Through Penetrant        | Hourly Rating of Wall Hr | Type of Wrap Strip                                | T Rating Hr |
|----------------------------------|--------------------------|---|-------------|
| PVC, CPVC, PVDF, RNC, PP or FRPP | 1                        | SpecSeal BLU, SpecSeal BLU2 or SpecSeal RED, RED2 | 1           |
| ABS                              | 1                        | SpecSeal BLU, SpecSeal BLU2 or SpecSeal RED, RED2 | 1           |
| PVC, CPVC, PVDF, RNC, PP or FRPP | 2                        | SpecSeal BLU, SpecSeal BLU2 or SpecSeal RED, RED2 | 2           |
| ABS                              | 2                        | SpecSeal BLU or SpecSeal RED                      | 2           |
| ABS                              | 2                        | SpecSeal RED, RED2                                | 1-3/4       |

**SPECIFIED TECHNOLOGIES INC** - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip, SpecSeal RED2 Wrap Strip

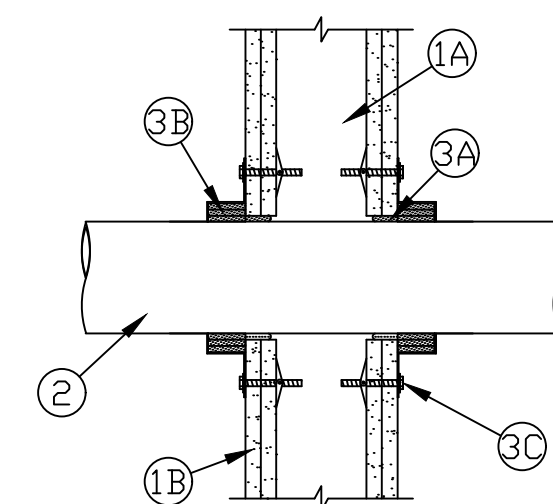
- B. **Fill, Void or Cavity Material - Sealant** - When an annular space is present between the wrap strip and the edge of the opening, a min 5/8 in. (16 mm) depth of sealant shall be installed in the annular space flush with each surface of the wall. A min 1/4 in. (6 mm) diam bead of sealant shall be applied at the gypsum board/wrap strip interface on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant

\*Bearing the UL Classification Mark

**System No. W-L-2059**

F Ratings - 1 and 2 Hr (See Items 2 and 3)  
 T Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Items 2 and 3)  
 L Rating At Ambient - 1 CFM/sq ft  
 L Rating At 400 F - Less Than 1 CFM/sq ft



Section A-A

1. **Wall Assembly** - The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
- B. **Gypsum Board** - 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).
- 2. **Through Penetrants** - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
  - A. **Polyvinyl Chloride (PVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. **When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Schedule 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed.**
  - B. **Rigid Nonmetallic Conduits** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70). **When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr.**
  - C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
  - D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - E. **Fire Retardant Polypropylene (FRPP) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - F. **Polyvinylidene Fluoride (PVDF) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - G. **Fiberglass Reinforced Pipe (FRP) Pipe** - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr.

H. **High Density Polyethylene (HDPE) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems.

3. **Firestop System** - The firestop system shall consist of the following:

- A. **Fill, Void or Cavity Material - Sealant** - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly.

**SPECIFIED TECHNOLOGIES INC** - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant

- B. **Fill, Void or Cavity Material - Wrap Strip** - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated below:

| Fire Rating of Wall Hr | Max Diam of Through Penetrant in (mm) | No. of Wrap Strip Layers | F Rating Hr | T Rating Hr |
|------------------------|---------------------------------------|--------------------------|-------------|-------------|
| 1                      | 1-1/2 (38)                            | 1                        | 1           | 1           |
| 2                      | 1-1/2 (38)                            | 1                        | 2           | 1-1/2       |
| 1                      | 2 (51)                                | 1                        | 1           | 1           |
| 2                      | 2 (51)                                | 1                        | 2           | 1-1/2       |
| 1                      | 3 (76)                                | 2                        | 1           | 1           |
| 2                      | 3 (76)                                | 2                        | 2           | 2           |
| 1                      | 4 (102)                               | 3                        | 1           | 1           |
| 2                      | 4 (102)                               | 3                        | 2           | 2           |

**SPECIFIED TECHNOLOGIES INC** - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip

- C. **Steel Collar** - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.

Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel collars are installed on each side of wall.

- D. **Firestop Device\*** - (Optional, Not Shown) - As an alternate to Item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel fender washers.

**SPECIFIED TECHNOLOGIES INC** - SpecSeal Firestop Collar, SpecSeal LCC Collar. When SpecSeal LCC Collar is used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam.

\*Bearing the UL Classification Mark

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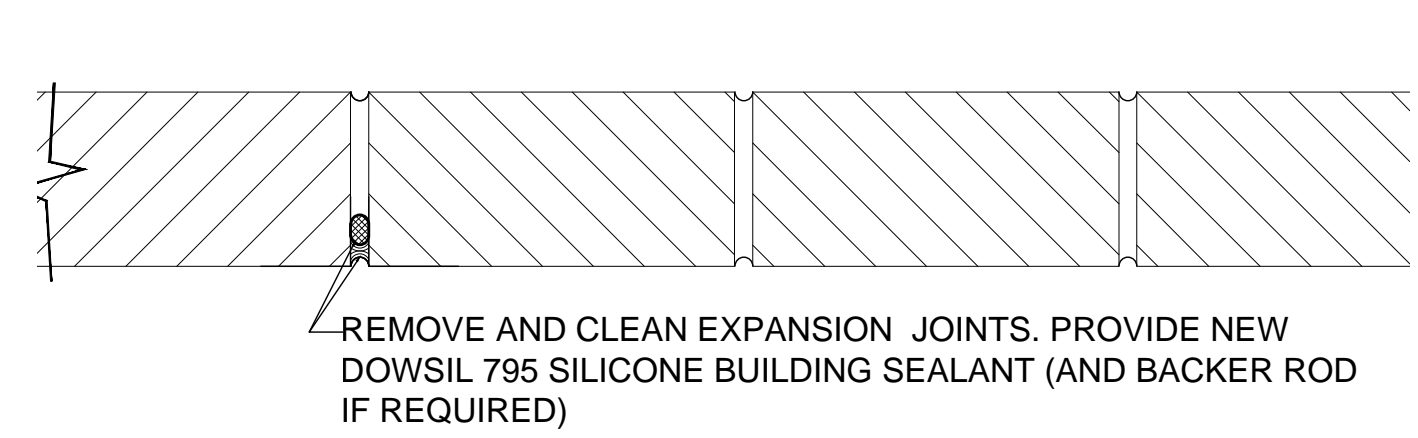
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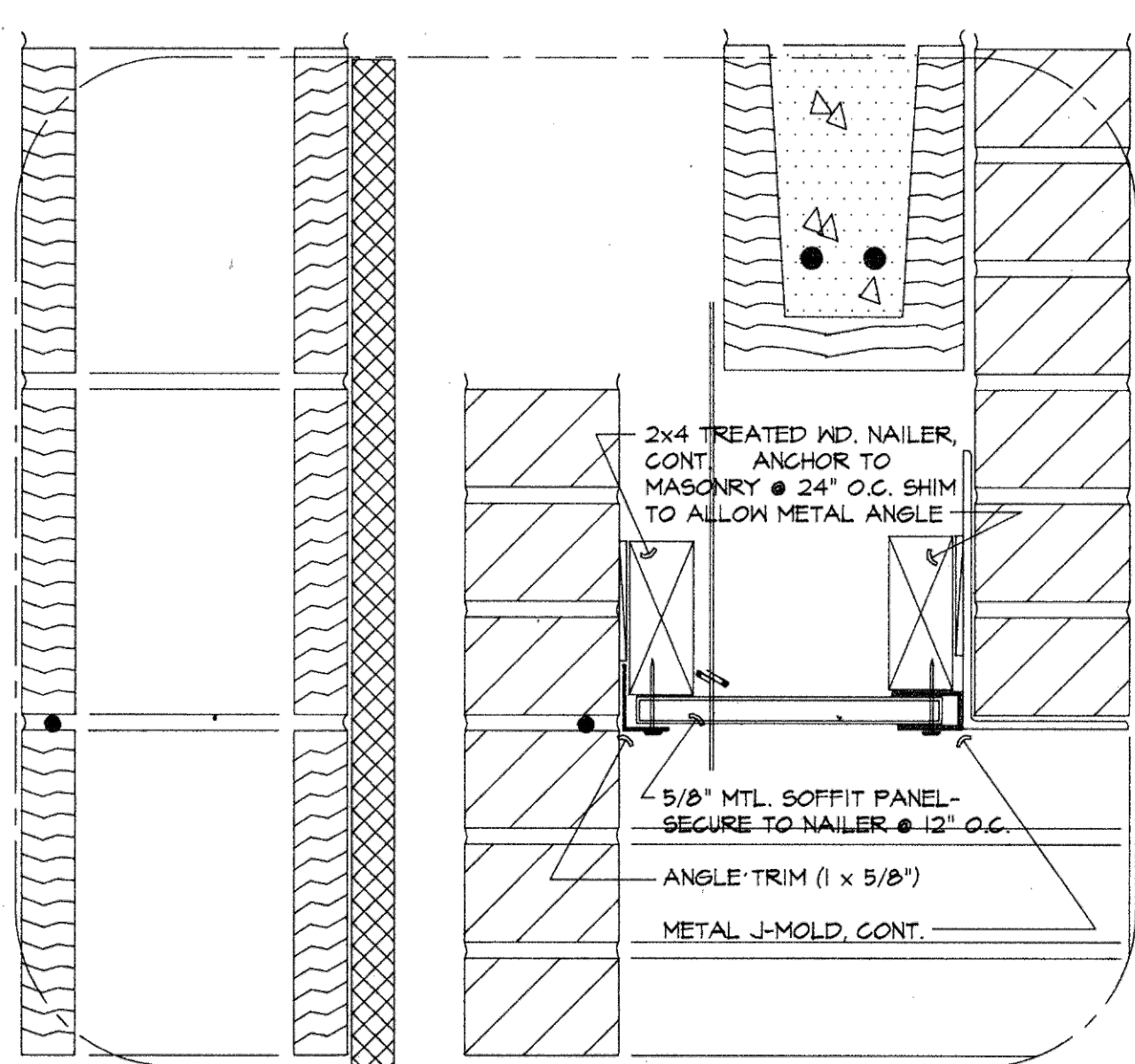
**TYPICAL PENETRATION DETAILS FOR FIRE STOP MATERIALS**

A1.4 SCALE: 1/8" = 1' - 0"



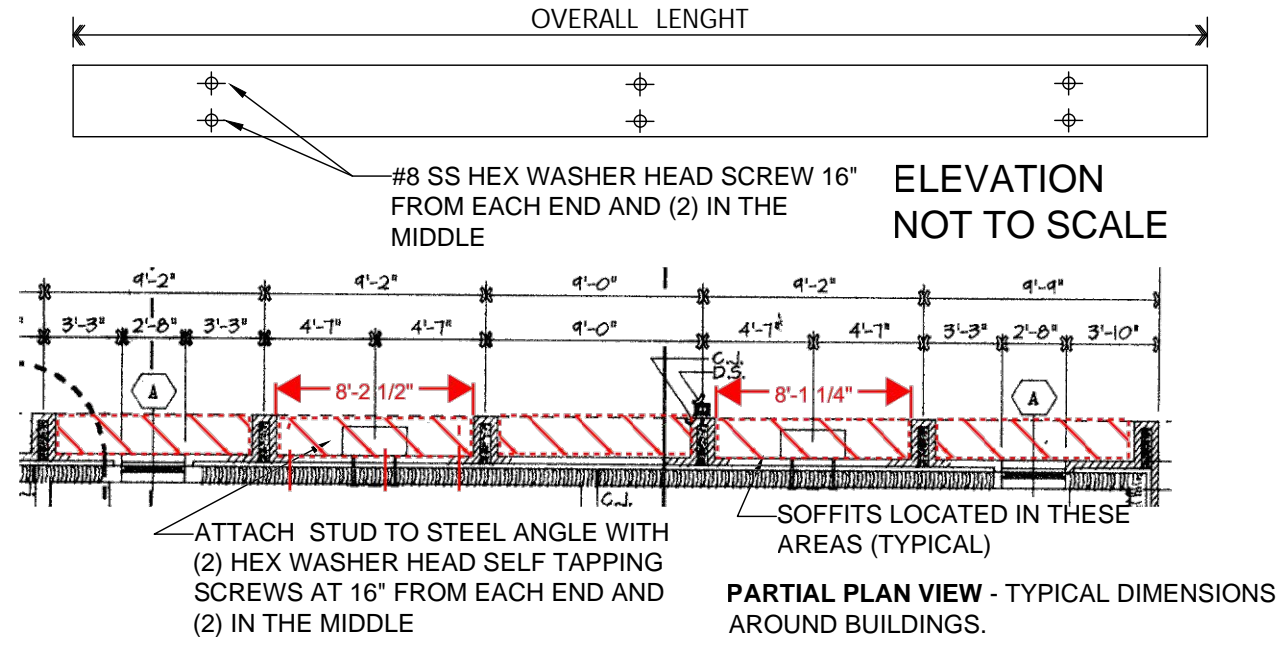
**REPAIRS AT BRICK EXPANSION JOINTS**

A1.4 SCALE: AS NOTED

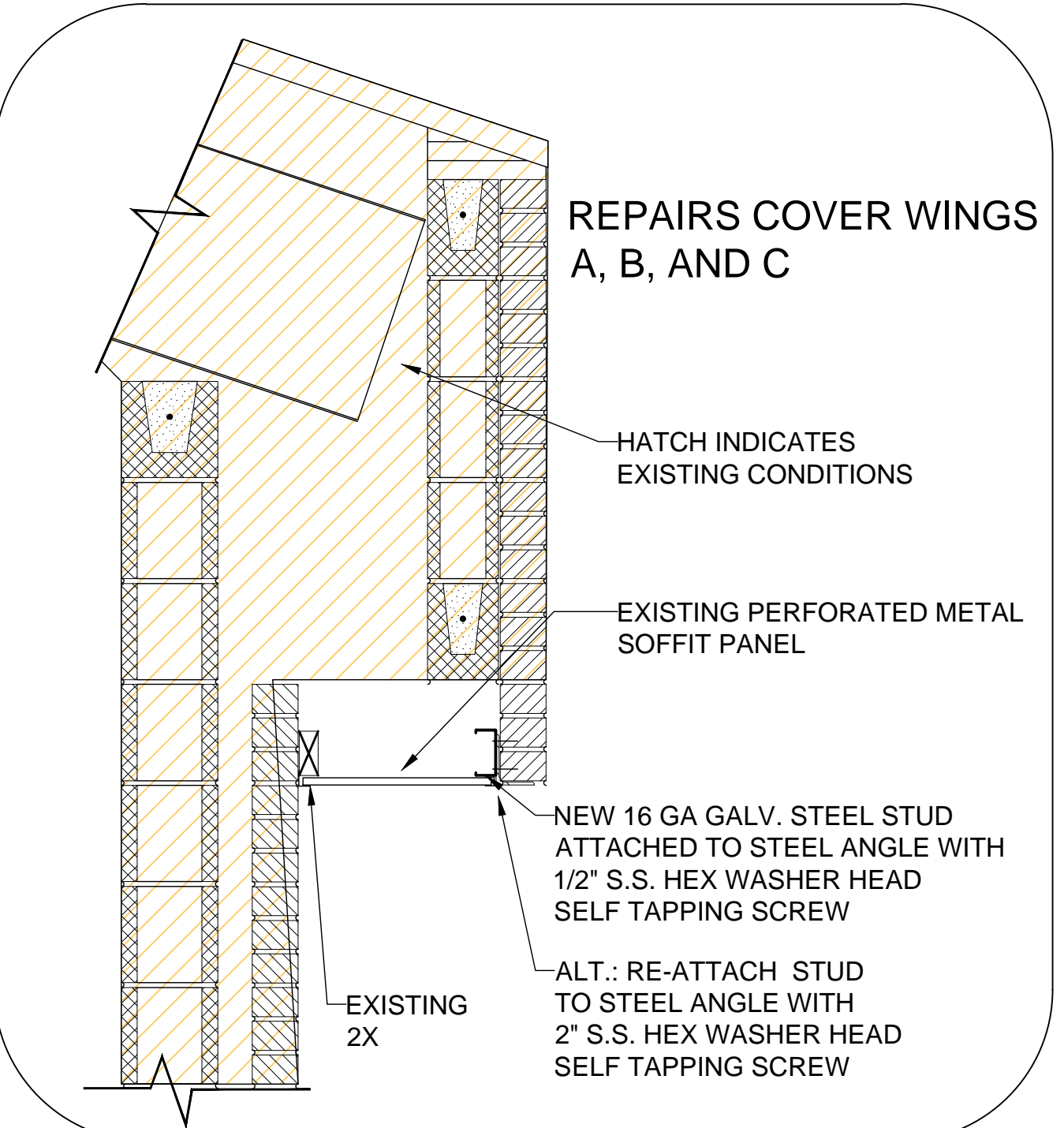


VERIFY EXISTING CONDITIONS  
 DETAIL OF ATTACHMENT AT SOFFITS  
 SCALE: 3/8" = 1' - 0"

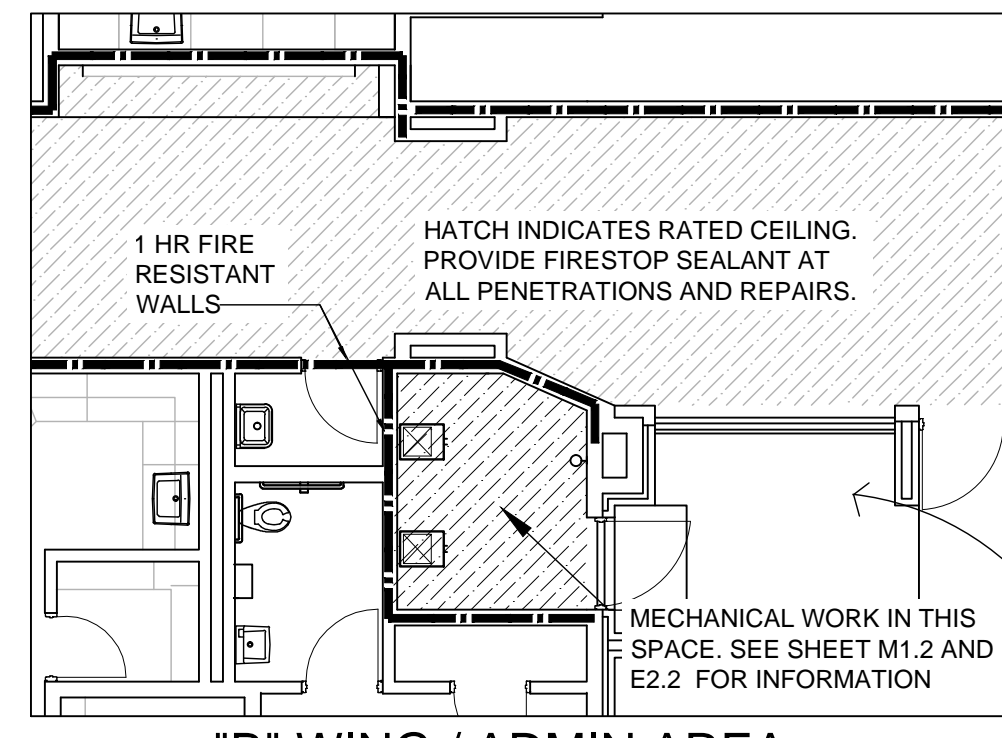
ADD ALTERNATE 2: DETAIL FROM ORIGINAL CONSTRUCTION DOCUMENTS  
 A1.4 SCALE: AS NOTED



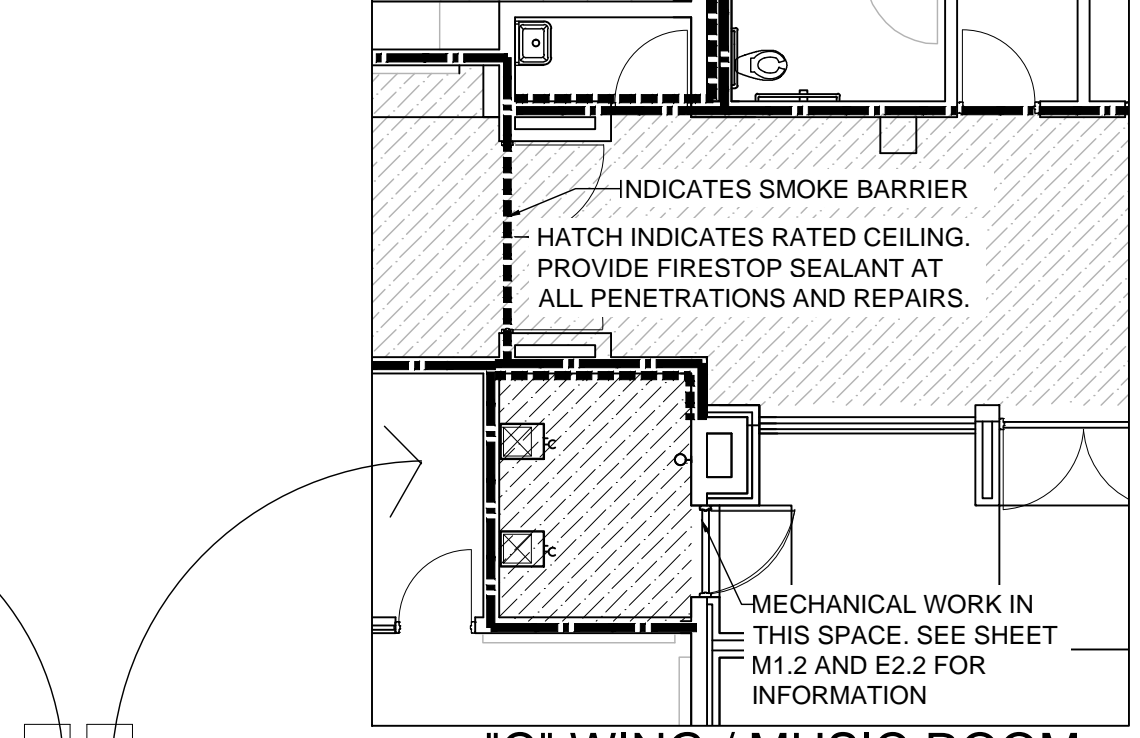
**REPAIRS COVER WINGS A, B, AND C**



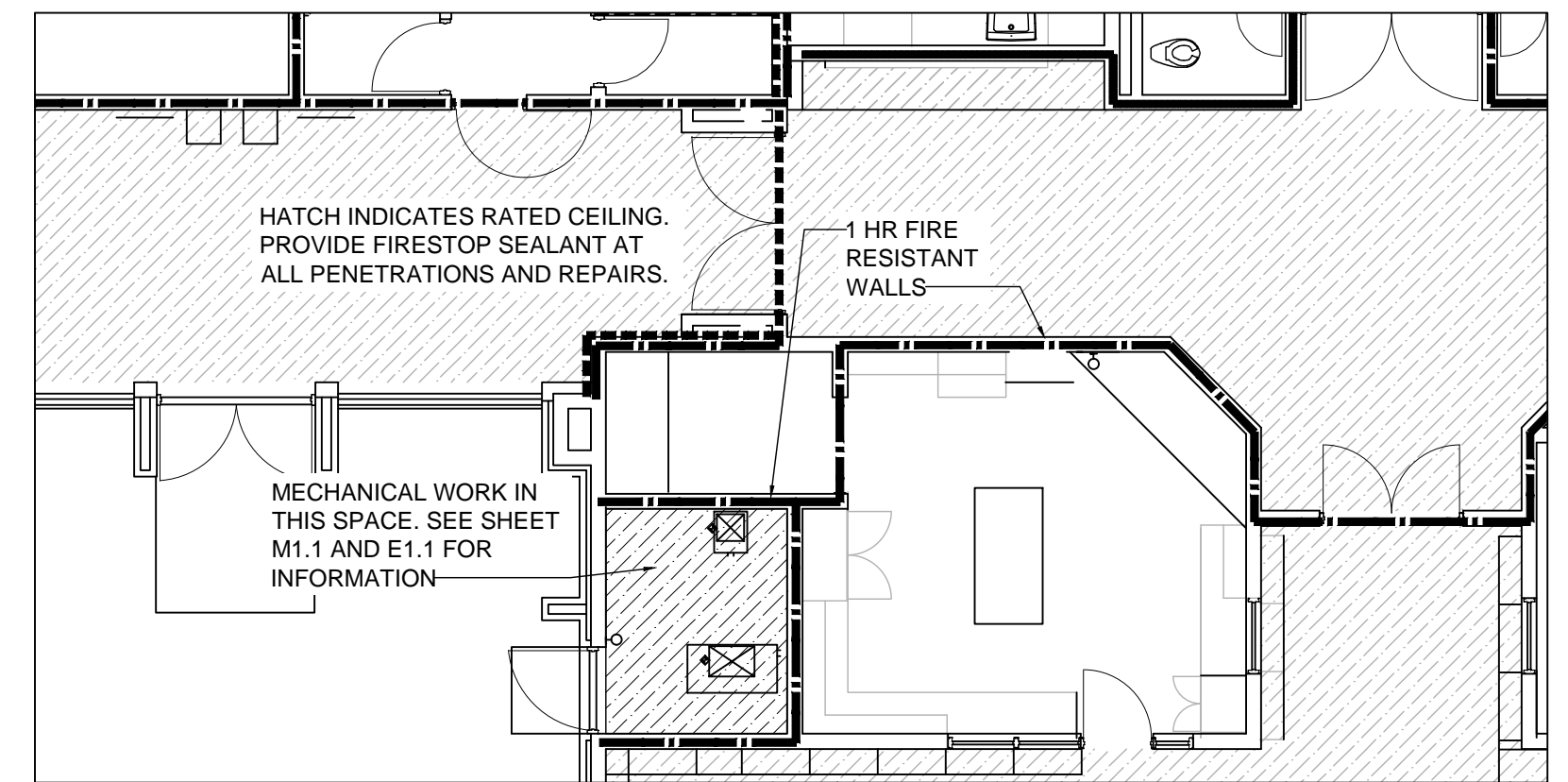
ADD ALTERNATE 2: REPAIR SOFFIT  
 A1.4 SCALE: 1" = 1' - 0"



3 PARTIAL FLOOR PLAN - "B" WING / ADMIN AREA  
 A1.4 SCALE: 1/8" = 1' - 0"



2 PARTIAL FLOOR PLAN - "C" WING / MUSIC ROOM  
 A1.4 SCALE: 1/8" = 1' - 0"



1 PARTIAL FLOOR PLAN - "A" WING / MEDIA CENTER  
 A1.4 SCALE: 1/8" = 1' - 0"

KEY PLAN