



**ADDENDUM #: 1**

**DATE:** November 25, 2024  
**TO:** All Plan Holders  
**FROM:** Casey Ivy  
**PROJECT NAME:** Huntsville Readiness Center  
**PROJECT IFB NUMBER:** AC-25-B-0006-S  
**CONTRACT DURATION:** 625 calendar days from Notice to Proceed  
**BID FINAL PLANS DATE:** November 1, 2024  
**BID OPENING DATE:** December 12, 2024

The drawings and specifications for Huntsville Readiness Center, dated November 1, 2024 are amended as follows.

Where there are conflicts between the plans and specifications, previously issued addendum, and this addendum, this addendum shall govern.

Where drawing revisions are included, drawing revisions are indicated within revision clouds.

Where specification sections are modified:

- Added specification text is included as follows: ***bold italicized text***
- Deleted text is indicated as follows: **~~in bold text with a strikethrough.~~**

- ITEM NO. 1:** Attached are the Meeting Minutes and Sign-In Sheet from the Pre-Bid Conference
- ITEM NO. 2:** Refer to the Specifications, **Delete** Section 01 2100 Allowances, and **Replace** with attached Section 01 2100 Allowances.
- ITEM NO. 3:** RFI:  
"Does this project require Davis Bacon Wage Rate and Buy American Act Requirement?"
- Response:  
Davis Bacon Act: Refer to the Special Conditions of the Contract; Also refer to the Pre-Bid Meeting Minutes.
- Buy America Act: Refer to the General Conditions Section 72.

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**ITEM NO. 4:** RFI:  
"Would the owner allow for steel companies that may not participate in the AISC certification program but follow AISC regulations and practice be allowed to bid this project?"

Response:  
AISC requirements listed in the specifications for Fabricator Qualifications are to be followed.

**ITEM NO. 5:** RFI:  
"Specs/vol 01/05 12 00 – 2/1.06/A – States that the fabricator must participate in the AISC Quality Certification Program & be designated an AISC-Certified Plant, Category BU or be accredited by the IAS Fabricator Inspection Program for Structural Steel (Acceptance criteria 172). Can this be waived?"

Response:  
AISC requirements listed in the specification for Fabricator Qualifications are to be followed.

**ITEM NO. 6:** RFI:  
"Specs/vol 01/05 12 00-2/1.06/B – States that the erector must participate in the AISC Quality Certification Program and be designated an AISC-Certified Erector, Category ASCE. Can this be waived?"

Response:  
AISC requirements listed in the specification for Fabricator Qualifications are to be followed.

**ITEM NO. 7:** RFI:  
"Please identify fixture type in Office 118 on sheet RE2.1."

Response:  
The fixtures in office 118 on sheet RE2.1 are type LG72. Refer to updated sheet RE2.1 as part of this Addendum, Item No. 20.

**ITEM NO. 8:** RFI:  
"There is a pole light near the west parking lot entrance on sheet E1.1 that is not identified. Please verify fixture type."

Response:  
The fixture in question is a type "PLA". It appears to be located in the wrong location. The pole should be installed in approximately the same horizontal position on the page but it should be moved vertically down the page to the parking area drive entrance. Refer to updated sheet E1.1 as part of this Addendum, Item No. 20.

**ITEM NO. 9:** RFI:  
"Fixture LL1 shown on sheet RE2.3 is not on the Lighting Fixture Schedule. Please provide details for this fixture."

Response:  
Refer to Updated Lighting Fixture Schedule shown on updated sheet E5.1 as part of this Addendum, Item No. 20.

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**ITEM NO. 10:** RFI:  
"Please provide the Communication Division 27 spec section."

Response:  
There is no division 27 spec for communications. Communications is covered under specifications Section 26 0715 of the issued bid set.

**ITEM NO. 11:** RFI:  
"The Electrical Legend lists three different occupancy sensors: OS1, OS2, and OS3. The lighting floor plans do not differentiate and are only marked as OS. Please clarify which sensors are to be used throughout all lighting floor plans."

Response:  
Please consider the occupancy sensors mentioned are the same as "OS". The lighting rep that gets the project will provide the appropriate sensitivity.

**ITEM NO. 12:** RFI:  
"The Electrical Legend lists D as a 0-10V dimmer switch but the lighting floor plans use a symbol D1 throughout. Please verify these are the same thing."

Response:  
Please consider the D and D1 the same. D and D1 are the single zone dimmer. D2 is a two zone dimmer if one exists on this project.

**ITEM NO. 13:** RFI:  
"On the Door schedule for the Readiness Building it calls for room 151 to have an "CR EXT" insulated coiling door; when you go to the floor plan and look at room 151 is shows a walk through door. Please advise where the insulated coiling door is to be installed."

Response:  
Refer to Drawing Sheets RA2.1 and RA2.2. Door 151 is the overhead coiling door tagged as 151 and is located at the exterior wall of the Assembly Hall (Room 139).

**ITEM NO. 14:** RFI:  
"Also the spec book as a Coiling Counter doors but are unable to locate them on the drawings, please advise the room that receive the coiling counter door."

Response:  
Coiling Counter Door is tagged as 195 and is located between Assembly Hall (Room 139) and Kitchen (Room 141). Refer to drawing sheet RA2.2 and revised drawing sheet as part of this Addendum Item No. 37.

**ITEM NO. 15:** RFI:  
"Sheet GA 2.0 states for aluminum canopies but detail sheet GA2.6 detail note states galvanize frame structure. Please advise what is correct."

Response:  
Delete Note referencing galvanized structure on Detail 3/GA2.6 – see revised drawing sheet as part of this Addendum Item No. 37. Refer to Specification Sections 10 7200 Aluminum Canopies and 10 7202 Rod Supported Extruded Aluminum Canopies for product information.

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- ITEM NO. 16:** RFI:  
"Curtainwall specs have a blast requirement, but did not see anything mentioned in the storefront specs about blast or impact, but there is a requirement for windborne debris/impact rating in the glass specs. Please advise if the owner is wanting blast OR impact OR not for the exterior glass/frames?"
- Response:  
Blast and Impact Ratings have been removed from Curtain Wall and Glazing. Refer to the revised Specifications 08 4413 Glazed Aluminum Curtain Walls and 08 8000 Glazing as part of this Addendum Items No. 18 and 19.
- ITEM NO. 17:** The curtainwall specs have a blast requirement, I don't think it says anything in the storefront specs about blast or impact, but there is a requirement for windborne debris/impact rating in the glass spec. Please clarify if you want blast OR impact Or not for the exterior glass/frames?
- Response:  
Blast and Impact Ratings have been removed from Curtain Wall and Glazing. Refer to the revised Specifications 08 4413 Glazed Aluminum Curtain Walls and 08 8000 Glazing as part of this Addendum, Items No. 18 and 19.
- ITEM NO. 18:** Refer to the Specifications, **Delete** Section 08 4413 Glazed Aluminum Curtain Walls and **Replace** with attached Section 08 4413 Glazed Aluminum Curtain Walls.
- ITEM NO. 19:** Refer to the Specifications, **Delete** Section 08 8000 Glazing and **Replace** with the attached Section 08 8000 Glazing.
- ITEM NO. 20:** Refer to the Drawings, **Delete** the following Electrical Drawing Sheets: E1.1, E5.1, and RE2.1 and **Replace** with attached Electrical Drawing Sheets: E1.1, E5.1 and RE2.1
- ITEM NO. 21:** RFI:  
"Masonry subcontractor wants to know if there are blocks in the gables on each end? Cut4, RA2.5 shows CMU block, but it also shows brick for the exterior. Please advise.
- Response:  
Section cut for that location has been corrected. Metal Wall Panels are scheduled to meet soffit at gable locations. See revised Architectural Drawings issued as part of this Addendum.
- ITEM NO. 22:** RFI:  
"Please provide spec for the condensate piping for the HVAC units. Need to know what type of materials to use."
- Response:  
Reference Specification Section 23 0719 HVAC Piping Insulation, 3.18 Indoor Piping Insulation Schedule Condensate and Equipment Drain Water below 60 deg. F for insulation thickness, material, etc. Reference Specification Section 22 1316 Sanitary Waste and Vent Piping for piping materials.



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- ITEM NO. 23:** RFI:  
"In the plumbing specs for Sanitary UG 22 1316 gives the option to PVC on all UG and above slab plumbing. Note 19 on GP 1.1 says all sanitary pipe under slab to 10' outside to be cast iron pipe, which do I go by? Please advise if it is to be Cast Iron or PVC piping under ground.
- Response:  
For the GPTB building, GP1.1, Note 19 is correct. For the Readiness Center Building, specifications are correct.
- ITEM NO. 24:** Reference Sheets GP2.1, GP2.2, GP3.1, GP3.2 **Delete** bar scale. (Bar scale is incorrect.)
- ITEM NO. 25:** Reference Sheets RP2.1, RP2.2, RP2.3, RP2.4, RP3.1, RP3.2, RP3.3, RP3.4. **Delete** bar scale. (Bar scale is incorrect.)
- ITEM NO. 26:** Reference Sheet RM2.1:  
a) Delete Section Through Metal Chase detail. This detail is not used for this building.  
b) Delete Refrigerant Line Routing Detail. This detail is not used for this building.  
c) Revise Typical Section at Horizontal Indoor Unit as per attached revised drawing.
- ITEM NO. 27:** Reference Sheet GM2.1:  
a) Delete detail Section Through Metal Chase.  
b) Delete Refrigerant Line Routing Detail as per attached revised drawing.  
c) Revise Typical Section at Horizontal Indoor Unit as per attached revised drawing.
- ITEM NO. 28:** Reference Sheet GM3.2:  
a) Relocate DAC-1 condensing unit as per attached revised drawing.
- ITEM NO. 29:** Reference Sheets GM3.1, GM4.1, GM4.2. **Delete** bar scale. (Bar scale is incorrect.)
- ITEM NO. 30:** Reference Sheets RM3.1, RM3.2, RM3.3, RM3.4, RM3.5, RM3.6, RM3.7, RM3.8, RM4.1, RM4.2, RM4.3, RM4.4. **Delete** bar scale. (Bar scale is incorrect.)
- ITEM NO. 31:** RFI:  
"Our insulation subcontractors are wanting to know if they can get a spec for the insulation on the indoor geothermal loop. Ther is a spec for heating hot water and chill water but not geothermal. Sometimes the geothermal loops are left uninsulated. We are just wanting to make sure that if it gets covered we cover it with the correct thickness and material."
- Response:  
Geothermal piping is required to be insulated. Reference Specification Section 23 0719 HVAC Piping Insulation, 3.18 Indoor Piping Insulation Schedule Condenser-Water Supply and Return for insulation thickness, material, etc.
- ITEM NO. 32:** RFI:  
"When starting my take off of the mechanical drawings this morning I have discovered that the drawing scale says 3/16" = 1'0". The check scale on the bottom right hand side of the drawing is actually 1/4" = 1'0". Please confirm which is the correct scale to perform the take offs?"
- Response:  
Bar scale is incorrect. **Delete** bar scale.

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**ITEM NO. 33:** RFI:  
"Insulation subcontractor is wanting to know if the indoor geothermal loop will be required to be insulated, if so please provide the spec section."

Response:

Yes, indoor geothermal loop is required to be insulated. Reference Specification Section 23 0719 HVAC Piping Insulation, 3.18 Indoor Piping Insulation Schedule Condenser-Water Supply and Return for insulation thickness, material, etc.

**ITEM NO. 34:** Reference Sheets GSP2.1 and GSP2.2. **Delete** bar scale. (Bar scale is incorrect.)

**ITEM NO. 35:** Reference Sheets RSP2.1, RSP2.2, RSP2.3, RSP2.4. **Delete** bar scale. (Bar scale is incorrect.)

**ITEM NO. 36:** See **Attached** Geotechnical Information observed on the Readiness Center site.

**ITEM NO. 37:** Refer to the Drawing Sheets, **Delete** following sheets and **Replace** with the attached Drawing Sheets:  
C2; L2.0; L2.1; RA2.1; RA2.2; RA2.3; RA2.4; RA2.5; RA2.6; RA3.1; RA3.2; RA3.4; RA3.6; RA4.1;  
RA5.2; RA5.3; RA5.4; RA5.5; RA5.7; RA5.8; RA6.1; RA7.3; RA10.1; GA2.0; GA2.1; GA2.3;  
GA2.4; GA2.5; GA2.6; GA5.2; RA6.1; GA8.1; GA9.1

## END OF ADDENDUM

### ATTACHMENTS:

2024-11-21 – Pre-Bid Meeting Minutes  
2024-11-21 – Pre-Bid Meeting Sign-In Sheet  
Section 01 2100 Allowances  
Section 08 4413 Glazed Aluminum Curtain Walls  
Section 08 8800 Glazing  
Drawing E1.1 SITE PLAN – ELECTRICAL  
Drawing E5.1 LUMINAIRE SCHEDULE DETAILS & NOTES  
Drawing RE2.1 ZONE "A" FLOOR PLAN – LIGHTING  
Drawing RM2.1 READINESS CENTER HVAC DETAILS  
Drawing GM2.1 UNIT SUPPLY/GPTB HVAC DETAILS  
Drawing GM3.2 ZONE B – UNIT SUPPLY/GPTB – HVAC PLAN  
Geotechnical Observations  
Drawing C2 SITE PLAN  
Drawing L2.0 SIGNAGE DETAILS  
Drawing L2.1 WROUGHT IRON FENCE DETAILS  
Drawing RA2.1 ENLARGED FLOOR PLAN "ZONE A" – READINESS CENTER  
Drawing RA2.2 ENLARGED FLOOR PLAN "ZONE B" – READINESS CENTER  
Drawing RA2.3 ENLARGED FLOOR PLAN "ZONE C" – READINESS CENTER  
Drawing RA2.4 ENLARGED FLOOR PLAN "ZONE D" – READINESS CENTER  
Drawing RA2.5 ROOF PLAN – READINESS CENTER  
Drawing RA2.6 WALL TYPE PLAN – READINESS CENTER  
Drawing RA3.1 FINISH SCHEDULE – READINESS CENTER  
Drawing RA3.2 DOOR & FRAME SCHEDULES – READINESS CENTER  
Drawing RA3.4 OPENING SCHEDULE & DETAILS – READINESS CENTER  
Drawing RA3.6 OPENING DETAILS  
Drawing RA4.1 ELEVATIONS – READINESS CENTER  
Drawing RA5.2 WALL SECTIONS & DETAILS – READINESS CENTER  
Drawing RA5.3 WALL SECTIONS & DETAILS – READINESS CENTER  
Drawing RA5.4 WALL SECTIONS & DETAILS – READINESS CENTER  
Drawing RA5.5 WALL SECTIONS & DETAILS  
Drawing RA5.7 VESTIBULE SECTIONS – READINESS CENTER  
Drawing RA5.8 ENLARGED VESTIBULE SECTIONS A – READINESS CENTER  
Drawing RA6.1 ENLARGED RESTROOM PLANS & ELEVATIONS – READINESS CENTER  
Drawing RA7.3 INTERIOR ELEVATIONS AND DETAILS – READINESS CENTER  
Drawing RA10.1 CONCEPTUAL FF&E PLANS  
Drawing GA2.0 REFERENCE FLOOR PLAN – UNIT SUPPLY/GPTB  
Drawing GA2.1 ENLARGED FLOOR PLAN "ZONE A" – UNIT SUPPLY / GPTB  
Drawing GA2.3 PLATFORM PLAN – UNIT SUPPLY / GPTB  
Drawing GA2.4 ROOF PLAN – UNIT SUPPLY / GPTB

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Drawing GA2.5 WALL TYPE PLAN – UNIT SUPPLY / GPTB  
Drawing GA2.6 ROOF CALLOUTS & DETAILS – UNIT SUPPLY / GPTB  
Drawing GA5.2 SECTIONS & DETAILS – UNIT SUPPLY / GPTB  
Drawing GA6.1 ENLARGED RESTROOM PLANS & ELEVATIONS – UNIT SUPPLY / GPTB  
Drawing GA8.1 REFLECTED CEILING PLAN – UNIT SUPPLY / GPTB  
Drawing GA9.1 FLOOR PATTERN & FINISH SCHEDULE – UNIT SUPPLY / GPTB

## PRE-BID CONFERENCE MEETING MINUTES

Huntsville Readiness Center  
Huntsville, Alabama  
IFB NO. AC-25-B-0006-S  
November 21, 2024 at 10:00 AM

Sign-In

Introductions

Contract

- This will be a **State** Contract between the **Armory Commission of Alabama (AC)** and the selected Contractor.
  - The AC is represented by Erich Babbitt (Contracting Officer - KO), Rodney Middleton available at [rodney.l.middleton5.nfg@army.mil](mailto:rodney.l.middleton5.nfg@army.mil) or 334-301-0384 (Primary Contracting Officer's Representatives - CORs), and Randy Long (CFMO Project Manager) available at [raymond.a.long27.nfg@army.mil](mailto:raymond.a.long27.nfg@army.mil) or 334-5309676.
  - The A/E, P/M and/or tenants do NOT represent the Owner.
  - The only person who can revoke, alter, relax, or waive, any requirements of the Contract Documents, to finally approve or accept any portion of the Work or to issue instructions contrary to the Drawings and Specifications is the KO and his CORs.
  - The U. S. Army Corps of Engineers does NOT have any role in this Contract, nor are they a party to this Contract, nor do they have any jurisdiction, nor are they be consulted regarding any disputes.
  - Payments will be made via State check or EFT – payment method is based solely on the Contractor's choice when registering with the State of Alabama.

Receipt of Proposals

- Sealed bids will be received by The Armory Commission of Alabama, at the State Military Department Building, 1720 Cong. W.L. Dickinson Drive, (P.O. Box 3711), Montgomery, Alabama, **until 2:00 p.m., Central Time, Thursday, December 12, 2024**, for Huntsville Readiness Center, Huntsville, AL (IFB# AC-25-B-0006-S).
- **The bids will then be publicly opened and read in Second Floor Classroom (Room 201), of the State Military Department, 1720 Cong. W.L. Dickinson Drive, Montgomery, Alabama.**
- Changes by telegram, written communication or facsimile **WILL NOT** be accepted.
  - In accordance with the Paragraph 2.C(1) of the Special Conditions of the Contract (00 73 00), the above modifies the second sentence of paragraph 10 of the Instructions to Bidders (00 21 00).
  - **The ONLY approved method to make changes is as follows:** The sum being bid may be changed by the Bidder by writing the change in price, over the Bidder's authorized signature, or initials, on the envelope; however, if the sum being bid is revealed on the envelope, the bid no longer constitutes a "sealed bid" and must not be received.

- Proposal envelopes MUST include all of the following:
  - Sealed envelope containing:
    - Two completed, original signature(s) proposal forms and
      - One bid bond (5% NTE \$10,000.00) with correct Power of Attorney, OR
      - A certified check (5% NTE \$10,000.00), made payable to the Owner.
  - Written (or typed) on the outside the word “Bid”
  - The project name,
  - The project Invitation to Bid (IFB) number,
  - The Bidder’s name, and
  - The Bidder’s Alabama General Contractor’s licensure number.
- In accordance with Paragraph 12 of the Instructions to Bidders, “Bids may be rejected if they contain any omissions, alterations of forms, additions not called for, conditional bids, alternate bids unless called for, incomplete bids, erasures, or irregularities of any kind. Bids in which the unit or lump sum prices bid are obviously unbalanced may be rejected.”
- Bid prices do NOT include Sales or Use Taxes in accordance with Act 2013-205.
  - For additional information concerning this guidance, tax payers should contact the Sales and Use Tax Division representative, Thomas Sims, at 334-242-1574 or by email at [thomas.sims@revenue.alabama.gov](mailto:thomas.sims@revenue.alabama.gov).
- Disclosure Statement – prefer completed with bid.

#### Request For Information (RFIs)

- RFIs must be received in writing by Casey Ivy of Seay Seay & Litchfield, P.C. via email at [civy@sslarch.com](mailto:civy@sslarch.com) no later than 2 p.m. on Tuesday, December 5, 2024.

#### E-Verify

- This project will require E-verification and Memorandum of Understanding prior to contract execution.

#### Jobs Reports

- Jobs Reports are required and must be submitted once per quarter on a supplied EXCEL spreadsheet.

#### Modifications

- Modifications include the following requirements:
  - All requirements of the Contract Modification Procedures (01 26 00), and
  - All requirements of Paragraph 19 of the General Conditions of the Contract (00 72 00), and
  - All requirements of Paragraph 19 of the Special Conditions of the Contract (00 73 00).
  - Where conflicts in the above occur, Paragraph 2.C(1) of the Special Conditions of the Contract (00 73 00) shall control.

## Maintenance

- The Contractor is required to perform all manufacturer's required maintenance through the duration of the One Year GC Warranty period, i.e., until one year after Final Acceptance.
  - The cost of this maintenance is to be included in the proposal price(s) – the Owner will NOT authorize a Contract Modification to pay for this requirement.
- The maintenance will be per manufacturer's requirements and will be documented, in writing, to the Owner (AC) through the A/E.

## Prior Approval

- This project requires, and the State solicits full competition.
- However, pre-bidding equal status of products is required to ensure equality of products being proposed.
  - Bidder's shall complete and submit one Substitution Request Form During Bidding (00 43 25) for each product proposed for substitution.
  - All product substitutions shall be requested prior to the deadline for RFI's (above).
  - All product substitutions shall be submitted via email to the email address for RFI's (above).
  - For additional information, the Bidder is directed to both of the following:
    - Instructions to Bidders (00 21 00) paragraph 4, and
    - General Conditions of the Contract (00 72 00), paragraph 2.C.5.

## Testing

- All testing is solely the Contractor's responsibility.
- Any retesting required because of previous failed/non-passing testing is also solely the Contractor's responsibility.
- The Contractor shall notify the Architect, in writing, at least two days (Monday through Friday) in advance of any field testing.
  - Should the Contractor fail to provide the required advance notification, in writing, to the Architect, the Owner may require the Contractor to perform retesting at Contractor's sole expense.
- All Contractor testing reports/results shall be submitted, immediately upon Contractor's receipt, to the Architect.
- The Owner reserves the right to perform additional testing at Owner's discretion.

## Authorities having Jurisdiction

- As this is a Contract with the Armory Commission of Alabama, **the following entities DO NOT have jurisdiction:**
  - Alabama Department of Finance, Division of Construction Management, and
  - City of Huntsville, Alabama, and
  - Madison County, Alabama.
- **The following entities DO have jurisdiction:**
  - U. S. Occupational Safety and Health Administration (OSHA), and
  - U. S. Environmental Protection Agency (EPA), and
  - Alabama Department of Environmental Management (ADEM), and
  - Alabama Licensing Board for General Contractors, and
  - Alabama Department of Insurance, and
  - Alabama Fire Marshal's Office.

## Utilities

- The utilities within the limits of work will be in the General Contractor's name and will be the responsibility of the General Contractor's to pay for all utilities until Final Acceptance by the Armory Commission of Alabama.
- The Contractor will be responsible for providing job site trailer and portable toilet(s) for his employees.

## Pre-Work Requirements

- Contractor must provide all of the following, simultaneously, no later than the Pre-Construction Conference:
  - Construction Schedule
    - The Schedule shall be in a format that:
      - Readily identifies "critical path items", and
      - Shall show completion of the Work within the Contract Time, and
      - Shall be broken down to sufficient detail to show all components of the Work and their relationship with one another.
  - Schedule of Values
    - The Schedule of Values shall:
      - Be on the Owner's "Contractor's Periodical Request for Partial Payment" form (00 62 76), and
      - Include each separate allowance as a separate line, and
      - Include a separate line item, in the amount of 2.5% of the Contract Award, labelled "Closeout Documents", and
      - Be broken down to sufficient detail to allow the Architect and Owner to verify the components of the Work.
  - Draw Schedule
    - The Draw Schedule shall:
      - Be on the Owner's Form (00 62 83), and
      - Be updated immediately prior to, and submitted with, each Contractor's Periodical Request for Partial Payment.
  - Proposed Submittal Schedule
    - The proposed submittal schedule shall contain the proposed submittals name/topic and date of submittal.
- In addition, the Contractor shall submit the following items concurrently with the execution of the Contract, for the Owner's approval:
  - Superintendent – for additional requirements see the General Conditions of the Contract, Paragraph 18, and
  - List of Subcontractors - for additional requirements see the General Conditions of the Contract, Paragraph 40.

## Retainage

- In accordance with Code of Alabama 39-2-12 (c), retainage in the amount of 5% through the first 50% will be held until contract completion.

### Project Site Access/Security Issues

- The Contractor will have access to the site at all times.
- Security is the responsibility of the Contractor.
- This is a gun free, drug free installation.

### Permits

- The Contractor is required to pay all fees for all permits (NPDES, etc.) - to include preparation of permit, filing fees, administrative fees, inspection fees and fees for violations of said permits.
- All permits are to be in the name of the Contractor.

### Weather Days

- Can be approved if over and above normal for the project location.
- Must be requested monthly by Contractor, on the form at 00 63 56, with back-up documentation.

### Owner/Architect/Contractor Meetings (OAC's)

- Contractor to hold, provide agenda and run monthly OAC's.
- Required items to discuss at each OAC include:
  - Schedule,
  - RFI's,
  - Change Order Request status,
  - Request for Proposal status,
  - Modification status,
  - Submittal status and logs,
  - As-builts.
- Coordinate date and time with A/E and Owner.
- A/E will send calendar invite to Contractor, A/E team, and Owner team.

### Superintendent

- Must be a direct employee of the Contractor.
- Must be on-site at all times work is taking place.

### Attic Stock

- Attic Stock/Replacement Stock quantities have been defined in 01 78 46.
- Attic Stock must be in delivered and accounted for at the Punch List Inspection

### Warranty Requirements

- All warranties must comply with all of the following:
  - Laws must be State of Alabama.
  - Venue (for arbitration or lawsuits) MUST be State of Alabama.
  - Must run for the full term as required in the Contract Documents from Final Acceptance.



## Project Closeout

- Refer to Project Closeout specifications at 01 77 00, 01 78 13 and 01 78 39.

## Punch List Inspection/Final Inspection

- We do not accept substantial completion.
- Punch List Inspection will:
  - Occur once all Work is complete, to include Commissioning and Commissioning reports.
  - Include a review of the O/M manuals and as-builts.
- Final Inspection will:
  - Only be scheduled once the Contractor has certified to the Architect that he has corrected all deficiencies noted on the Punch List Inspection.
  - Include the Contractor providing 2 complete hard sets of the O/M manuals and as-builts to the Owner.
  - Result in the issuance of the Certificate of Final Completion once all requirements of the Contract Documents are met and verified by the Owner.

## Liquidated Damages

- See General Conditions for amounts and application.

## Completion Ad

- The Certificate of Completion must be fully executed by the Contractor, Architect and Owner BEFORE the Completion Advertisement can be run by the Contractor.
- The requirements can be found in the Code of Alabama, 39-1-1 (f).
- Contractor responsible for coordinating, paying all fees and receiving the Publisher's Affidavit.
- The form of advertisement can be found at 00 65 13.
- The sample affidavit can be found at 00 65 15.

## Davis Bacon Act

- Davis Bacon Act does not apply to this project.

## Protection of Surrounding Work

- Contractor to protect adjacent existing items to remain that are not in the contractor's scope of work.
- Should Contractor damage existing to remain work, the Contractor is responsible for returning the work to pre-existing, or better, condition at no expense to the Owner.

## Testing prior to Award

- No one is authorized to perform any testing who is not under contract with the AC. This includes:
  - Geotechnical testing,
  - Penetration of the roof(s),
  - Asbestos surveys/testing.

## Safety

- Safety is SOLELY the Contractor's responsibility.

## Project Overview

- The intent and meaning of the Contract Documents is that the Contractor shall provide labor, plant, materials, supplies, equipment, transportation facilities and appurtenances thereto which are indicated or reasonably implied by the Drawings and Specifications.
- A general description of the Work of the various Bid Items and Alternate Bid Items is as follows:
  - **Base Bid:** All work as indicated in the Documents for the site development and construction of a new Readiness Center and GPTB/Unit Supply PEMB located at 5180 Moore's Mill Road, Huntsville, AL. Scope includes site clearing and Military and POV parking and Geothermal HVAC. The Readiness Center is load bearing masonry construction with cold formed trusses and standing seam metal roof. The General Purpose Training Bay / Unit Storage is a Pre-Engineered Metal Building.
  - **Alternates:** Refer to Specification Section 01 2300 Alternates and Drawings AT1.0 and Civil Drawings.
    - **Alternate Bid Item A-1:** Paving Military Owned Vehicle (MOV) Access Road
    - **Alternate Bid Item A-2:** Military Owned Vehicle (MOV) Parking Loading Ramp.
    - **Alternate Bid Item A-3:** Military Owned Vehicle (MOV) Parking Truck Containment Pad.
  - **Allowances:** Refer to Specification Section 01 2100 Allowances (All Allowances to be included in the Base Bid Price).
    - Aid to Construction: Water/Sewer (Base Bid) – Include in the stipulated sum of \$225,000.00 for use to provide connections paid to the utility company to provide connection to city water and sewer services.
    - Aid to Construction: Power (Base Bid) – Include in the stipulated sum of \$75,000.00 for use to provide connections paid to the utility company to provide connection to power service.
    - Aid to Construction: Gas (Base Bid) – Include the stipulated sum of \$60,000.00 for use to provide connections paid to the utility company to provide connection to gas service.
    - Aid to Construction: Bi-Directional Amplifier (Base Bid) – Include in the stipulated sum of \$125,000.00 for use to provide preliminary and final testing for a Bi-Directional Amplifier (BDA) system. If a BDA is required then this Allowance will cover design and installation of new system. If a BDA is found to not be required then remainder of Allowance shall be credited back to Owner.

- **Unit Prices:** Refer to Specifications Section 01 2200 (To Be Quoted on the Bid Proposal Form)
  - Unit Price No. 01 – Cost per cubic yard \$\_\_\_\_\_ for Undercutting and Removal of Unsuitable Soils and Replace with Select Fill.
  - Unit Price No. 02 – Cost per square yard \$\_\_\_\_\_ for providing and completely installing 8” ALDOT 825 Type A or B Graded Aggregate Base with Filter Fabric.
  - Unit Price No. 03 – Cost per square yard \$\_\_\_\_\_ for providing and completely installing Heavy Duty Concrete Paving.

#### Contract Time

Perform all work in not to exceed **610 Days** in accordance with the following (calculated as the sum of 3.01.A.1 through 3.01.A.3. [inclusive]):

1. The Notice to Proceed (NTP) is **14** calendar days from the email delivery of the fully executed contract to the Contractor, unless otherwise agreed upon, in writing, by the Owner and the Contractor. However, in no case will the NTP be later than December 31 of the calendar year in which the contract is executed. Contract Time begins at the NTP.
2. The Contractor has **565** calendar days, from 3.01.A.1. (above), to perform all work. This includes providing all required operator training, the “Punch-List Inspection”, correcting all deficiencies noted in the “Punch-List Inspection”, and successful completion of the Final Inspection – with no noted deficiencies,
3. The Contractor has **45** days, from 3.01.A.2. (above), to have submitted a complete Project Closeout package, as detailed and defined in Sections 01 77 00 and 01 78 13.

#### Site Tour

- The Contractors present were allowed to travel to and walk the project site, observe existing conditions, and question the Architect and Owner regarding scope of work and conditions. All RFIs should be addressed to the Architect in writing.
- If any Contractors would like to make another site visit, please contact Randy Long: (334) 530-9676.

## **SECTION 01 2100 - ALLOWANCES**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Allowance Schedule.

#### **1.02 RELATED REQUIREMENTS**

- A. Section 01 2900 Payment Procedures: Additional payment and modification procedures.

#### **1.03 CONTINGENCY ALLOWANCE**

- A. Refer to Schedule of Allowances for Allowances and monetary amounts of each allowance to be included in the contractor's base bid.
- B. ~~All Contingency Allowances include 25% overhead and profit, as defined by General Conditions Paragraph 19A. Contractors will comply with General Conditions Paragraph 19 when submitting allowance pricing.~~
- C. After testing needs have been identified and examined and the scope of work and method of testing determined, or a request for a proposal to cover additional work has been issued by the Owner, the Contractor shall submit a proposal for such work to the Architect for the Owner's approval. If the Owner approves of such proposal, he will issue written authorization to the Contractor to perform the work and charge the related costs to the Contingency Allowance. At the Owner's option, work performed under this provision may be ordered done on a time and material basis, in which case, the Contractor shall keep accurate records of all time and materials used and submit such records to the Architect for his approval at the end of each day's work.
- D. The Contractor shall include a line item in the Schedule of Values entitled "Contingency Allowance" with values as scheduled below. The estimated value of work completed pursuant to fully executed Contingency Allowance Authorizations may be included in the Contractor's monthly Applications for Payment.
  - 1. When a contingency allowance includes multiple items of work, each item of work shall be listed as a separate line item in the schedule of values with the approximate percentage complete for each scope of work listed.
- E. The owner may, at his discretion, transfer balance of any contingency to another allowance.

- F. An accounting of the costs charged against this Contingency Allowance shall be mutually maintained by the Contractor, Architect, and Owner throughout the course of the project.

#### **1.04 ALLOWANCES SCHEDULE**

- A. Aid to Construction: Water/Sewer (Base Bid). Include in the stipulated sum of \$225,000.00 for use to provide connections paid to the utility provide for connection to city water and sewer service.
- B. Aid to Construction: Power (Base Bid). Include in the stipulated sum of \$75,000.00 for use to provide connections paid to the utility provide for connection to power service.
- C. Aid to Construction: Gas (Base Bid). Include in the stipulated sum of \$60,000.00 for use to provide connections paid to the utility provide for connection to gas service.
- D. Aid to Construction: Bi-Directional Amplifier (Base Bid). Include in the stipulated sum of \$125,000.00 for use to provide preliminary and final testing for a Bi-Directional Amplifier (BDA) system. If a BDA is required then this Allowance will cover design and installation of new system. If a BDA is found to not be required then remainder of Allowance shall be credited back to Owner.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

#### **END OF SECTION 01 2100**

## **SECTION 08 4413 - GLAZED ALUMINUM CURTAIN WALLS**

### **PART 1 GENERAL**

#### **1.01 Section Includes**

- A. Architectural Aluminum Curtain Wall Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter seating of curtain wall framing.
  - 1. Basis of Design: 1600 Wall System 1 Curtain ~~Wall Blast Mitigation~~ - 2-1/2" sightline, outside glazed pressure plate format.
    - a. System depth: 7-1/2" for 1" insulating glazing.

#### **1.02 Related Requirements**

- A. Section 03 3000 - Cast-in-Place Concrete: Weld plates embedded in concrete for attachment of anchors.
- B. Section 04 2000 - Unit Masonry
- C. Section 05 1200 - Structural Steel Framing: Steel attachment members.
- D. Section 05 5000 - Metal Fabrications: Steel attachment devices.
- E. Section 07 2500 - Weather Barriers: Sealing framing to water-resistive barrier installed on adjacent construction.
- F. Section 07 9005 - Joint Sealers: Perimeter sealant and back-up materials.
- G. Section 08 4313 - Aluminum-Framed Storefronts:
- H. Section 08 4113 - Aluminum-Framed Entrances
- I. Section 08 8000 - Glazing.
- J. Section 09 2116 - Gypsum Board Assemblies

#### **1.03 Reference Standards**

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- B. AAMA 501.1 - Standard Test Method for Exterior Windows, Curtain Walls and Doors for Water Penetration Using Dynamic Pressure; 2005.
- C. AAMA 501.2 - Field Check of Metal Storefronts, Curtain Walls, and Sloped Glazing Systems for Water Leakage; 2009.

- D. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.
- E. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2015.
- F. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2013.
- G. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.
- H. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; 2010, with 2013 Supplements and Errata.
- I. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- J. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- K. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- L. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.
- M. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.
- N. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2009).
- O. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference; 2000 (Reapproved 2016).
- P. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference; 2015.

- Q. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).
- R. Unified Facilities Criteria (UFC):
  - 1. UFC 1-200-01: General Building Requirements.
  - 2. UFC 3-310-01: Design: Structural Load Data.
  - 3. UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings.
- S. Protective Design Center Technical Report (PDC-TR) 19 April 2012.

#### 1.04 Submittals

- A. See Section 01 3001 - Submittals
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, internal drainage details, glazing, \_\_\_\_\_, and infill.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.
- D. Samples: Submit two samples at ***a minimum of 12 by 12 inches (304.8 by 304.8 mm) in size illustrating finished aluminum surface, glazing, infill panels, and glazing materials.***
- E. Test Reports: Submit results of full-size mock-up testing. Reports of tests previously performed on the same design are acceptable.
- F. Design Data: Provide framing member structural and physical characteristics and engineering calculations, and identify dimensional limitations; include load calculations at points of attachment to building structure.
- G. Structural Glazing Adhesive: Submit product data and calculations showing compliance with performance requirements.
- H. Manufacturer's Certificate: Certify that the products supplied meet or exceed the specified requirements.
- I. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.
- J. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.



### **1.05 Quality Assurance**

- A. Designer Qualifications: Design curtain wall and its structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than three years of documented experience.

### **1.06 Mock-Ups**

- A. See Section 01 4000 - Quality Requirements for additional requirements.
- B. Provide mock-up of one curtain wall unit including all Components, sealants, flashings, glazing, attachments, and anchorage.

### **1.07 Delivery, Storage, and Handling**

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

### **1.08 Field Conditions**

- A. Do not install sealants when ambient temperature is less than 40 degrees F (5 degrees C).
- B. Maintain this minimum temperature during and 48 hours after installation.

### **1.09 Warranty**

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
- B. Correct defective Work within a 10 year period after Date of Final Completion.
- C. Finish Warranty: Provide 5-year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking. Complete forms in Owner's name and register with warrantor.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Basis of Design: See below under description of products.
- B. Kawneer; Product 1600 Wall System I .
- C. Glazed Aluminum Curtain Walls:

1. YKK AP America Inc: [www.ykkap.com](http://www.ykkap.com).
2. Oldcastle BuildingEnvelope: [www.oldcastlebe.com](http://www.oldcastlebe.com).

## 2.02 Curtain Wall

- A. Aluminum-Framed Curtain Wall: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
1. Outside glazed, with pressure plate (fiberglass if necessary to achieve overall thermal performance specified) and mullion cover.
  2. Vertical Mullion Face Width: 2-1/2 inches (63.5 mm).
  3. Vertical Mullion Depth From Face to Back: ~~As required to meet blast resistance requirements.~~ Drawings indicate 7-1/2" depth. Advise architect's office for coordination if required mullion depth exceed 7-1/2 inches.
  4. Provide flush joints and corners, weathersealed, accurately fitted and secured; prepared to receive anchors; fasteners and attachments concealed from view; reinforced as required for imposed loads.
  5. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
  6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
  7. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
- B. Structural Performance Requirements: Design and size components to withstand the following load requirements without damage or permanent set.
1. Design Wind Loads: Comply with the requirements of IBC 2021 code.
    - a. Measure performance by testing in accordance with ASTM E330/E330M, using test loads equal to 1.5 times the design wind loads and 10 second duration of maximum pressure.
    - b. Member Deflection: For spans less than 13 feet 6 inches (4115 mm), limit member deflection to flexure limit of glass in any direction, and maximum of 1/175 of span or 3/4 inch (19 mm), whichever is less and with full recovery of glazing materials.

- c. Member Deflection: For spans over 13 feet 6 inches (4115 mm) and less than 40 feet (12.2 m), limit member deflection to flexure limit of glass in any direction, and maximum of 1/240 of span plus 1/4 inch (1/240 of span plus 6.4 mm), with full recovery of glazing materials.
  2. Seismic Loads: Design and size components to withstand seismic loads and sway displacement in accordance with requirements of ASCE 7.
  3. Movement: Accommodate the following movement without damage to components or deterioration of seals:
    - a. Expansion and contraction caused by 180 degrees F (82 degrees C) surface temperature.
    - b. Expansion and contraction caused by cycling temperature range of 170 degrees F (77 degrees C) over a 12 hour period.
    - c. Movement of curtain wall relative to perimeter framing.
    - d. Deflection of structural support framing, under permanent and dynamic loads.
- C. Thermal Performance Requirements:
  1. Overall U-value Including Glazing: .50 Btu/(hr sq ft deg F) ( W/(sq m K)), maximum.
  2. U-value shall be determined in accordance with NFRC 100. U-Factors shall be determined by a laboratory accredited by a nationally recognized accreditation organization, such as the National Fenestration Rating Council, and shall be labeled and certified by the manufacturer.
  3. Overall Solar Heat Gain Coefficient Including Glazing: .25
- D. Labeling of Fenestration: The U-factor, SHGC, and air leakage rate for all manufactured doors and fenestration shall be determined by a laboratory accredited by a nationally recognized accreditation organization, such as the National Fenestration Rating Council. All products shall have a permanent name-plate, installed by the manufacturer, listing the U-factor, SHGC, Visible Transmittance and air leakage rate.
- E. ~~Blast Mitigation Performance:~~
  1. ~~Blast Mitigation: Provide system designed to meet or exceed the following requirements of the UFC 4-010-01 (Latest Edition), "DoD Minimum Antiterrorism Standard for Buildings."~~
    - a. ~~Section B-3.1 Standard 10: Windows and Skylights~~

- b. ~~Section B-3.1.1 Dynamic Analysis~~
  - c. ~~e. Section B-3.1.2 Testing~~
  - d. ~~Section B-3.1.3 ASTM F 2248 design Approach for Laminated Glass Glazing Systems.~~
  - e. ~~Section B-3.1.3.1 Glazing~~
  - f. ~~Section B-3.1.3.2 Frames~~
  - g. ~~Section B-3.1.3.3 Glazing Frame Bite~~
  - h. ~~Section B-3.1.3.4 Connection Design~~
  - i. ~~Section B-3.1.4 Static Design of Supporting Elements~~
  - j. ~~Section B-3.1.4.2 Reactions~~
- F. ~~*Windborne-Debris-Impact Resistance Performance: Shall be tested in accordance with ASTM E 1886, information in ASTM E1996 and TAS 201/203.*~~
- 1. ~~*Large-Missile Impact: For aluminum-framed systems located within 30 feet (9.1m) of grade.*~~
  - 2. ~~*Small-Missile Impact: For aluminum-framed systems located above 30 feet (9.1m) of grade*~~

## 2.03 Components

- A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
  - 1. Structurally Reinforced Members: Extruded aluminum with internal reinforcement of structural steel member.
- B. Glazing: See Section 08 8000.

## 2.04 Materials

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
  - 1. *Thickness shall not be less than 0.070 inches (1.78 mm)*
- B. Structural Steel Sections: ASTM A36/A36M; galvanized in accordance with requirements of ASTM A123/A123M.

- C. Structural Supporting Anchors Attached to Reinforced Concrete Members: Design for welded attachment to weld plates embedded in concrete.
- D. Fasteners: Stainless steel; type as required or recommended by curtain wall manufacturer.
- E. Exposed Flashings: 0.040 inch (\_\_\_\_ mm) thick aluminum sheet; finish to match framing members. Provide separation material between all adjacent dissimilar metals.
- F. Concealed Flashings: 0.018 inch (0.5 mm) thick galvanized steel and aluminum.
- G. Perimeter Sealant: Type II specified in Section 07 9005.
- H. Glazing: As specified in Section 08 8000.
- I. Glazing Accessories: See Section 08 8000.
- J. Touch-Up Primer for Galvanized Steel Surfaces: SSPC-Paint 20, zinc rich.

## **2.05 Finishes**

- A. High Performance Organic Coatings: AAMA 2604; multiple coats, thermally cured fluoropolymer system.
- B. Color: Custom Color to be selected by Architect. \_\_\_\_
- C. Touch-Up Materials: As recommended by coating manufacturer for field application.

## **PART 3 EXECUTION**

### **3.01 Examination**

- A. Verify dimensions, tolerances, and method of attachment with other related work.
- B. Verify that curtain wall openings and adjoining water-resistive and air barrier seal materials are ready to receive work of this section.
- C. Verify that anchorage devices have been properly installed and located.

### **3.02 Installation**

- A. Install curtain wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.

- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. Provide thermal isolation where components penetrate or disrupt building insulation.
- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G. Coordinate attachment and seal of perimeter air and vapor barrier materials.
- H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- I. Structural Sealant Glazing (SSG) Adhesive: Install structural sealant glazing adhesive and weatherseal sealant in accordance with manufacturer's instructions.
- J. Install perimeter sealant in accordance with Section 07 9005.
- K. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

### **3.03 Tolerances**

- A. Maximum Variation from Plumb: 0.06 inch per 3 feet (1.5 mm/m) noncumulative or 0.5 inches per 100 feet (12 mm/30 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).
- C. Sealant Space Between Curtain Wall Mullions and Adjacent Construction: Maximum of 3/4 inch (19 mm) and minimum of 1/4 inch (6 mm).

### **3.04 Field Quality Control**

- A. Provide services of curtain wall manufacturer's field representative to observe for proper installation of system and submit report.
- B. Water-Spray Test: Provide water spray quality test of installed curtain wall components in accordance with AAMA 501.2 during construction process and before installation of interior finishes.
  - 1. Perform a minimum of two tests in each designated area as indicated on drawings.
  - 2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.

- C. Repair or replace curtain wall components that have failed designated field testing, and retest to verify performance complies with specified requirements.

### **3.05 Cleaning**

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Remove excess sealant by method acceptable to sealant manufacturer.

### **3.06 Protection**

- A. Protect installed products from damage until mm-dd-yyyy.

**END OF SECTION 08 4413**

## **SECTION 08 8000 - GLAZING**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Glass.
- B. Glazing compounds and accessories.

#### **1.02 RELATED REQUIREMENTS**

- A. Section 07 9005 - Joint Sealers: Sealant and back-up material.
- B. Section 08 4313 - Aluminum-Framed Storefronts
- C. Section 08 4413 - Glazed Aluminum Curtain Walls

#### **1.03 REFERENCE STANDARDS**

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ASTM C1036 - Standard Specification for Flat Glass; 2011.
- C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- D. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2014.
- E. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a.
- F. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- G. GANA (GM) - GANA Glazing Manual; 2009.
- H. GANA (SM) - GANA Sealant Manual; 2008.
- I. GANA (LGRM) - Laminated Glazing Reference Manual; 2009.
- J. ICC (IBC) - International Building Code; 2015.
- K. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; 1990 (2004).
- L. ASTM Standard F1642-04, Standard Test Method for Glazing and Glazing Systems subject to airblast loadings.



M. UFC 4-010-01 DpD Minimum Antiterrorism Standards for Buildings.

#### 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
- C. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.
- D. Samples: Submit two samples \_\_ by \_\_ inch (\_\_ by \_\_ mm) in size of glass and plastic units, showing coloration and design.

#### 1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA Glazing Manual and GANA Sealant Manual for glazing installation methods.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

#### 1.06 MOCK-UP

- A. See section 08 4413 - Glazed Aluminum Curtain Walls.

#### 1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Sealed Insulating Glass Units: Provide a ten (10) year warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.
- C. Laminated Glass: Provide a ten (10) year warranty to include coverage for delamination, including replacement of failed units.

### PART 2 PRODUCTS

#### 2.01 INSULATING GLASS UNITS

- A. ~~Type [IG-1] Blast Resistant, Solar Control, Laminated Insulating Glass Units: Vision glass, double glazed.~~
  - 1. ~~Application: All exterior glazing unless otherwise indicated.~~

2. **Performance Requirements:**

- a. ~~Blast Mitigation Performance: Shall be tested or proven through analysis to meet ASTM F1642, GAS-TS01, and UFC 04-010-01 performance criteria~~
  - 1) ~~To meet UFC 04-010-01, B-3.1 Standard 10 for Windows and Skylights, the following options are available:~~
    - (a) ~~Section B-3.1.1 Dynamic analysis~~
    - (b) ~~Section B-3.1.2 Testing~~
    - (c) ~~Section B-3.1.3 ASTM F3348 Design Approach~~
- b. ~~Winter U-Value: 028~~
- c. ~~Solar Heat Gain Coefficient: 0.20~~
- d. ~~VLT (%): 33~~
- e. ~~Fully tempered.~~

3. **Outdoor Lite:**

- a. ~~Glass Thickness: (1/4") 6 mm, minimum type as required for blast resistance requirements.~~
- b. ~~Tint: Equal to Solargray as manufactured by Vitro Architectural Glass~~
- c. ~~Coating: Equal to Solarban 70XL on Surface #2~~
- d. ~~Heat Treatment: Tempered and Heat Strengthened as mandated for safety and by code.~~

4. **Interspace Content: Air (1/2") 12.7 mm**

5. **Indoor Lite: Laminate as required for blast resistance requirements.**

- a. **Laminate Outboard Lite:**
  - 1) ~~Glass Thickness: (1/8") 3 mm +/- as required for blast resistance requirements.~~
  - 2) ~~Tint: Clear~~
  - 3) ~~Heat Treatment: Tempered and Heat Strengthened as mandated for safety and by code.~~

- b. **Interlayer:**
  - 1) **Type: PVB**
  - 2) **Thickness: ~~minimum as required for blast resistance requirements.~~**
  - 3) **Color: ~~Clear~~**
- c. **Laminate Inboard Lite:**
  - 1) **Glass Thickness: ~~(1/8") 3 mm +/- as required for blast resistance requirements.~~**
  - 2) **Tint: ~~Clear~~**
  - 3) **Heat Treatment: ~~Tempered and Heat Strengthened as mandated for safety and by code.~~**

B. Type IG-2 - Non-Blast Resistant, Solar Control, Laminated Insulating Glass Units:  
Double glazed.

- 1. Application: Exterior glazing where indicated.
- 2. Performance Requirements:
  - a. **Winter U-Value: .028**
  - b. **Solar Heat Gain Coefficient: 0.20**
  - c. **VLT (%): 33**
  - d. **Fully tempered.**
- 3. **Glazing Assembly:**
  - a. **Outdoor Lite:**
    - 1) **Glass Thickness: 1/4" (6mm) +/- as required for Impact Debris Standards**
    - 2) **Coating: One of the following**
      - (a) **Solarban 70 on Surface #2**
      - (b) **Guardian SNX62/27 on Surface #2**
      - (c) **Or approved Equal**

- 3) *Tint: Equal to Solargray as manufactured by Vito Architectural Glass (or approved equal)*
- 4) *Heat Treatment: Tempered and Heat Strengthened as mandated for safety and by code*
- b. *Interlayer:*
  - 1) *Type: PVB*
  - 2) *Thickness: .060" (1.52mm)*
  - 3) *Color: Clear*
- c. *Inboard Lite(s)*
  - 1) *Glass Thickness: 1/4" (6mm) +/- as required for Impact Debris Standards*
  - 2) *Tint: Clear*
  - 3) *Tempered and Heat Strengthened as mandated for safety and by code*
- C. ~~Type [IG-3] - Blast Resistant, Solar Control, Laminated Insulating Glass Units - Spandrel glass, Double glazed.~~
  1. ~~Application: [Exterior glazing where indicated].~~
  2. ~~Performance Requirements: Same as Type IG-1~~
  3. ~~Glazing Assembly: Same as Type IG-1 except as noted below.~~
    - a. ~~Opacifier: Ceramic frit on #5 surface.~~
- D. *Type [IG-4] - Non-Blast Resistant, Solar Control, Laminated Glass Units, Spandrel Glass, Double Glazed*
  1. *Application: Exterior glazing where indicated*
  2. *Performance Requirements:*
    - a. *Winter U-Value: .028*
    - b. *Solar Heat Gain Coefficient: 0.20*
    - c. *VLT (%)*
    - d. *Fully tempered.*

3. ***Glazing Assembly: Same as Type IG-2 except as noted below***
  - a. ***Opacifier: Ceramic frit on #5 surface***

## **2.02 GLAZING UNITS**

- A. Type S-1 - Single Vision Glazing:
  1. Application: All interior glazing unless otherwise indicated.
  2. Type: Fully tempered float glass.
  3. Tint: Clear.
  4. Thickness: 1/4 inch (6 mm).
  5. Polish all exposed edges.
- B. Type S-2 - Fire-Protection-Rated Glazing:
  1. IBC Fire Protection Rating: D-H-T-90, minimum.
  2. Application: Provide this type of glazing in the following locations:
    - a. Glazed lites in fire doors.
    - b. Fire windows.
    - c. Sidelights, borrow lites, and other glazed openings in partitions indicated as having an hourly fire rating.
    - d. Other locations indicated on the drawings.
  3. Thickness: 1/4 inch (6 mm).
  4. Glazing Method: As required for fire rating.

## **2.03 EXTERIOR GLAZING ASSEMBLIES**

- A. Performance Criteria: Select type and thickness of glass to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of glass at design pressures calculated in accordance with the 2015 International Building Code and blast resistance requirements .
  1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
  2. Glass thicknesses listed are minimum.

- B. ~~**Blast Resistance Requirements: Provide glazing system designed to meet or exceed the requirements of the UFC 4-010-01, "DoD Minimum Antiterrorism Standard for Buildings.**~~
- C. ~~**Windborne-Debris-Impact Resistance Requirements: Provide glazing system designed to meet or exceed the requirements of ASTM E1886 and information in ASTM E1996**~~

## 2.04 GLASS MATERIALS

- A. Float Glass Manufacturers:
  - 1. AGC Flat Glass North America, Inc: [www.na.agc-flatglass.com](http://www.na.agc-flatglass.com).
  - 2. Guardian Industries Corp: [www.sunguardglass.com](http://www.sunguardglass.com).
  - 3. Pilkington North America Inc: [www.pilkington.com/na](http://www.pilkington.com/na).
  - 4. Substitutions: Refer to Section 01 6000 - Product Requirements.
- B. Float Glass: Provide float glass based glazing unless noted otherwise.
  - 1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
  - 2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and Kind FT.
  - 3. Tinted Types: ASTM C1036, Class 2 - Tinted, color and performance characteristics as indicated.
  - 4. Thicknesses: As indicated; for exterior glazing comply with requirements indicated for wind load design regardless of thickness indicated.
- C. Fire-Protection-Rated Glazing: Type, thickness, and configuration as required to achieve indicated ratings.
  - 1. IBC & NFPA Fire Protection Rating: As indicated on drawings.
  - 2. Provide products listed by Underwriters Laboratories or Intertek Warnock Hersey.
  - 3. Labeling: Provide permanent label on each piece giving the IBC rating and other information required by the applicable code.

## 2.05 SEALED INSULATING GLASS UNITS

- A. Manufacturers:

1. Any of the manufacturers specified for float glass.
  2. Substitutions: Refer to Section 01 6000 - Product Requirements.
- B. Sealed Insulating Glass Units: Types as indicated.
1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
  2. Edge Spacers: Aluminum, bent and soldered corners.
  3. Edge Seal: Glass to elastomer with supplementary silicone sealant.
  4. Purge interpane space with dry hermetic air.

## 2.06 GLAZING COMPOUNDS

- A. Manufacturers:
1. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
  2. Pecora Corporation: [www.pecora.com](http://www.pecora.com).
  3. BASF Construction Chemicals-Building Systems:  
[www.buildingsystems.basf.com](http://www.buildingsystems.basf.com).
  4. Substitutions: Refer to Section 01 6000 - Product Requirements.

## 2.07 GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot (25 mm for each square meter) of glazing or minimum 4 inch (100 mm) x width of glazing rabbet space minus 1/16 inch (1.5 mm) x height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch (75 mm) long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
- C. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C 864 Option I.
- D. Glazing Clips: Manufacturer's standard type.
- E. ***Obscuration Window Film for all exterior entrance glazing locations (Doors 101A and 101B):***

1. ***Provide translucent obscuration window film on all exterior entrance doors and side lites: Owner and Architect to review and approve obscuration film prior to placement of order. The film shall be installed by a Manufacturer approved installer following all applicable Manufacturer's instructions.***
2. ***The approved window wrap and graphics(s) shall mee the following standards, or equivalent, on all window wrap applications:***
  - a. ***3M, 8170 - P40 (40% perforated), 4 mil, opaque, cast vinyl film with a high gloss finish.***
  - b. ***Window graphic film will have a visual obscurity density of 60/40.***
  - c. ***Apply 3M Scotchal Optically Clear Gloss Overlamine (8518) and shall be laminated prior to installation.***
  - d. ***Apply 3M edge sealer tape 8914 at time of installation to all edges of the perforated film to prevent peeling.***
3. ***Examination:***
  - a. ***Examine sbstrates for compliance with requirements and for conditions affecting performance of film including glass that is broken, chipped, cracked, abraded, or damaged in any way.***
4. ***Preparation:***
  - a. ***Comply with manufacturer's written instructions for surface preparation.***
  - b. ***Clean substrates thoroughly prior to installation.***
  - c. ***Prepare substrates using methods recommended by film manufacturer to achieve the best reults for the substrate under project conditions.***
  - d. ***Protect window frames and surrounding surfaces to prevent damage during installation.***
5. ***Installation:***
  - a. ***Install in accordance with manufacturer's written instructions.***
  - b. ***Install film continuously, but no necessarily in one (1) continuous length. Install with no gaps or overlaps.***
  - c. ***If seamed, make seams non-overlapping.***



- d. *Do not remove release liner from film until just before each piece of film is cut and ready for installation.*
  - e. *Custom cut to the glass with neat, square corners and edges to within 1/8-inch of the window frame.*
  - f. *Remove air bubbles, blisters, and other defects. Be careful to remove "fingers" to eliminate any contamination or excess water pockets. It is crucial to remove as much water as possible during installation.*
  - g. *A final squeegee pass over the entire pane using a Blue Max Blade with an extended handle design (or Thor's Hammer) as recommended.*
6. **Field Quality Control:**
- a. *After installation, view film from a distance of 10 feet against a bright uniform sky or background. Film shall appear uniform in appearance with no visible streaks, wrinkles, banding, thin spots or pinholes.*
  - b. *If installed film does not meet these criteria, remove and replace with new film.*
7. **Cleaning and Protection:**
- a. *Remove excess mounting solution at finished seams, perimeter edges, and adjacent surfaces.*
  - b. *Use cleaning methods recommended by film manufacturer.*
  - c. *Replace film that cannot be cleaned.*
  - d. *Protect installed products until completion of project.*
  - e. *Touch-up, repair or replace damaged products before punch-list inspection.*
8. **Execution:**
- a. *Examination: Require installer to inspect for compliance with manufacturing and installation tolerances. Do not allow film installation work to proceed until unsatisfactory conditions have been corrected.*
  - b. *Preparation: Clean glazing, immediately before application. Remove coatings which are not firmly bonded to substrates.*
  - c. *Protection: Wash glass on both faces not more than 4 days prior to date scheduled for inspections and until established date of Final Completion in*

*each area of project. Wash glass by method recommended by window film manufacturer.*

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that openings for glazing are correctly sized and within tolerance.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

#### **3.02 PREPARATION**

- A. Clean contact surfaces with solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant.
- D. Install sealants in accordance with manufacturer's instructions.

#### **3.03 INSTALLATION - EXTERIOR/INTERIOR DRY METHOD (GASKET GLAZING)**

- A. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.
- B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.
- C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

#### **3.04 INSTALLATION - PLASTIC FILM**

- A. Install plastic film with adhesive, applied in accordance with film manufacturer's instructions.
- B. Place without air bubbles, creases or visible distortion.
- C. Fit tight to glass perimeter with razor cut edge.

#### **3.05 CLEANING**

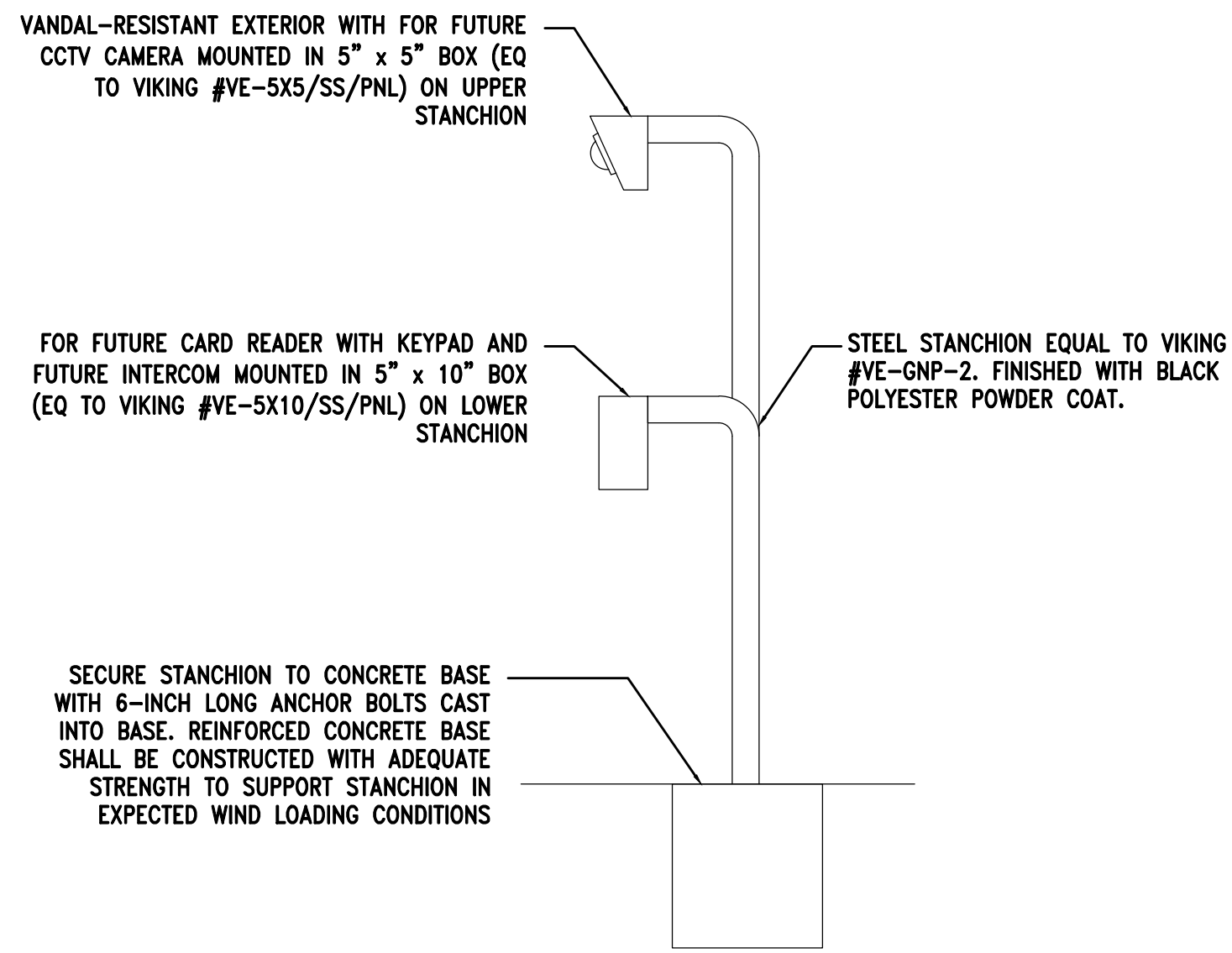
- A. Remove glazing materials from finish surfaces.
- B. Remove labels after Work is complete.

- C. Clean glass and adjacent surfaces.

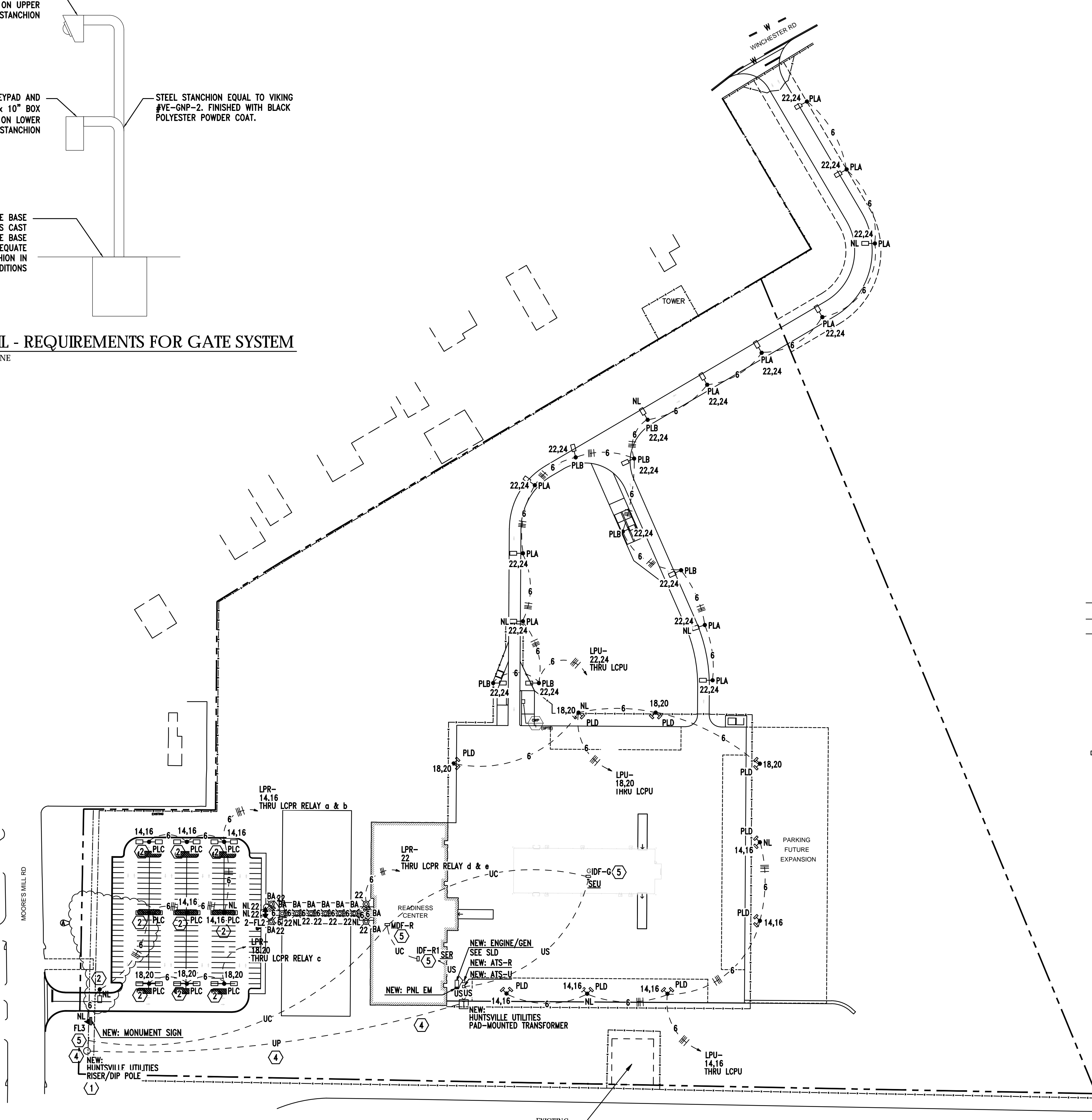
### **3.06 PROTECTION**

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

**END OF SECTION 08 8000**



**2** DETAIL - REQUIREMENTS FOR GATE SYSTEM  
E1.1 SCALE: NONE



**1** SITE PLAN - ELECTRICAL  
E1.1 SCALE: 1" = 100'-0"

**UNDERGROUND UTILITY NOTES:**

- THE UNDERGROUND UTILITY PORTION OF THIS PROJECT CONSISTS OF BUT IS NOT LIMITED TO:
  - TRENCHING/BACKFILLING FOR DUCT LINES AND CONDUIT SYSTEMS
  - DUCTBANK INSTALLATIONS
  - LOW VOLTAGE CONDUCTOR INSTALLATION
  - PATCH/REPAIR ALL DAMAGED SURFACES AS A RESULT OF DUCTLINE INSTALLATIONS
- INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL SAFETY CODE (NEC) AND THE NATIONAL ELECTRICAL CODE (NEC).
- ALL CONDUCTIVE PARTS OF EQUIPMENT, ENCLOSURES, SUPPORTS, FRAMES, CASES, CONDUIT SYSTEMS AND SURGE ARRESTORS, CABLE SHEATHS, CABLE SHIELDS, COMMON NEUTRALS, ETC., SHALL BE GROUNDED. UNLESS NOTED OTHERWISE CONNECTIONS BELOW GRADE SHALL BE FUSION-WELDED AND ABOVE GRADE FUSION-WELDED OR BOLTED SOLDERLESS. ALL GROUND CONDUCTORS SHALL BE COPPER.
- ALL CLEARANCES SHALL BE MAINTAINED PER NESC AND NEC. ALL PARTS, DEVICES, EQUIPMENT, ETC. WHICH REQUIRE MAINTENANCE, ADJUSTMENT, OPERATION OR EXAMINATION DURING NORMAL NETWORK OPERATION SHALL BE ARRANGED SO AS TO BE ACCESSIBLE BY THE PROVISION OF ADEQUATE WORKING SPACES, WORKING FACILITIES AND CLEARANCES. UNLESS NOTED OTHERWISE ALL CLEARANCES ARE MEASURED FROM SURFACE TO SURFACE.
- ALL DIMENSIONS INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD.
- UNLESS OTHERWISE SHOWN OR DIRECTED DUCT LINES SHALL NOT BE LOCATED DIRECTLY UNDER STRUCTURES AND NOT DIRECTLY UNDER OR OVER OTHER SUBSURFACE STRUCTURES. WHERE DUCT LINES ARE REQUIRED TO CROSS OTHER UTILITIES SUCH AS SEWERS, WATER LINES, OTHER POWER LINES, COMMUNICATION LINES, ETC., ADEQUATE SUPPORT SHALL BE PROVIDED ON EACH SIDE OF THE CROSSING TO PREVENT TRANSFERRING ANY DIRECT LOAD ONTO THE OTHER LINE. DUCT LINES SHALL BE SO INSTALLED AS TO PREVENT HEAT TRANSFER BETWEEN ANY HEAT PRODUCING LINES AND/OR EQUIPMENT TO DUCT LINES.
  - ROUTING SHOWN ON DRAWINGS IS TYPICAL AND THE CONTRACTOR SHALL PROPOSE FINAL ROUTING BASED UPON ACTUAL FIELD DIMENSIONS, CONDITIONS AND EXISTING UNDERGROUND UTILITIES AND STRUCTURES.
  - PRIOR TO TRENCHING, THE CONTRACTOR SHALL STAKE OUT THE ENTIRE NETWORK ARRANGEMENT. ONE GRADE A WOODEN STAKE WITH RED FLAG SHALL BE DRIVEN EVERY 50'-0" AND AT EACH CHANGE OF DIRECTION. FOUR STAKES SHALL BE DRIVEN TO OUTLINE EQUIPMENT AND/OR MANHOLE LOCATIONS. ON PAVEMENTS RED PAINT SHALL BE USED TO OUTLINE THE AREAS TO BE CUT. SECURE EXISTING UNDERGROUND UTILITY INFORMATION FROM THE CONTRACTING OFFICER PRIOR TO PERFORMING ANY TRENCHING.
  - DEPTHS INDICATED FOR INSTALLATION ARE MINIMUM. ACTUAL DEPTHS MAY VARY DUE TO TERMINATIONS, COMPENSATIONS FOR RADIUS OF VERTICAL TRANSITIONS, EXISTING UTILITY CROSSINGS, ETC. APPROVAL SHALL BE OBTAINED FOR ANY DEPTH LESS THAN INDICATED. TRENCHES SHALL BE OVER-EXCAVATED AS NECESSARY TO ALLOW FOR PROPER TRENCH PREPARATION, DUCT BANK CONSTRUCTION, FORMING AND/OR BACKFILLING REQUIREMENTS.
  - ALL TRENCHING AND BACKFILL COMPACTION SHALL COMPLY WITH GEOTECHNICAL REPORT AND DIVISION 200.

**GENERAL NOTES:**

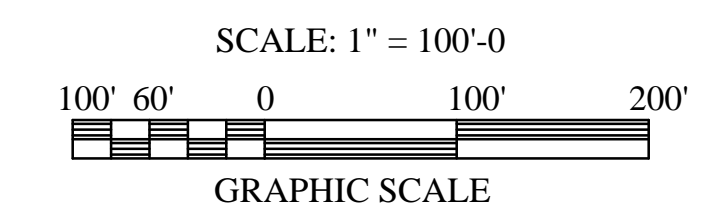
- LOCATIONS OF RISER POLES, AND TRANSFORMERS SHALL BE COORDINATED PRIOR TO BIDS. ADJUST FEEDER AND CONDUIT LENGTHS ACCORDINGLY. PAY ALL UTILITY COMPANY FEES. BID ACCORDINGLY.
- COORDINATE WITH POWER RISER DIAGRAMS FOR FEEDER AND CONDUIT SIZES AND ALL OTHER ADDITIONAL REQUIREMENTS NOT SHOWN ON SITE PLAN.
- ALL UNDERGROUND CONDUITS SHALL BE 36" MINIMUM BELOW GRADE. PRIMARY CONDUIT SHALL BE MINIMUM 48" BELOW GRADE.
- ALL ROUTING IS SHOWN DIAGRAMMATIC. VERIFY ACTUAL ROUTING AND FIELD CONDITIONS PRIOR TO BIDS.
- CONTRACTOR SHALL LABEL ALL CONDUITS ENTERING AND EXITING COMMUNICATIONS HAND HOLES AND BACKBOARDS.
- SEE SHEET E1.2 FOR TYPICAL TRENCH/DUCT DETAILS FOR ALL SURFACES. WORK SHALL COMPLY WITH DETAILS.
- SEE SHEET COMMUNICATIONS RISER DIAGRAMS ON SHEET E4.1 FOR ADDITIONAL REQUIREMENTS.

**SITE LEGEND**

- UP-- UNDERGROUND PRIMARY
- US-- UNDERGROUND SECONDARY
- UC-- UNDERGROUND COMMUNICATIONS
- ☐ PAD MOUNTED TRANSFORMER
- ☐ TELECOMMUNICATIONS PULL BOX, HIGHLINE NO. PHA243624HM2 OR APPROVED EQUAL BY OLDCASTLE OR HUBBELL.
- ☐ 8"x8"x4" WEATHERPROOF JUNCTION BOX. INSTALL TOP OF BOX FLUSH WITH GRADE.
- ☐ LED SINGLE HEAD SITE LIGHTING POLE WITH FIXTURES. SHOWN TYPE "PLA" PROVIDE RAISED CONCRETE BASE PER DETAILS SHEET E1.2
- ☐ LED DUAL HEAD SITE LIGHTING POLE WITH FIXTURES. 180 DEGREE SEPARATION. SHOWN TYPE "PLC". PROVIDE RAISED CONCRETE BASE PER DETAILS SHEET E1.2
- ☐ LED DUAL POLE-MOUNTED FLOODLIGHTS. SHOWN TYPE "LFA" PROVIDE RAISED CONCRETE BASE PER DETAILS SHEET E1.2
- ☐ LED BOLLARD. SHOWN TYPE "BA" PROVIDE CONCRETE BASE PER DETAILS SHEET E1.2
- ☐ LED GRADE MOUNTED FLOODLIGHT FOR LIGHTING FLAG POLE. PROVIDE RAISED CONCRETE BASE PER DETAILS SHEET E1.2

**SHEET NOTES:**

- CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR EXACT STUB OUT FOR PRIMARY CONDUITS AND EXACT LOCATION OF NEW PAD-MOUNTED TRANSFORMER AND ADJUST SECONDARY LENGTHS ACCORDINGLY.
- PROVIDE POLE BASE FOR THIS FIXTURE. SEE DETAILS SHEET E2.1.
- ROUTE THRU CONTACTOR/PHOTOCELL ARRANGEMENT INDICATED ON SHEET E2.4.
- BORE TWO (2) 5" HDPE UNDERGROUND CONDUIT FROM TRANSFORMER TO APCO RISER POLE.
- SEE COMMUNICATIONS SINGLE LINE DIAGRAM 3/E4.1.



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Rev.	Description	Date
ADD #1		11/28/24

Job Number	21112
Date	NOVEMBER 1, 2024
Drawn By	KRG, JBG
Checked By	JBG

Project Title

HUNTSVILLE READINESS CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE, AL, 35811

Sheet Title  
SITE PLAN - ELECTRICAL

Sheet Number

**E1.1**



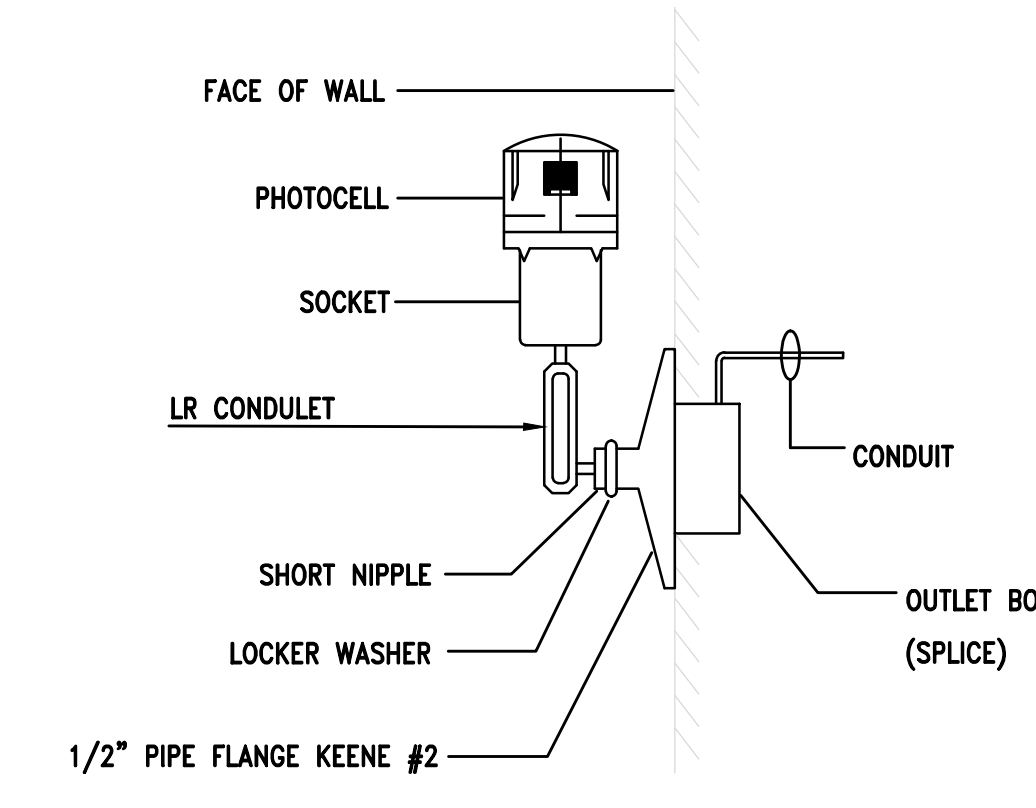


## LIGHTING FIXTURE SCHEDULE

TYPE:	MANUFACTURER NUMBER AND EQUALS:	VOLTAGE:	MOUNTING:	LAMP TYPE:	DESCRIPTION:
A	COOPER NO. VHB-1824-W-UNV-L940-U OR PRIOR APPROVED EQUALS BY WILLIAMS OR HUBBELL	MVOLT	SUSPENDED	LED	24,000 OR 18,000 SELECTABLE LUMENS LED HIGH BAY LIGHTING WITH ACRYLIC LENS.
BA	COOPER NO. BRT6-A4-740-U-T4-42-COLOR BY ARCHITECT OR EQUALS BY KM OR GARCO	MVOLT	POLE	LED	42" LED BOLLARD
D1	COOPER NO. HC8-2000LUMEN-UNV-61-MD-TRIM AND FLANGE BY ARCH OR PRIOR APPROVED EQUALS BY HUBBELL OF FOCAL POINT	MVOLT	RECESSED	LED	6 INCH 2000 LUMEN LED DOWNLIGHT 4000K TEMPERATURE LAMPS MINIMUM 80 CRI. WET LOCATION
D2	COOPER NO. HC8-3000LUMEN-UNV-61PS-MD-TRIM AND FLANGE BY ARCH OR PRIOR APPROVED EQUALS BY HUBBELL OF FOCAL POINT	MVOLT	RECESSED	LED	6 INCH 3000 LUMEN LED DOWNLIGHT 4000K TEMPERATURE LAMPS MINIMUM 80 CRI. WET LOCATION
D3	COOPER NO. HC8-1500LUMEN-UNV-61PS-MD-TRIM AND FLANGE BY ARCH OR PRIOR APPROVED EQUALS BY HUBBELL OF FOCAL POINT	MVOLT	RECESSED	LED	6 INCH 1500 LUMEN LED DOWNLIGHT 4000K TEMPERATURE LAMPS MINIMUM 80 CRI. WET LOCATION
FL1	HUBBELL NO. FLL-28L-95-4000K-8-W-U-Y-DB-SP-FLVISOR-WALL MOUNTING OR PRIOR APPROVED EQUALS BY LITHONIA OR COOPER	MVOLT	WALL	LED	WALL MOUNTED 10,300 LUMEN FLOOD LIGHT WITH SURGE PROTECTION AND TOP VISOR UL LISTED FOR WET LOCATIONS. PROVIDE WALL MOUNT WHEN MOUNTED TO BUILDING PROVIDE
FL2	HUBBELL NO. FLL-42L-95-4000K-8-W-U-Y-DB-SP-GRADE MOUNTING OR PRIOR APPROVED EQUALS BY LITHONIA OR COOPER	MVOLT	GRADE	LED	GRADE MOUNTED 10,300 LED FLOOD LIGHT FOR ILLUMINATION OF FLAG. PROVIDE EACH FLOODLIGHT WITH CONCRETE BASE. DARK BRONZE FINISH.
FL3	HUBBELL NO. RFL3-90L-40-4000K-W-U-K-TRN-XX-DB-SP-GRADE MOUNTING OR PRIOR APPROVED EQUALS BY LITHONIA OR COOPER	MVOLT	GRADE	LED	GRADE MOUNTED 5,000 LUMEN LED FLOOD LIGHT FOR ILLUMINATION OF SIGN. PROVIDE EACH FLOODLIGHT WITH CONCRETE BASE. DARK BRONZE FINISH.
LG42	HUBBELL NO. LCAT-22-40K-ML-G-ED-MVOLT OR PRIOR APPROVED EQUALS BY WILLIAMS, OR COOPER	MVOLT	RECESSED	LED	2'X2' 4,200-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING
LG48	HUBBELL NO. LCAT-24-40K-ML-G-ED-MVOLT OR PRIOR APPROVED EQUALS BY WILLIAMS, OR COOPER	MVOLT	RECESSED	LED	2'X4' 4,800-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING
LG60	HUBBELL NO. LCAT-24-40K-HL-G-ED-MVOLT OR PRIOR APPROVED EQUALS BY WILLIAMS, OR COOPER	MVOLT	RECESSED	LED	2'X4' 6,000-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING
LG72	HUBBELL NO. LCAT-24-40K-VL-G-ED-MVOLT OR PRIOR APPROVED EQUALS BY WILLIAMS, OR COOPER	MVOLT	RECESSED	LED	2'X4' 7,200-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING
LL1	AXIS TB20C ED=600-400-80-4000-SO-SO-8-***UN-DP-FINISH BY ARCHITECT OR PRIOR APPROVED EQUAL BY MARK OR COOPER	MVOLT	PENDANT	LED	8 FOOT LED LINEAR LENSED PENDANT, CABLE MOUNT WITH UP/DOWN LIGHTING
LS1	HUBBELL NO. LCL-4-4000K-JA-E-U OR PRIOR APPROVED EQUALS BY WILLIAMS, OR COOPER	MVOLT	SURFACE	LED	5,600 LUMEN SURFACE MOUNTED 8'-0" LED STRIP WITH LENSE
LS8	HUBBELL NO. LCL-8-4000K-LW-E-U OR PRIOR APPROVED EQUALS BY WILLIAMS, OR COOPER	MVOLT	SURFACE	LED	5,512 LUMEN SURFACE MOUNTED 8'-0" LED STRIP WITH LENSE
LS16	COOPER NO. (EIGHT) 8'-LED-LD5-10,000LUMENS PER 8'-W-TANDEM MOUNTING OR PRIOR APPROVED EQUALS BY WILLIAMS OR HUBBELL	MVOLT	SUSPENDED	LED	64' LINEAR FEET OF OF EIGHT 8' INDUSTRIAL LED LINEAR BAY LIGHTS CONNECTED IN TANDEM. 10,000LUMENS PER 10' SECTION.
LP42	COOPER NO. 22CGTX4500LUMENS-L840 OR PRIOR APPROVED EQUALS BY WILLIAMS OR HUBBELL	MVOLT	RECESSED	LED	2'X2' 4,500-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING WHERE REQUIRED.
LP48	COOPER NO. 22CGTX4800LUMENS-L840 OR PRIOR APPROVED EQUALS BY WILLIAMS OR HUBBELL	MVOLT	RECESSED	LED	2'X4' 4,800-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING WHERE REQUIRED.
LP60	COOPER NO. 22CGTX6000LUMENS-L840 OR PRIOR APPROVED EQUALS BY WILLIAMS OR HUBBELL	MVOLT	RECESSED	LED	2'X4' 6,000-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING WHERE REQUIRED.
LP72	COOPER NO. 22CGTX7200LUMENS-L840 OR PRIOR APPROVED EQUALS BY WILLIAMS OR HUBBELL	MVOLT	RECESSED	LED	2'X4' 7,200-LUMEN VOLUMETRIC FIXTURE. 0-10V DIMMING WHERE REQUIRED.
LXP	APPLETON NO FNLED-4K-N-BU-S-A-E OR PRIOR APPROVED EQUAL BY LARSON OR RAB	MVOLT	SURFACE	LED	54 INCH LED EXPLOSION PROOF FIXTURE SUITABLE FOR CLASS I, DIVISION 1 AREA. PROVIDE WITH HIGH IMPACT POLYCARBONATE LENS AND FIBERGLASS BODY. MOUNT TO STRUCTURE.
PLA	COOPER NO. ONE (1)GALN-SA3C-740-U-T2 OR EQUALS BY HUBBELL OR GARCO POLE. HAPCO NO. SSA-30D6-4-DB	MVOLT	POLE	LED	LED ARCHITECTURAL AREA LIGHT MOUNTED ATOP A 30 FOOT SQUARE ALUMINUM POLE PROVIDE POLE FOR WIND LOAD OF 90MPH AND INCLUDE VIBRATION DAMPING. TYPE 2 DISTRIBUTION WITH DARK BRONZE FINISH. 21,000 LUMENS PER FIXTURE.
PLB	COOPER NO. ONE (1)GALN-SA3C-740-U-T4W OR EQUALS BY HUBBELL OR GARCO POLE. HAPCO NO. SSA-30D6-4-DB	MVOLT	POLE	LED	LED ARCHITECTURAL AREA LIGHT MOUNTED ATOP A 30 FOOT SQUARE ALUMINUM POLE PROVIDE POLE FOR WIND LOAD OF 90MPH AND INCLUDE VIBRATION DAMPING. TYPE 4W DISTRIBUTION WITH DARK BRONZE FINISH 21,000 LUMENS PER FIXTURE.
PLC	COOPER NO. TWO (2)GALN-SA3C-740-U-T5WQ-180 DEGREE APART OR EQUALS BY HUBBELL OR GARCO POLE. HAPCO NO. SSA-30D6-4-DB	MVOLT	POLE	LED	LED ARCHITECTURAL AREA LIGHT MOUNTED ATOP A 30 FOOT SQUARE ALUMINUM POLE PROVIDE POLE FOR WIND LOAD OF 90MPH AND INCLUDE VIBRATION DAMPING. TYPE 4 DISTRIBUTION WITH DARK BRONZE FINISH 21,000 LUMENS PER FIXTURE.
PLD	COOPER NO. TWO (2)GALN-SA3C-740-U-T4-90 DEGREE APART OR EQUALS BY HUBBELL OR GARCO POLE. HAPCO NO. SSA-30D6-4-DB	MVOLT	POLE	LED	TWO (2) 33,000 LUMEN POLE MOUNTED LED FLOODLIGHTS WITH TYPE 4M DISTRIBUTION AND 4K LAMPING. MEDIUM DISTRIBUTION. PROVIDE YOKE MOUNT AND AM FOR MAXIMUM EFFICIENCY. MOUNT FLOODLIGHTS ATOP A 30 FOOT SQUARE STRAIGHT ALUMINUM POLE WITH VIBRATION DAMPING.
WP1	COOPER NO. GAW-SA1-C-740-U-T4W-BZ-10K OR PRIOR APPROVED EQUALS BY HUBBELL, WILLIAMS, OR COOPER	MVOLT	WALL	LED	7500 LUMEN DARK BRONZE EXTERIOR LED LIGHT WITH SURGE PROTECTION. UL LISTED FOR WET LOCATIONS.
EM WALL PACK	COMPASS NO. CU2HLHOSD - WIREGUARDS IN SHOPS OR PRIOR APPROVED EQUAL BY EMERGI-LITE, MCPHLBEN, OR PRESOLITE	MVOLT	WALL	LED	1,000 LUMEN LED EMERGENCY WALL PACK
EXT SIGN COMBO "XB"	DUAL-LITE NO. EVCHLU*W12-06L - WIREGUARDS IN SHOPS OR PRIOR APPROVED EQUAL BY EMERGI-LITE, MCPHLBEN, OR PRESOLITE	MVOLT	UNIVERSAL	LED	THERMOPLASTIC 1000-LUMEN COMBO LED EXIT SIGN EGRESS LIGHT. PROVIDE WITH NUMBER OF FACES AND DIRECTIONAL ARROWS AS SHOWN ON DRAWINGS. COORDINATE COLOR OF SIGNAGE WITH LOCAL REQUIREMENTS. PROVIDE WITH EMERGENCY BATTERY. PROVIDE WIREGUARDS IN SHOPS.
EXT SIGN COMBO "XC"	DUAL-LITE NO. EVCHLU*W12-06L - DUAL FACE - WIREGUARDS IN SHOPS OR PRIOR APPROVED EQUAL BY EMERGI-LITE, MCPHLBEN, OR PRESOLITE	MVOLT	UNIVERSAL	LED	THERMOPLASTIC 1000-LUMEN COMBO LED EXIT SIGN EGRESS LIGHT. PROVIDE WITH NUMBER OF FACES AND DIRECTIONAL ARROWS AS SHOWN ON DRAWINGS. COORDINATE COLOR OF SIGNAGE WITH LOCAL REQUIREMENTS. PROVIDE WITH EMERGENCY BATTERY. PROVIDE WIREGUARDS IN SHOPS.

### NOTES

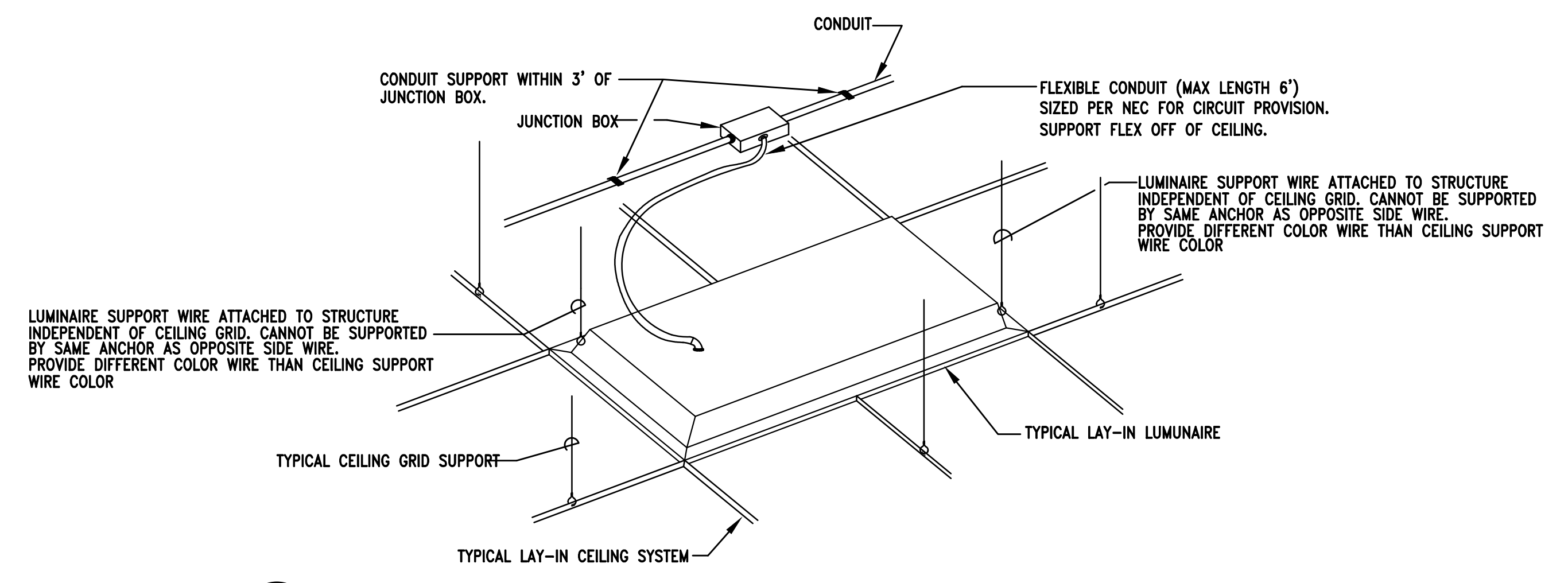
- PAINT CONDUIT NIPPLE, SOCKET AND PIPE FLANGE WITH TWO COATS OF ENAMEL.
- COMPLETE ASSEMBLY TO BE UL LISTED FOR WET LOCATIONS.
- PHOTOCELL TO BE MOUNTED FACING NORTH FREE FROM ALL SHADOWS WHICH MIGHT CAUSE PHOTOCELL TO TURN LIGHTS ON EARLY. CONTRACTOR SHALL COORDINATE PROPER MOUNTING LOCATION PRIOR TO INSTALLATION.



**2**  
ES.1 NO SCALE  
**DETAIL - INSTALLATION OF PHOTO-CELL**

### NOTES:

- ALL RECESSED LUMINAIRES SHALL BE WIRED FROM A JUNCTION BOX AS SHOWN, INCLUDING LUMINAIRES IN A CONTINUOUS ROW. NO WIRING THRU FIXTURES. NO MORE THAN TWO LUMINAIRES SHALL BE CIRCUITED TO ONE JUNCTION BOX.
- LUMINAIRE SUPPORT WIRES TO BE A MINIMUM OF #14 GAGE PRE-STRAINED GALVANIZED WIRE ATTACHED AT OPPOSITE CORNERS. LUMINAIRE SHALL BE SUPPORTED TO THE STRUCTURE INDEPENDENT OF THE CEILING GRID.
- CONDUCTORS IN FLEXIBLE CONDUIT FROM JUNCTION BOX TO LUMINAIRE SHALL CONTAIN AN INSULATED GREEN GROUND WIRE, WITH NEUTRAL AND PHASE CONDUCTORS REQUIRED FOR THE CIRCUITING AND SWITCHING REQUIREMENTS INDICATED.
- JUNCTION BOXES SHALL BE ACCESSIBLE AND LOCATED WITHIN 1'-6" ABOVE LAY-IN CEILING INSTALLATION. PROVIDE PENDANT ALL-THREAD RODS AND/OR STRUT ASSEMBLIES TO MEET THIS REQUIREMENT WHERE DROP CEILING IS MORE THAN 1'-6" FROM STRUCTURE.
- CONTRACTOR SHALL INSTALL ALL T-BAR SAFETY CLIPS TO GRID. IF FIXTURE DOES NOT COME WITH GRID SAFETY CLIPS, THEN THE CONTRACTOR SHALL PROVIDE SUPPORT WIRES ON ALL FOUR SIDES.



**1**  
ES.1 NO SCALE  
**DETAIL - TYPICAL LAY-IN LUMINAIRE INSTALLATION**

### LUMINAIRE NOTES:

- ALL LUMINAIRES AND INSTALLATION SHALL BE IN ACCORDANCE WITH NEC, NFPA AND LOCAL CODES. ALL LUMINAIRES SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH THE UL LISTING.
- LUMINAIRES SHALL BE FURNISHED COMPLETE WITH THE PROPER LAMP BASE OR PIN RECEPTORS, WIRING COMPONENTS, LAMPS, SUPPORTING FRAMES AND DEVICES, ETC., FOR A COMPLETE INSTALLATION.
- ALL LUMINAIRE DEVICES, COMPONENTS, FITTINGS, SUPPORTS, ETC., SHALL BE COORDINATED TO PROVIDE A COMPLETE UL LISTED INSTALLATION.
- ALL LUMINAIRES BALLAST, DRIVERS, LAMPS, ETC SHALL BE COMPATIBLE WITH THE LIGHTING CONTROL SYSTEM OR DIMMING CONTROL SYSTEM PROVIDED.
- SECURE EACH LAY-IN LUMINAIRE AT TWO LOCATIONS TO THE CEILING GRID. PROVIDE BOLTS, SCREWS, RIVETS OR APPROVED CLIPS FOR USE WITH THE TYPE CEILING AND LUMINAIRE INSTALLED.
- ALL LUMINAIRES IN MECHANICAL AND ELECTRICAL ROOMS SHALL BE INSTALLED TO CLEAR ELECTRICAL EQUIPMENT, DUCT, PIPING, ETC., SUSPEND BELOW OBSTRUCTION WHEN CONFLICTS OCCUR.
- ALL FLUORESCENT LUMINAIRES SHALL BE PROVIDED WITH 3500K COLOR TEMPERATURE LAMPS, UNLESS NOTED OTHERWISE.
- ARCHITECT RESERVES THE RIGHT TO SELECT ALL COLORS FOR LUMINAIRES, POLES, MOUNTING ACCESSORIES, ETC. DURING SHOP DRAWING REVIEW.
- COORDINATE LUMINAIRE MOUNTING WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION.
- PROVIDE ALL EXIT SIGNS WITH DIRECTIONAL ARROWS AS SHOWN ON DRAWINGS.
- CONTRACTOR SHALL PROVIDE ALL SLOPE ADAPTERS, FLANGE KITS, TRIMS, AND ALL OTHER MOUNTING ACCESSORIES AS NEEDED TO MOUNT EACH LUMINAIRE IN CEILINGS AS SHOWN. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- ALL EXIT SIGNS AND LUMINAIRES DESIGNATED AS EMERGENCY SHALL BE PROVIDED WITH A MINIMUM 1100 LUMEN EMERGENCY BATTERY BALLAST CAPABLE OF 90 MINUTES OF ILLUMINATION.

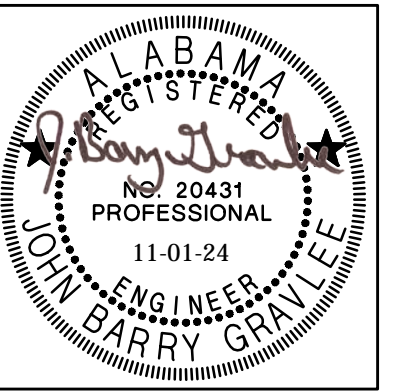
Rev.	Description	Date
ADD #1		11/26/24
Job Number	21112	
Date	NOVEMBER 1, 2024	
Drawn By	KRG, JBG	
Checked By	JBG	

**HUNTSVILLE READINESS CENTER**  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL., 35811

Sheet Title  
**LUMINAIRE SCHEDULE DETAILS & NOTES**

Sheet Number  
**E5.1**

**Gunn & Associates, P.C.**  
Consulting Engineers  
3102 Highway 14  
Millbrook, AL 36054  
1200 Providence Park, Suite 200  
Birmingham, AL 35242  
Tel: 334.285.1273 GA#22-071





Rev.	Description	Date
1	ADD #1	11/26/24

Job Number	21112
Date	NOVEMBER 1, 2024
Drawn By	KRG, JBG
Checked By	JBG

Project Title  
**HUNTSVILLE READINESS CENTER**  
5180 MOORE'S MILL ROAD  
HUNTSVILLE, AL, 35811

Sheet Title  
**ZONE "A" FLOOR PLAN - LIGHTING**

Sheet Number

**RE2.1**



**GENERAL NOTES:**

- ALL OCCUPANCY SENSOR LOCATIONS ARE APPROXIMATE, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EXACT MOUNTING AND SPACING REQUIREMENTS PRIOR TO INSTALLATION.
- ULTRASONIC CEILING MOUNTED OCCUPANCY SENSORS SHALL BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.
- CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR OCCUPANCY SENSORS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS FOR OCCUPANCY SENSORS AND THE FOLLOWING:
  - ONE POWER PACK IS REQUIRED FOR EACH CONTROLLED CIRCUIT.
  - REFER TO MANUFACTURER'S INSTALLATION GUIDE FOR MAXIMUM NUMBER OF SENSORS CONNECTED TO A POWER PACK.
  - IF MULTIPLE CIRCUITS OR DUAL SWITCHING ARE TO BE CONTROLLED BY OCCUPANCY SENSORS, PROVIDE ALL ADDITIONAL AUXILIARY RELAYS AND POWER PACKS AS NEEDED.
- OCCUPANCY SENSORS MOUNTED OVER DOORWAYS SHALL BE PLACED ONE (1) FOOT INSIDE THRESHOLD.
- OCCUPANCY SENSORS IN CLASSROOMS SHALL HAVE THE WALK-THROUGH FEATURE DISABLED. UNLESS SPECIFICALLY RECOMMENDED BY MANUFACTURER.
- SEE POWER PLANS FOR PANEL LOCATIONS.
- PROVIDE DEDICATED NEUTRALS FOR EACH MULTIWIRED HOMERUN PER NEC.
- PROVIDE LOW VOLTAGE CABLING AS REQUIRED TO EACH LIGHT FIXTURE FROM THE 0-10V DIMMING SWITCH AS REQUIRED TO ACCOMPLISH THE 0-10V DIMMING.

**OCCUPANCY SENSOR NOTES:**

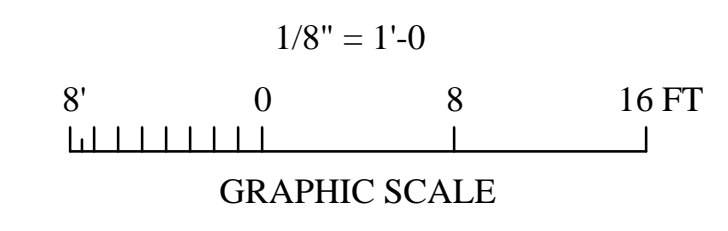
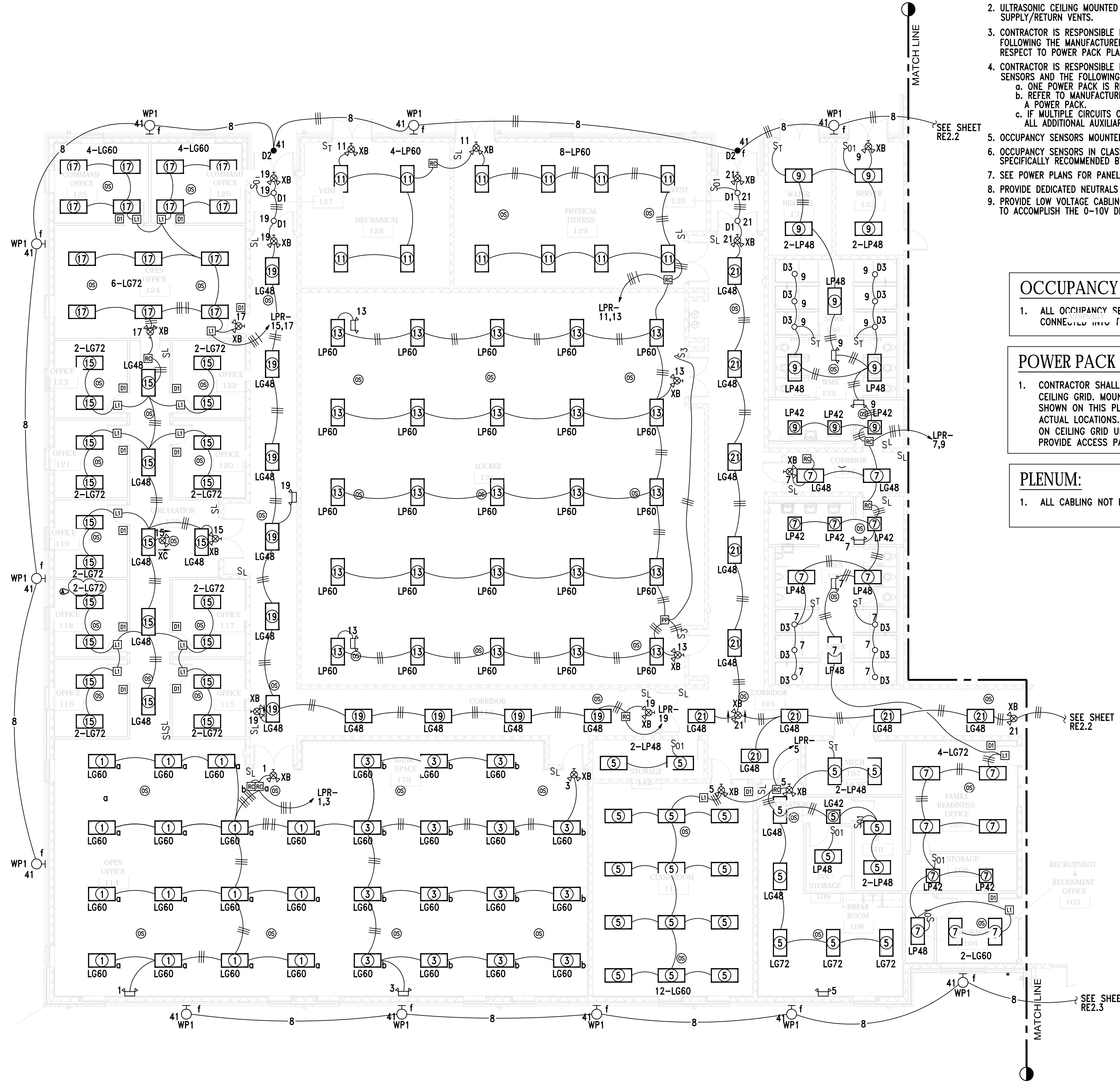
- ALL OCCUPANCY SENSORS SHALL BE PROVIDED WITH AN INPUT THAT CAN BE CONNECTED INTO THE MECHANICAL CONTROL SYSTEM.

**POWER PACK NOTES:**

- CONTRACTOR SHALL LOCATE ALL POWER PACKS ABOVE DOORS IN EACH ROOM 6" ABOVE CEILING GRID. MOUNT IN UTILITY TYPE ROOMS WHENEVER POSSIBLE. POWER PACKS SHOWN ON THIS PLAN IS DIAGRAMMATIC FOR CIRCUITRY. DO NOT USE THESE FOR ACTUAL LOCATIONS. PROVIDE A PHENOLIC LABEL WITH "1" TEXT THAT READS "PP" GLUED ON CEILING GRID UNDER POWER PACK FOR EACH LOCATION FOR FUTURE MAINTENANCE. PROVIDE ACCESS PANEL WHERE LOCATED ABOVE HARD CEILINGS.

**PLENUM:**

- ALL CABLING NOT IN CONDUIT ABOVE CEILINGS SHALL BE PLENUM RATED.





Rev.	Description	Date
1	Addendum No.1	11-25-24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
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Checked By	RDW

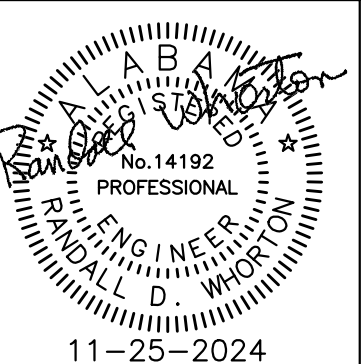
Project Title

**HUNTSVILLE READINESS CENTER**  
 5180 MOORE'S MILL ROAD  
 HUNTSVILLE, AL, 35811

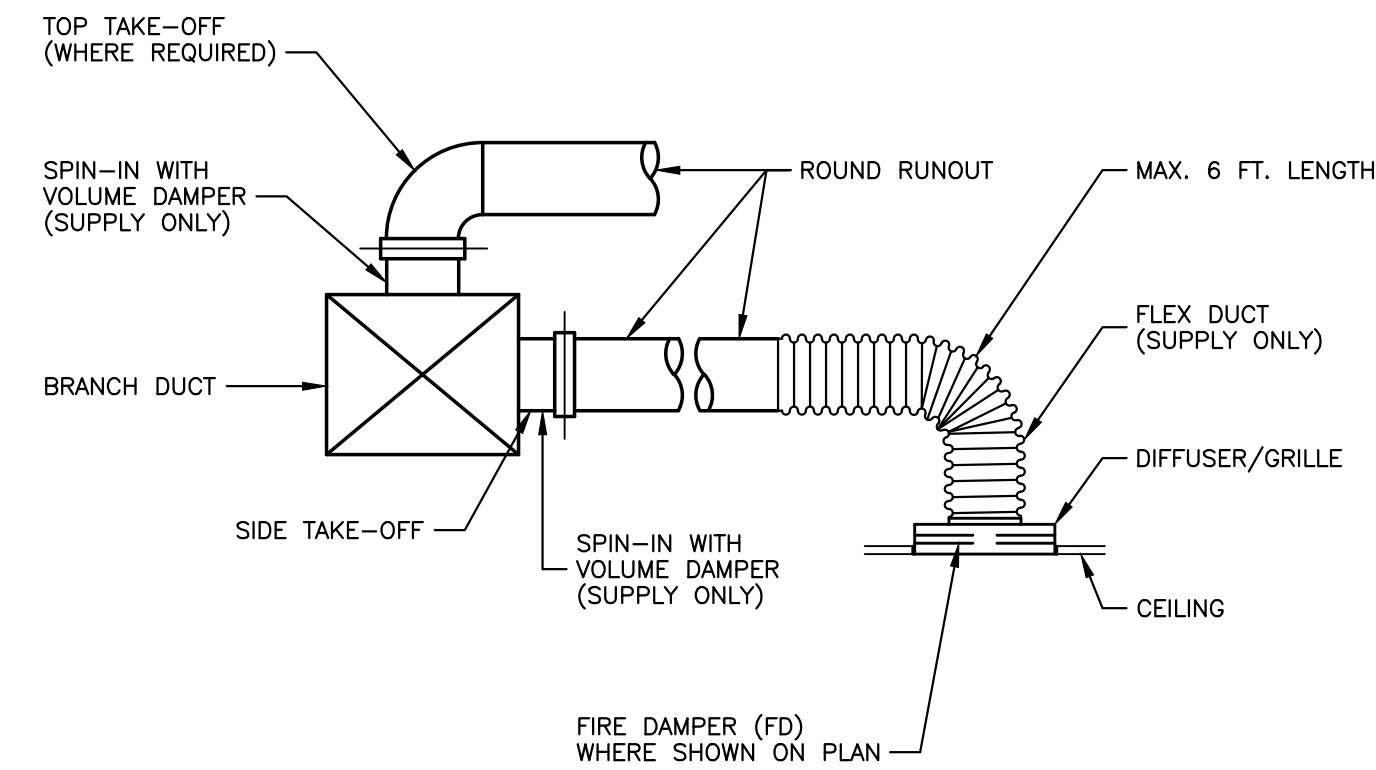
Sheet Title  
 READINESS CENTER  
 HVAC DETAILS

Sheet Number

**RM2.1**

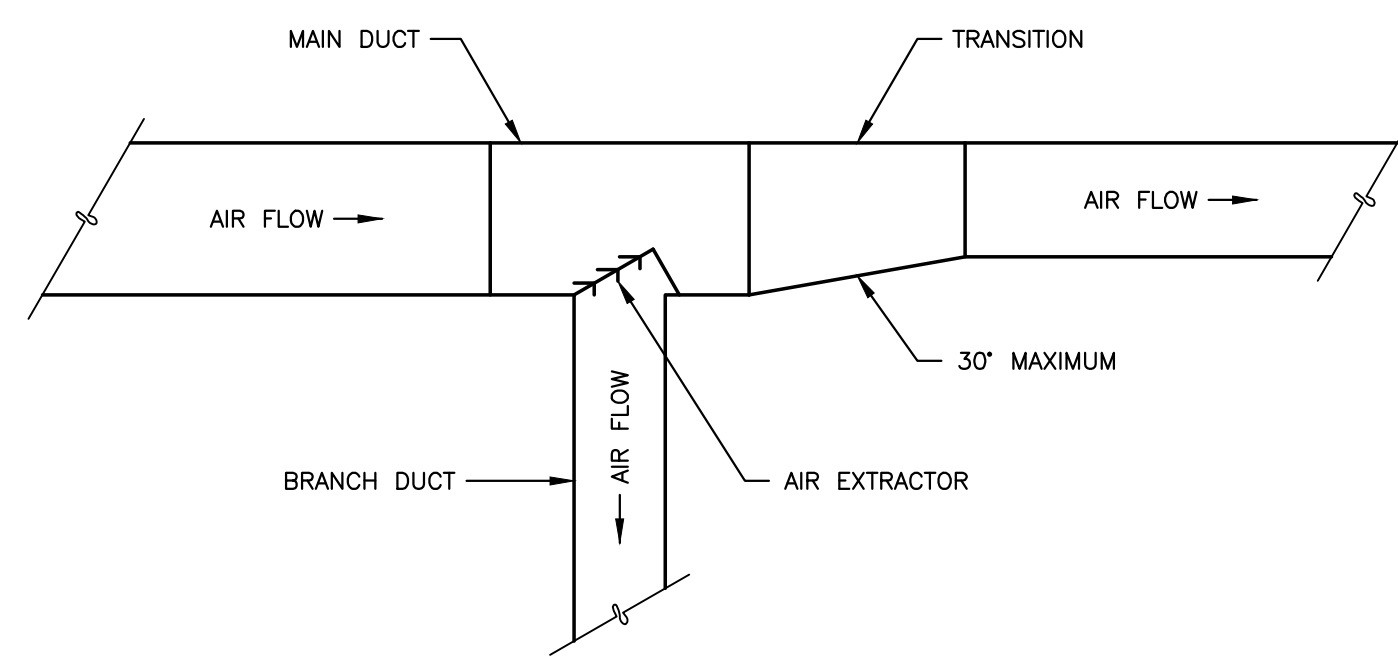


ADDENDUM NO.1  
 11-25-2024



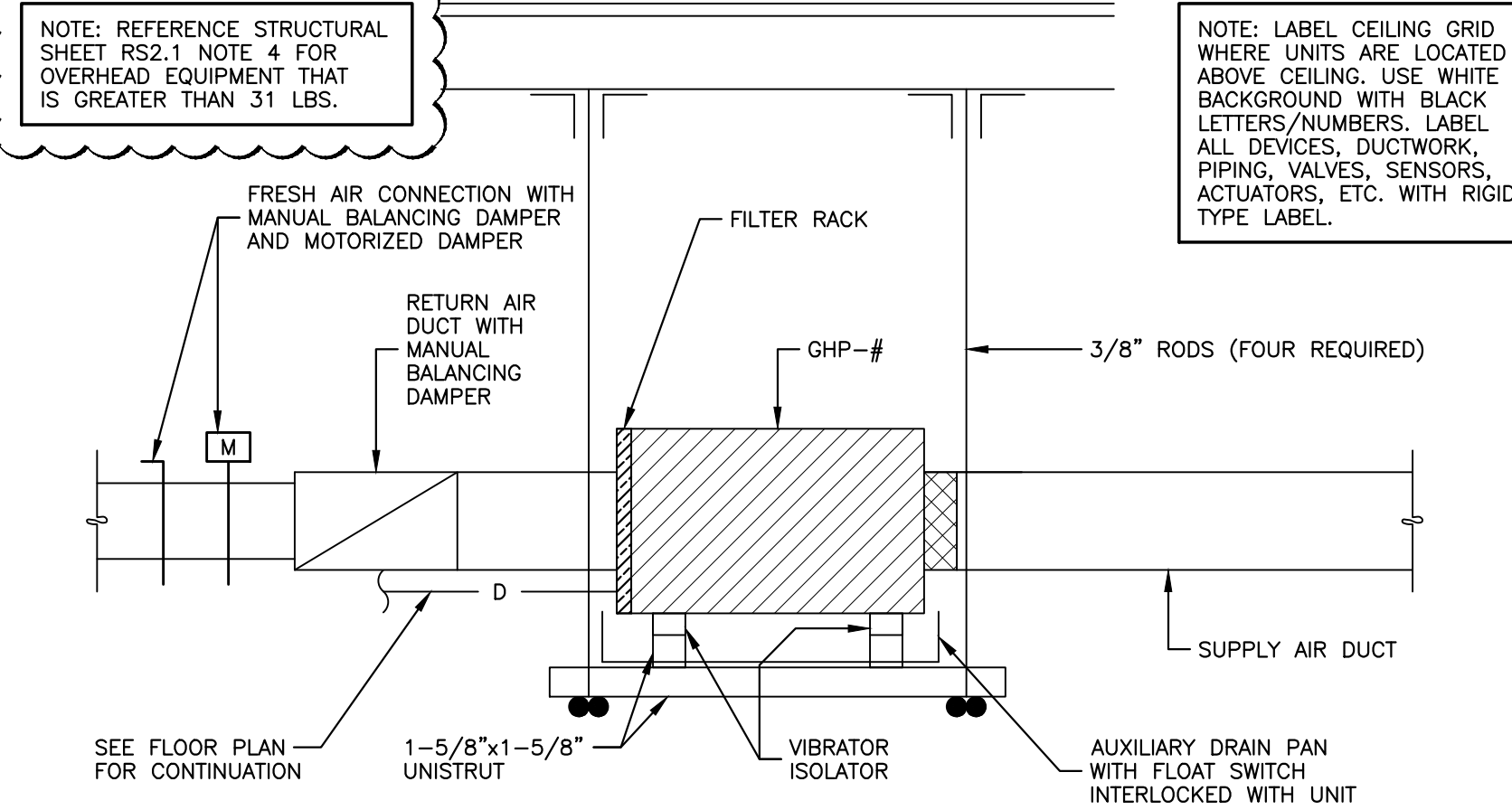
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NOT TO SCALE



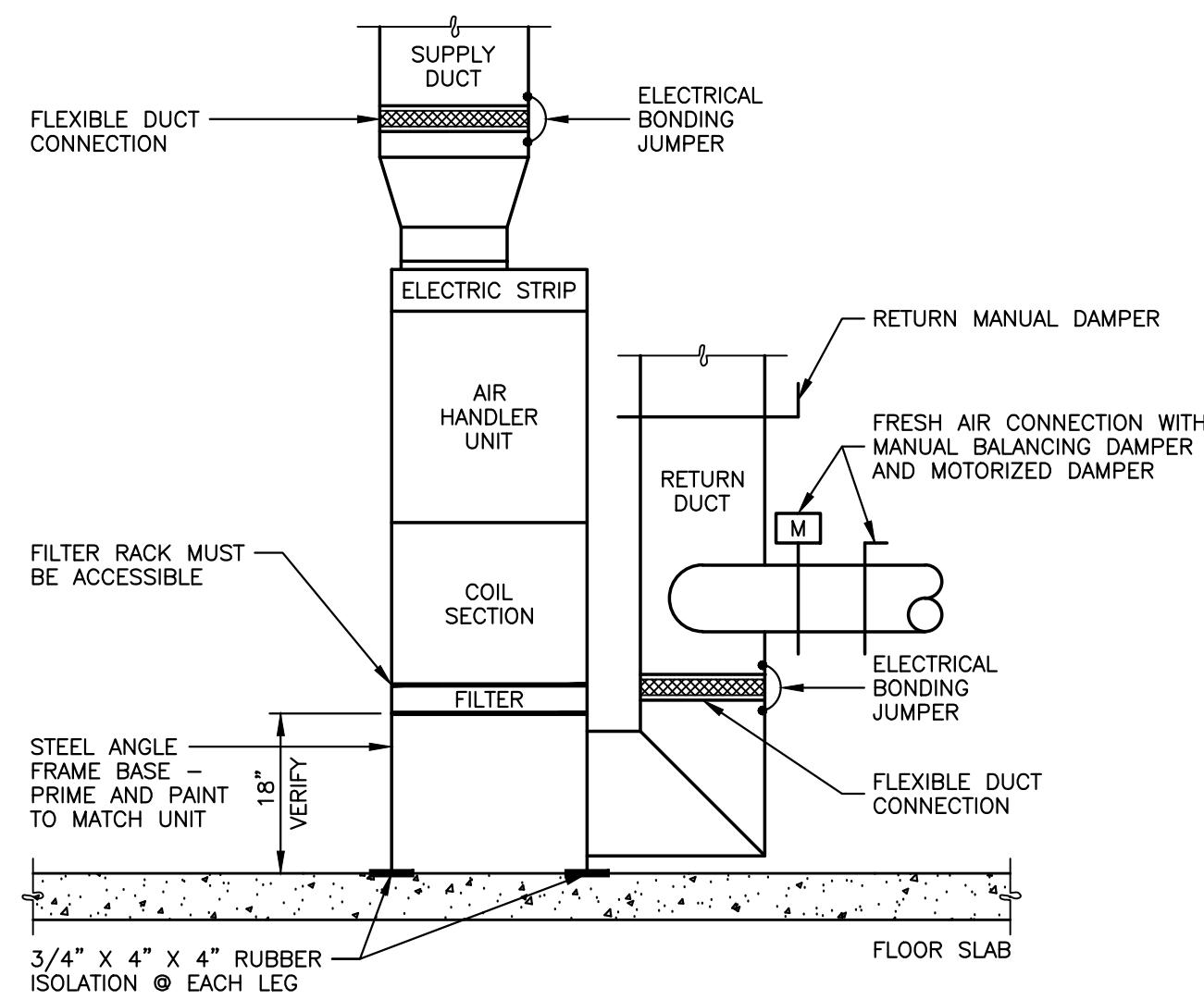
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NOT TO SCALE



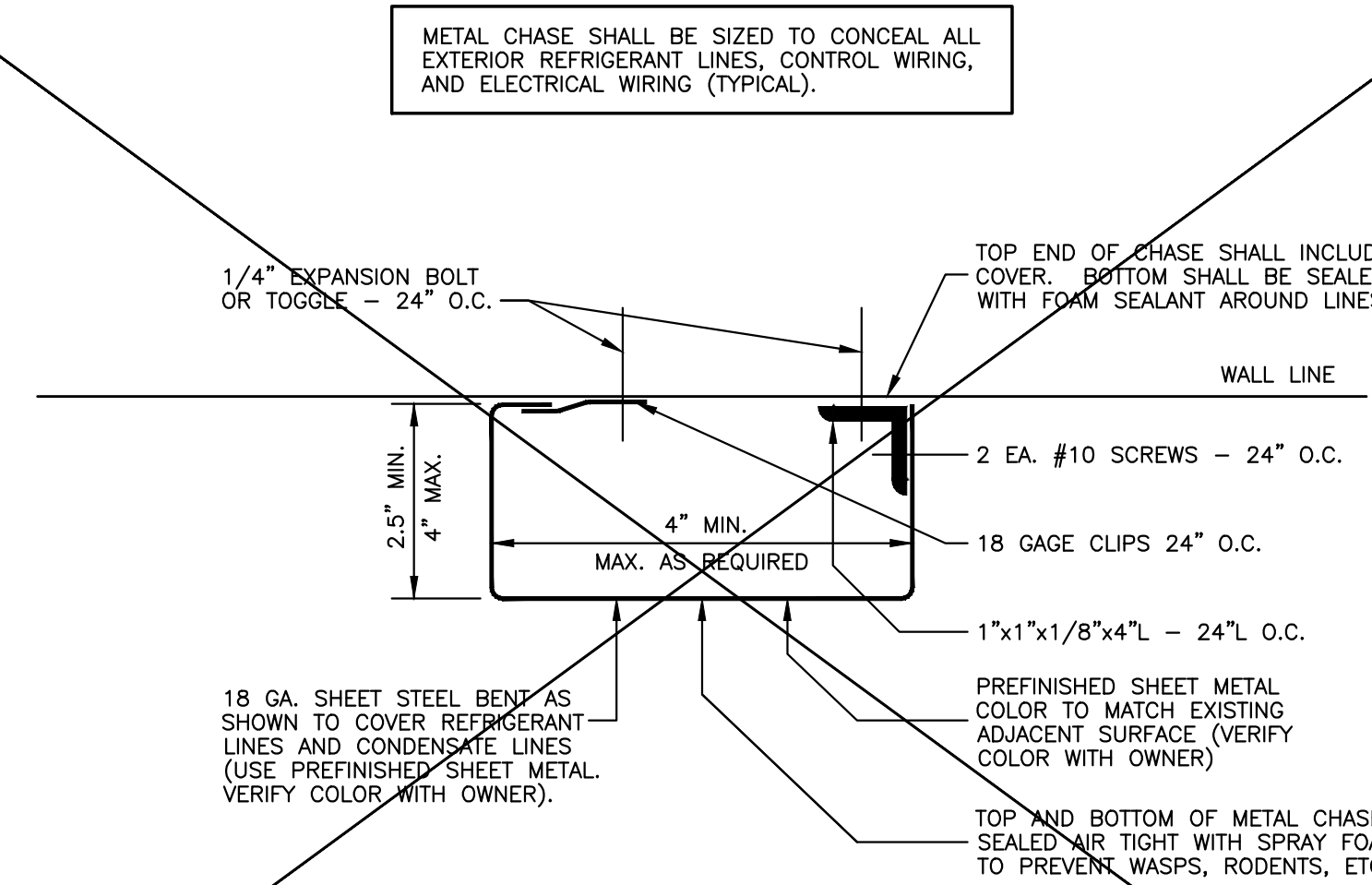
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NOT TO SCALE



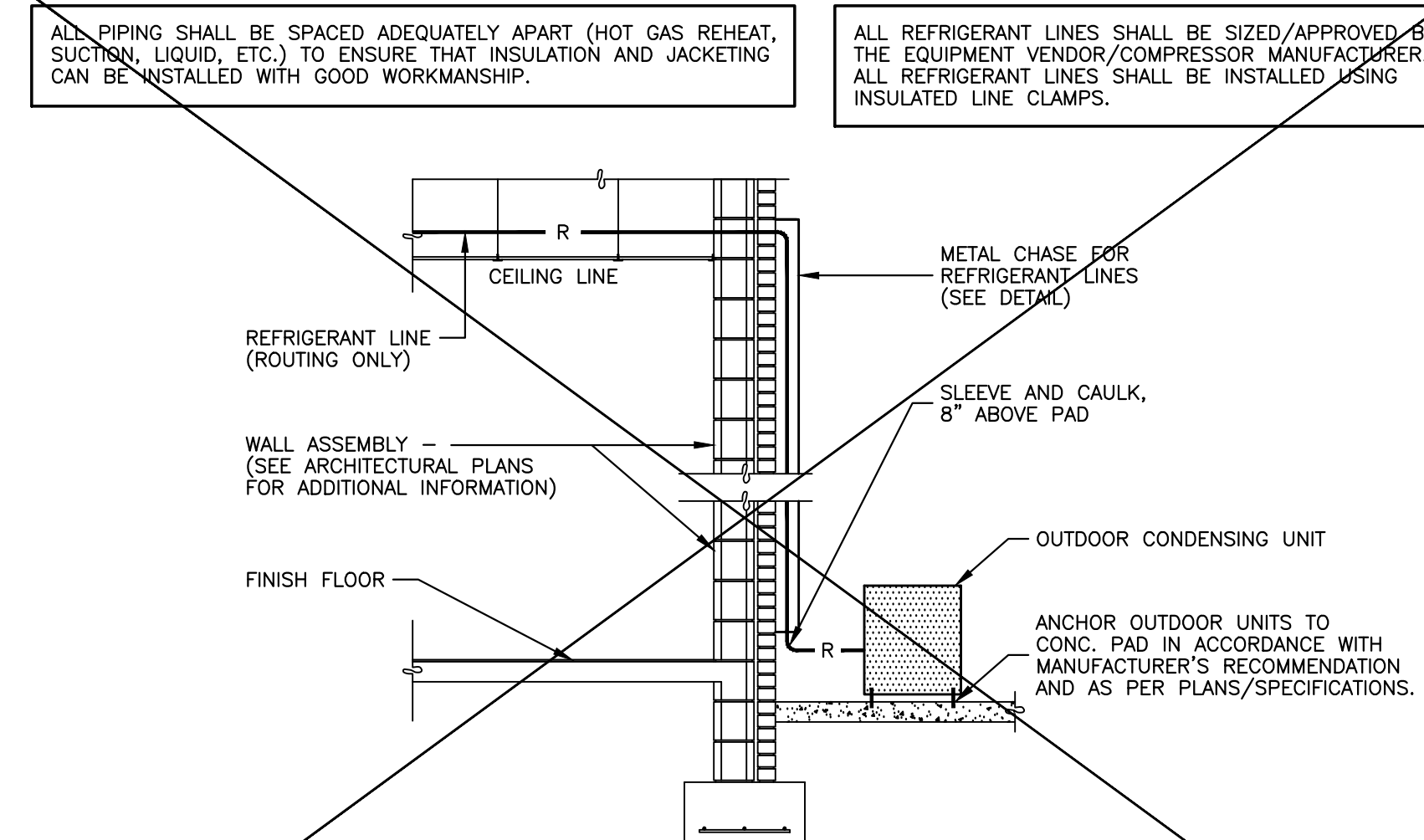
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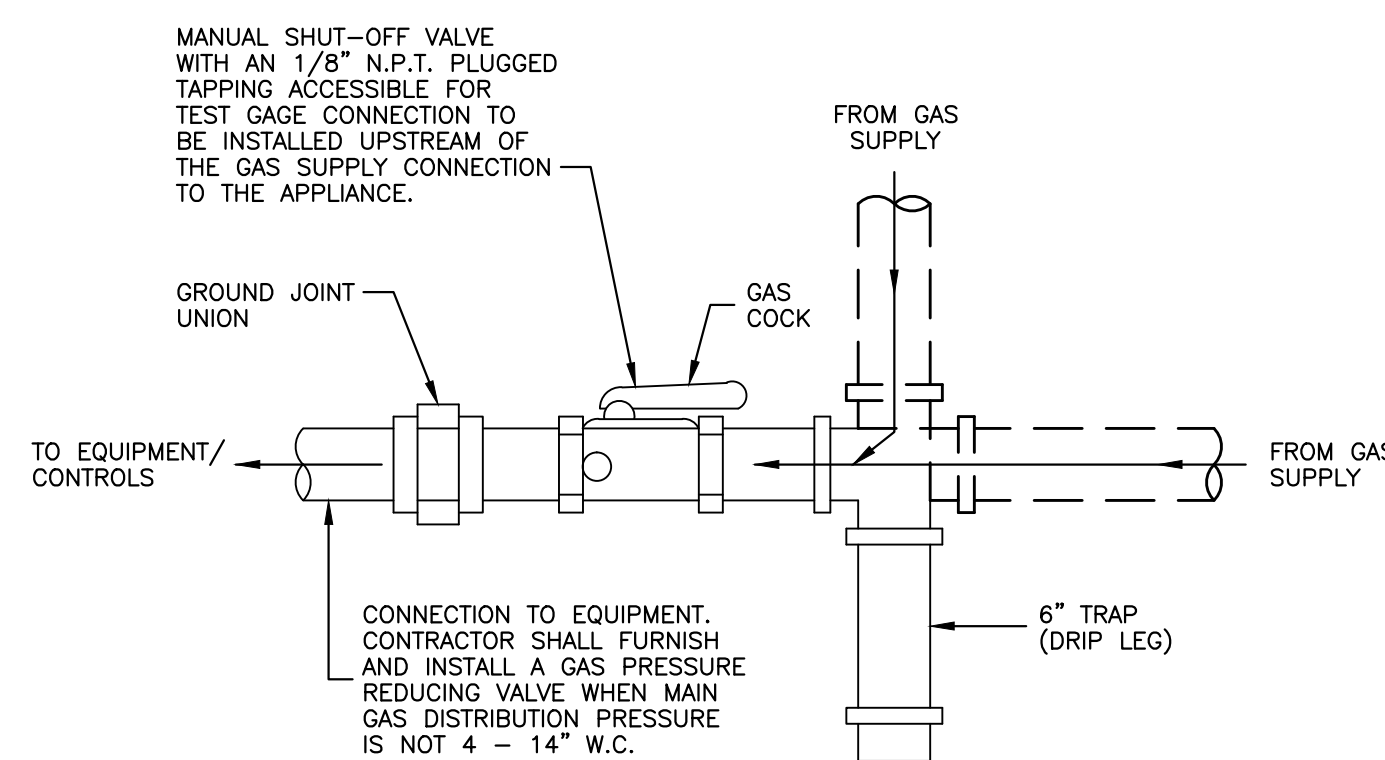
**SECTION THROUGH METAL CHASE**

NOT TO SCALE



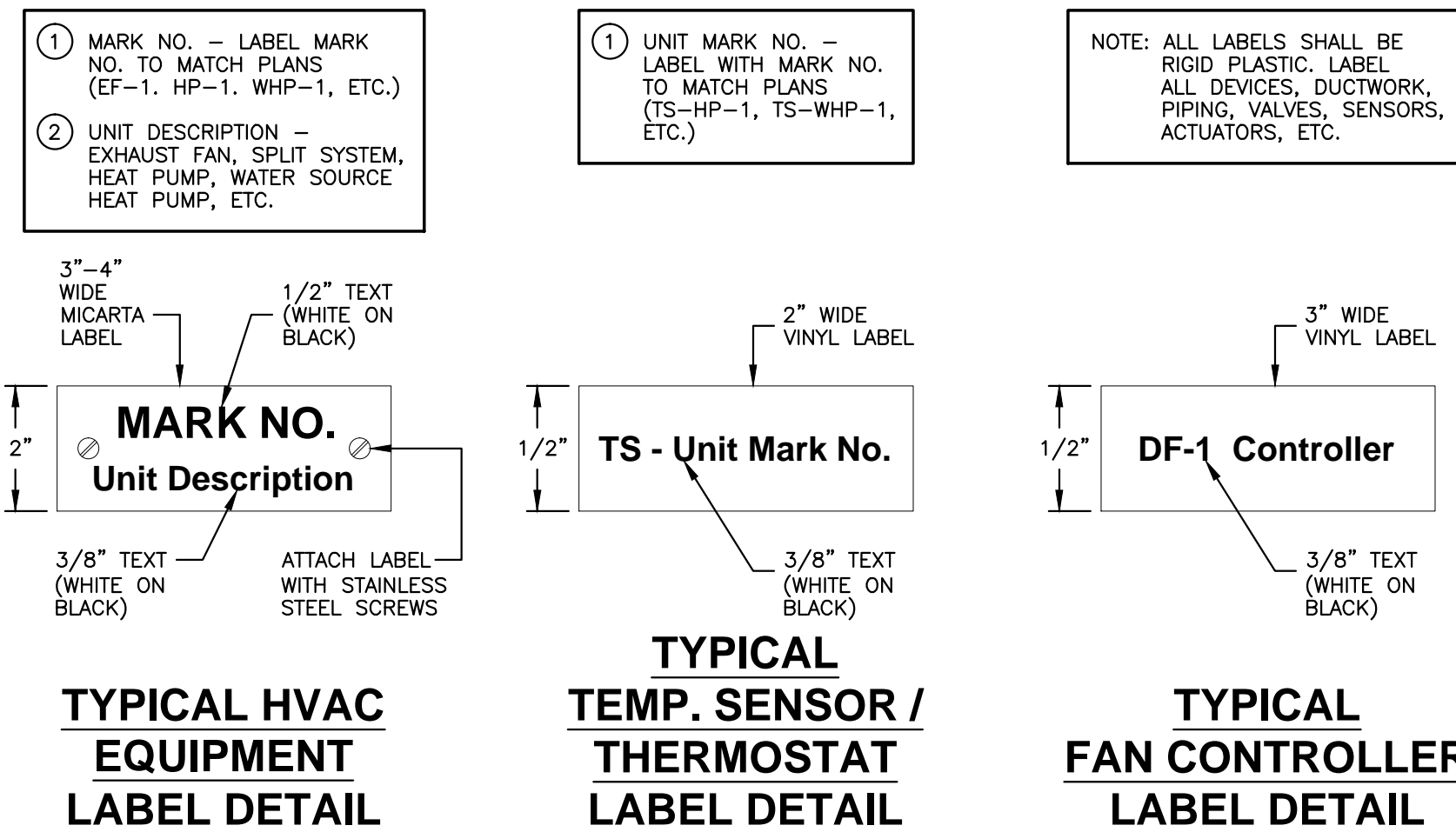
**REFRIGERANT LINE ROUTING DETAIL**

NOT TO SCALE



**TYPICAL GAS CONNECTION TO EQUIPMENT DETAIL**

NOT TO SCALE



**HVAC EQUIPMENT LABELING DETAILS**

NOT TO SCALE

**READINESS CENTER HVAC DETAILS**

ADDENDUM NO.1  
 11-25-2024

**WHORTON ENGINEERING, INC.**

HVAC - PLUMBING - PROCESS CONTROL

RANDALL WHORTON, P.E. 25 SUMMERALL GATE ROAD  
 PHONE: (256) 820-8897 ANNISTON, ALABAMA 36205

WHORTON ENGINEERING PROJECT NO. 22164

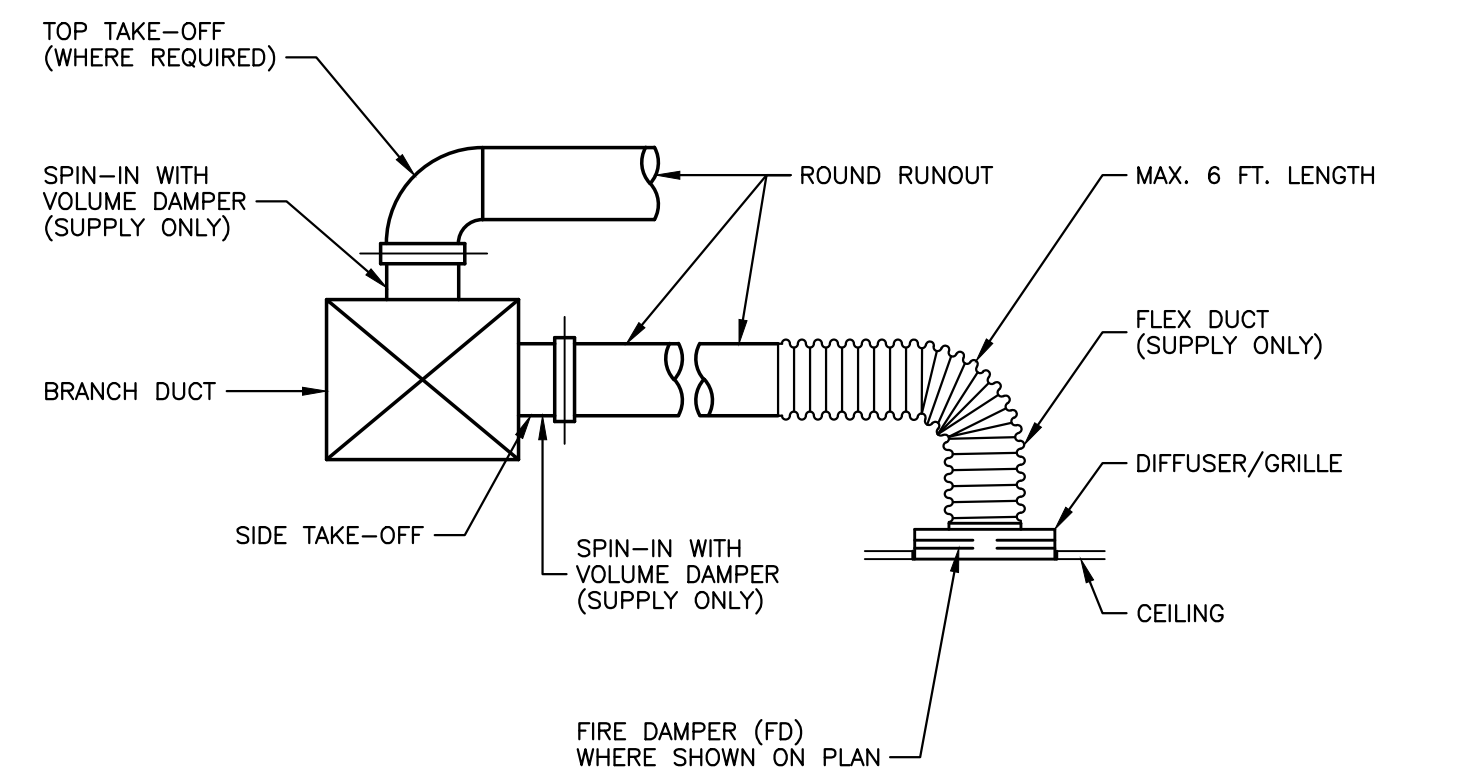
11-25-2024



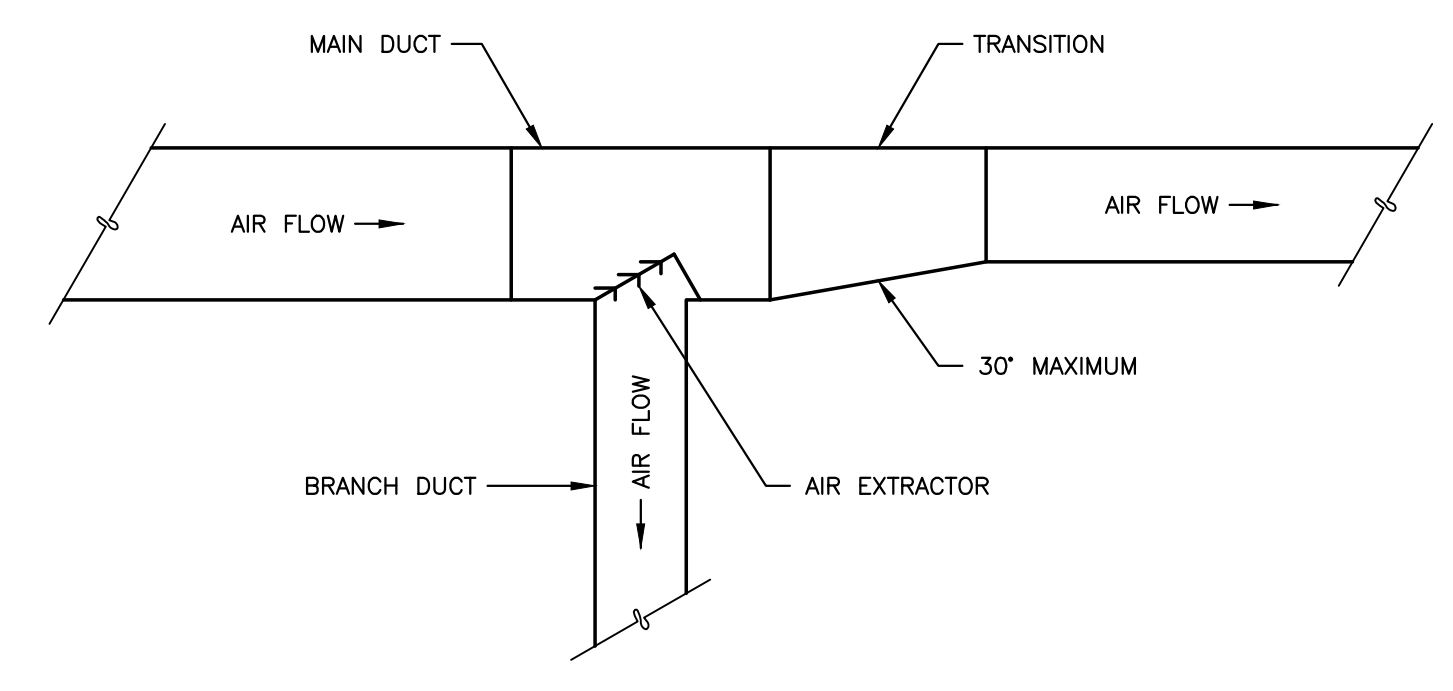
Rev.	Description	Date
1	Addendum No.1	11-25-24

Job Number: 21112  
 AL ARNG IFB #: AC-25-B-0006-S  
 Date: NOVEMBER 1, 2024  
 Drawn By: JH  
 Checked By: RDW

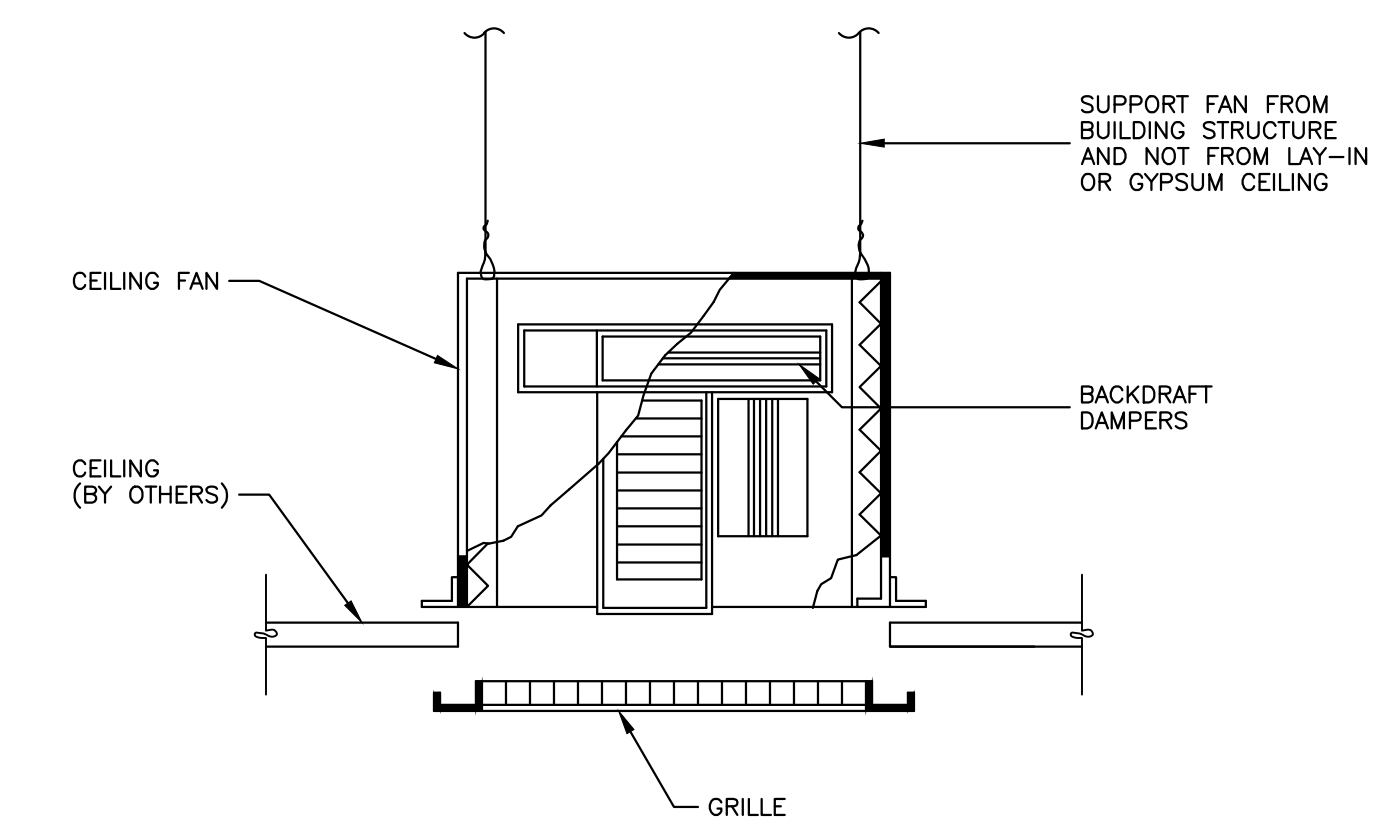
Project Title:  
 HUNTSVILLE READINESS CENTER  
 5180 MOORE'S MILL ROAD  
 HUNTSVILLE, AL, 35811



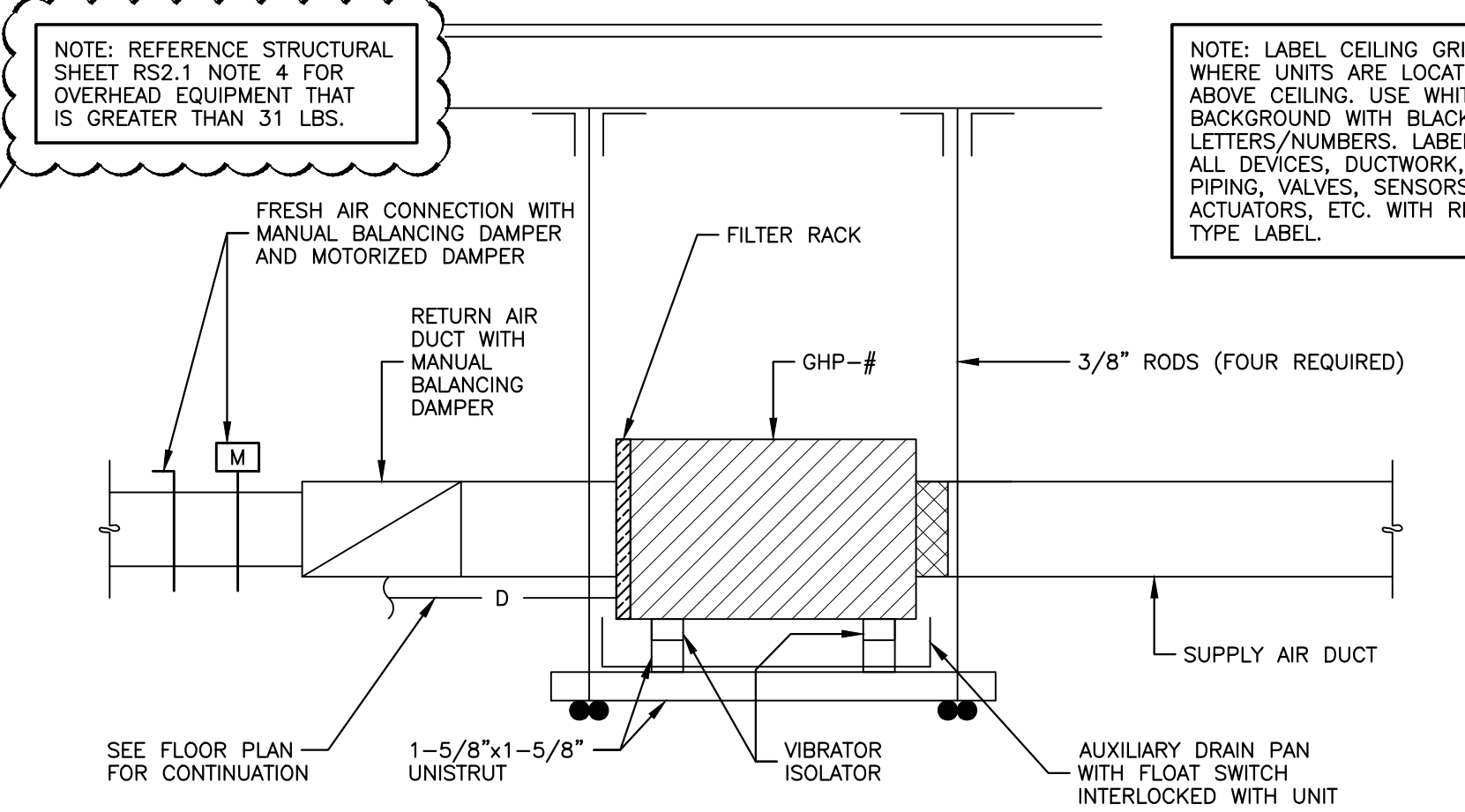
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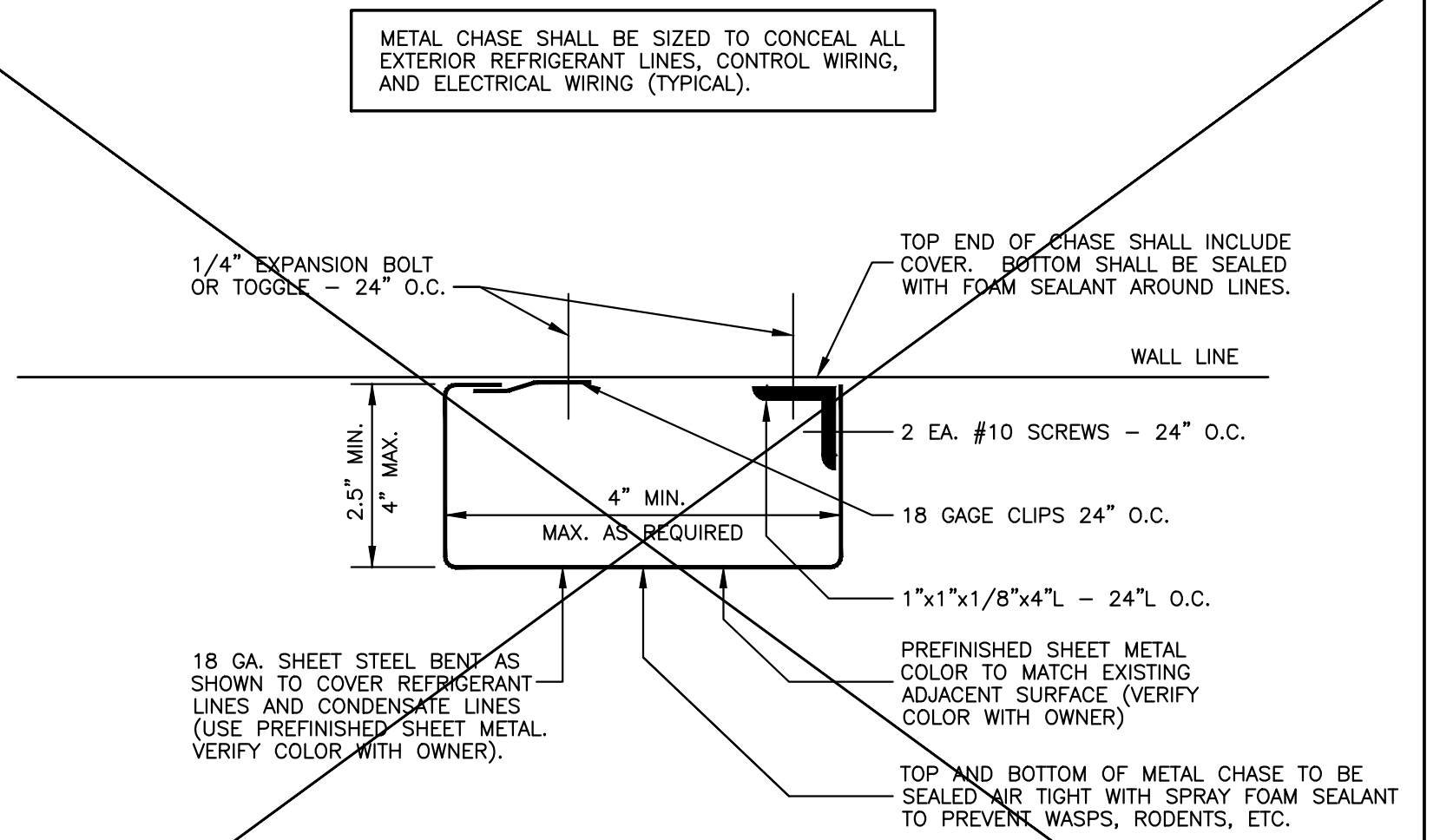
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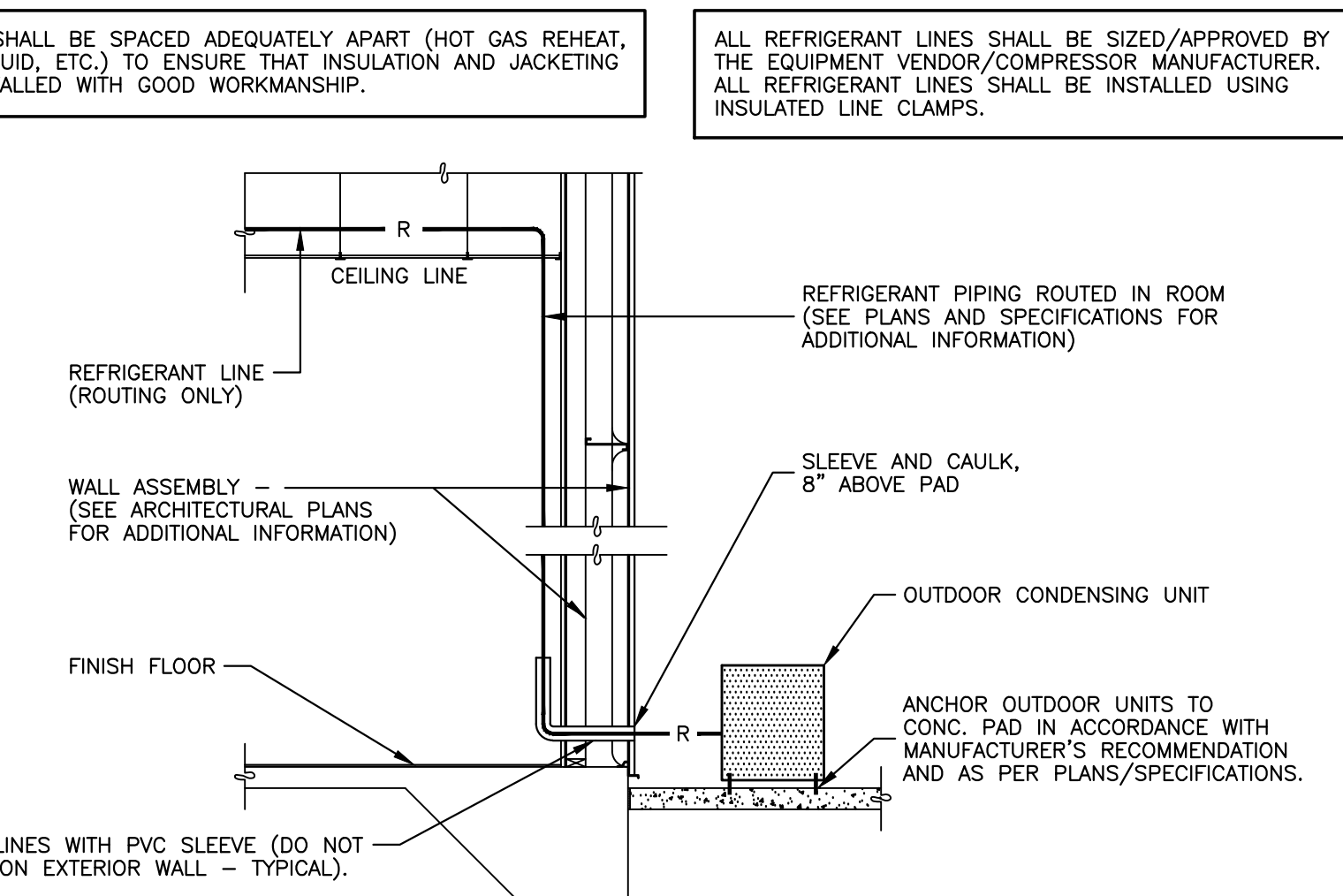
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**TYPICAL SECTION AT HORIZONTAL INDOOR UNIT**  
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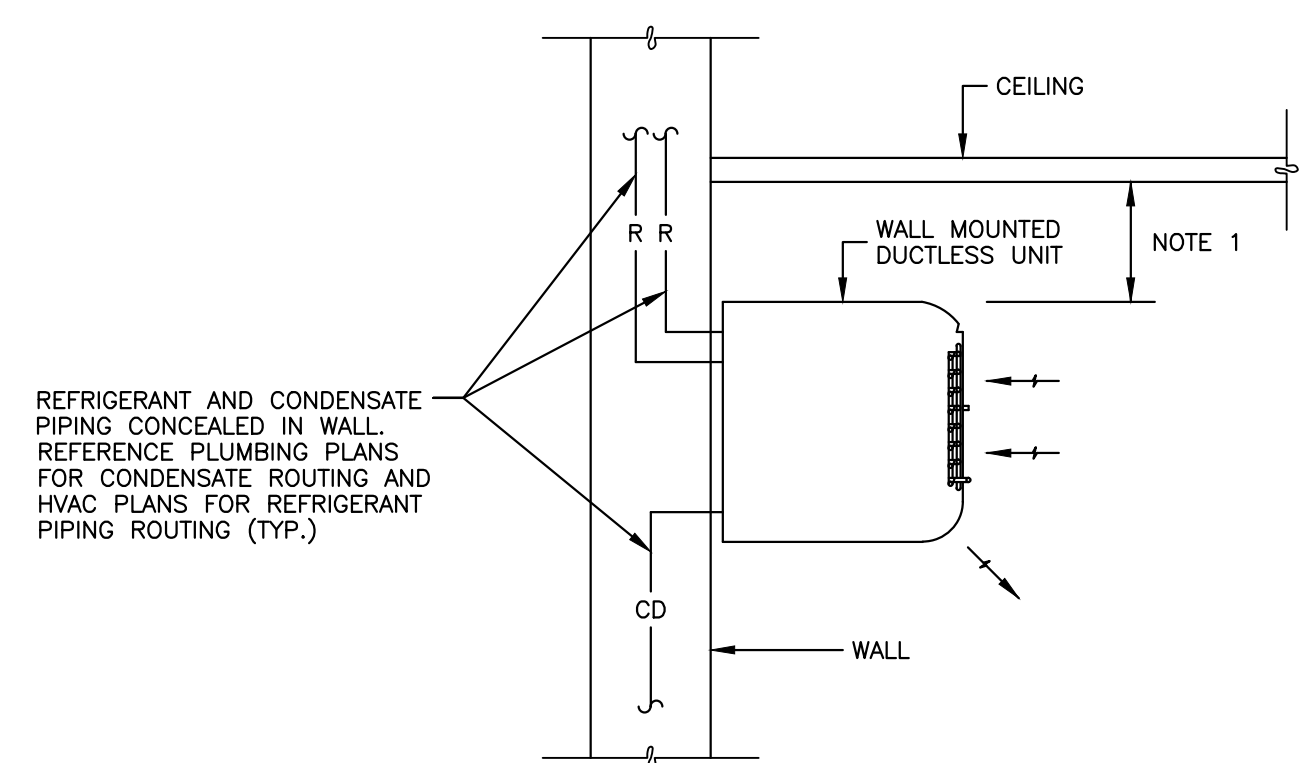


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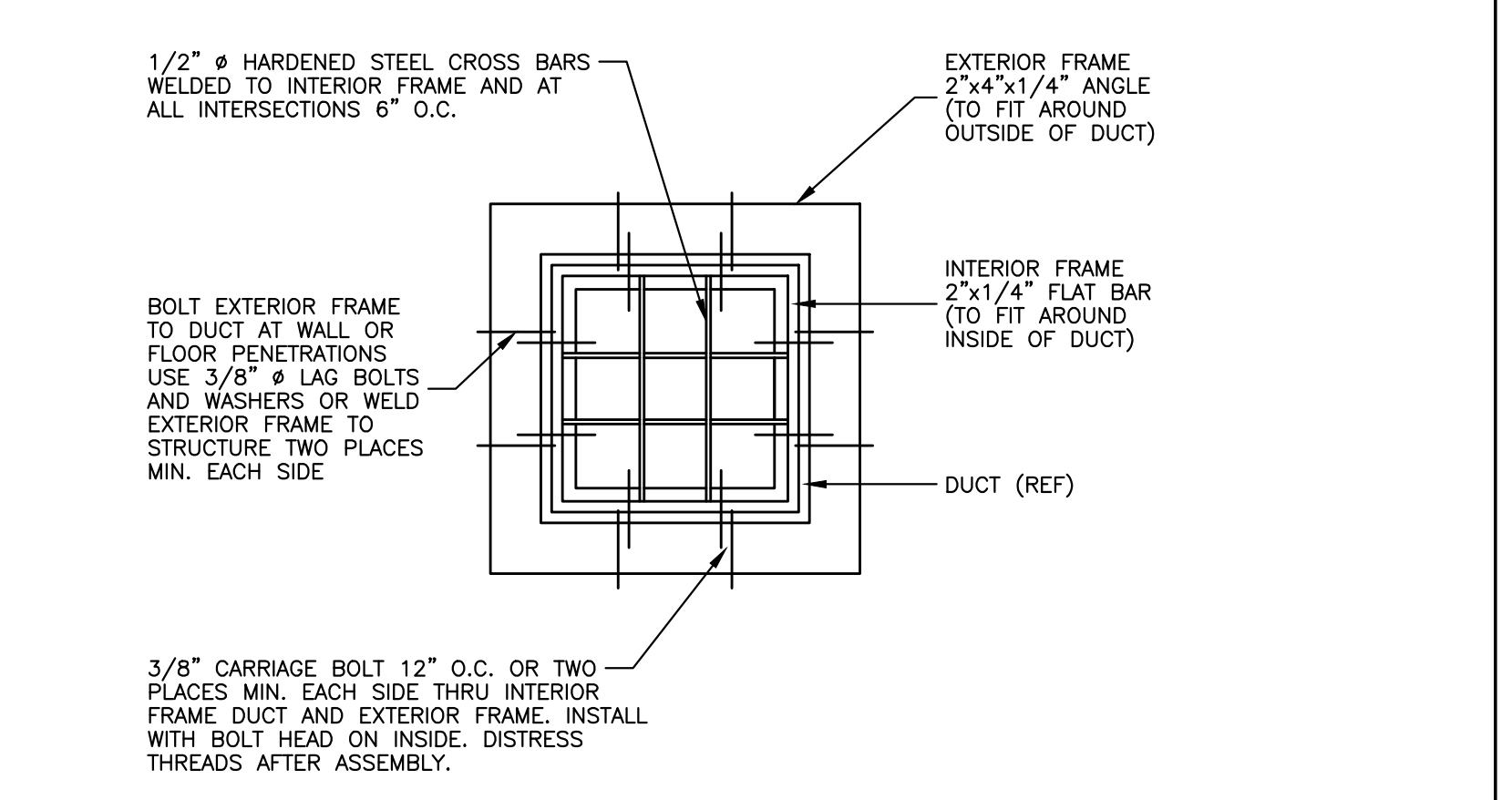


**REFRIGERANT LINE ROUTING DETAIL**  
 NOT TO SCALE

1. PROVIDE MINIMUM 3.5" OF CLEARANCE AT THE TOP OF THE UNIT OR AS PER MANUFACTURER'S RECOMMENDATION.
2. ATTACH WALL MOUNT UNIT TO MANUFACTURER'S PROVIDED INSTALLATION PLATE. MOUNT INSTALLATION PLATE TO WALL PER MANUFACTURER'S RECOMMENDATIONS.



**WALL-MOUNTED DUCTLESS UNIT DETAIL**  
 NOT TO SCALE



**SECURITY BAR DUCT OPENING DETAIL AT VAULT AREA**  
 NOT TO SCALE

**UNIT SUPPLY / GPTB HVAC DETAILS**

**WHORTON ENGINEERING, INC.**  
 HVAC - PLUMBING - PROCESS CONTROL  
 RANDALL WHORTON, P.E. 25 SUMMERALL GATE ROAD  
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 WHORTON ENGINEERING PROJECT NO. 22164

Sheet Title:  
 UNIT SUPPLY/GPTB HVAC DETAILS

Sheet Number:  
**GM2.1**

11-25-2024

ADDENDUM NO.1  
 11-25-2024

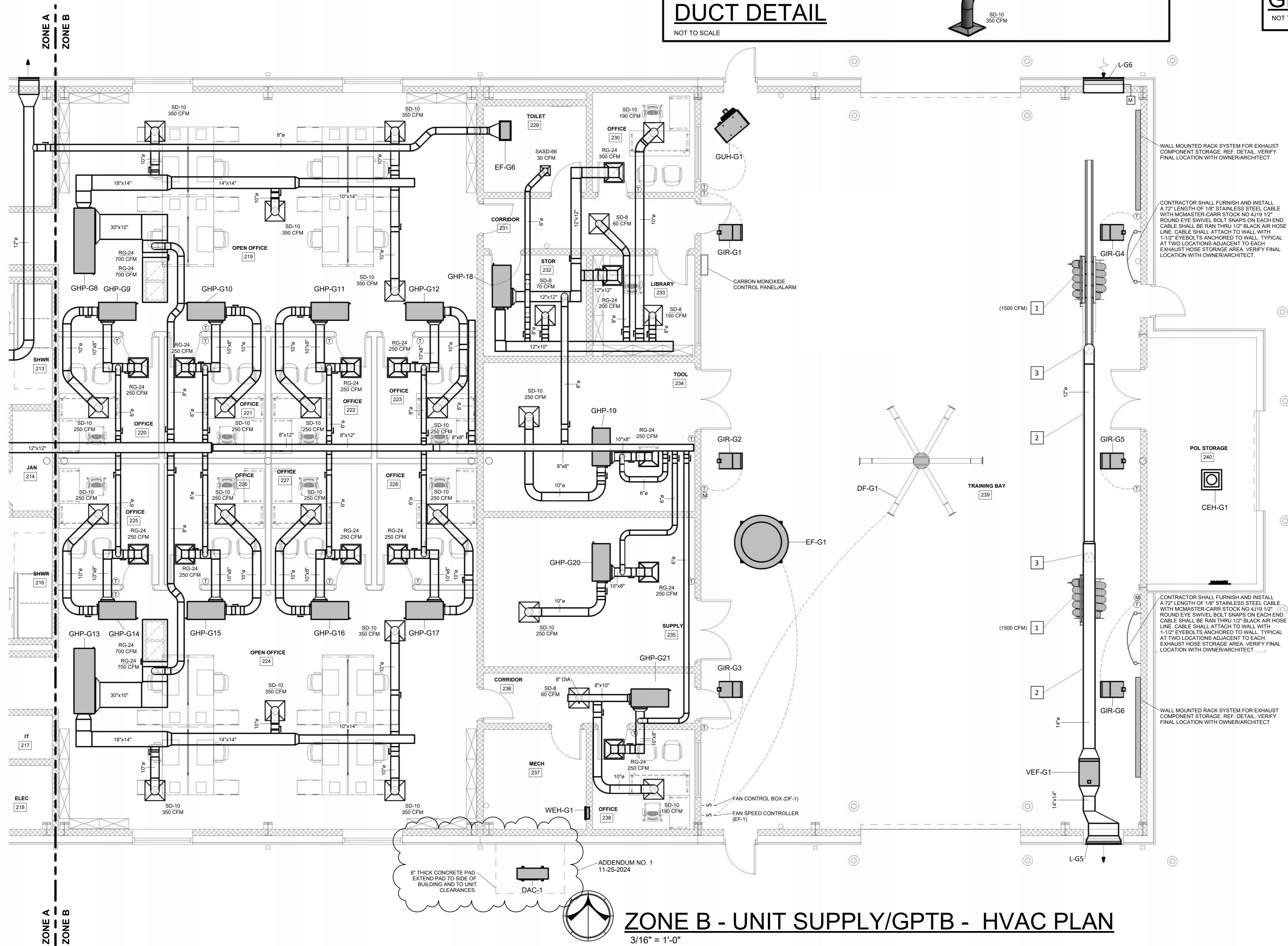
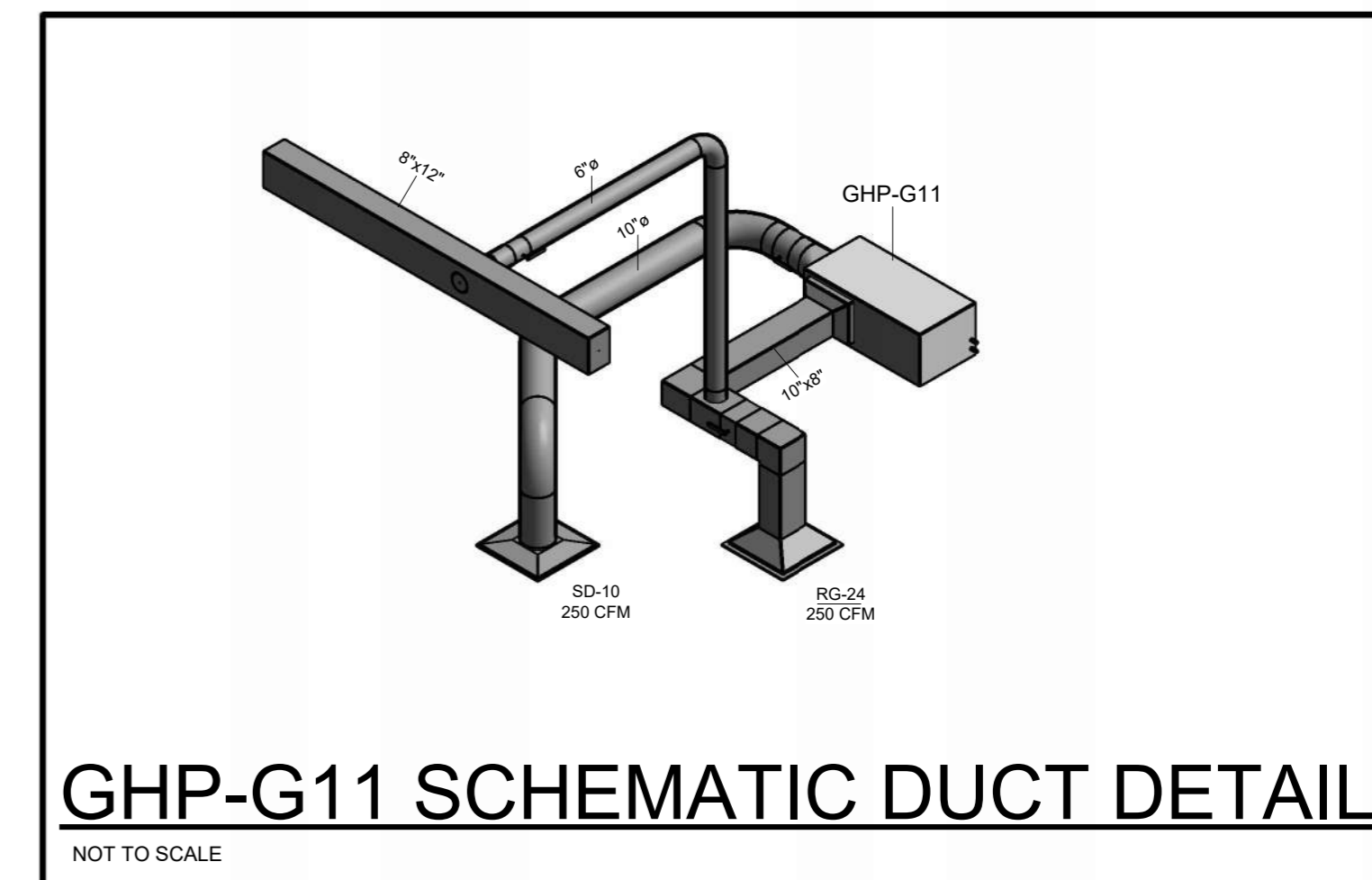
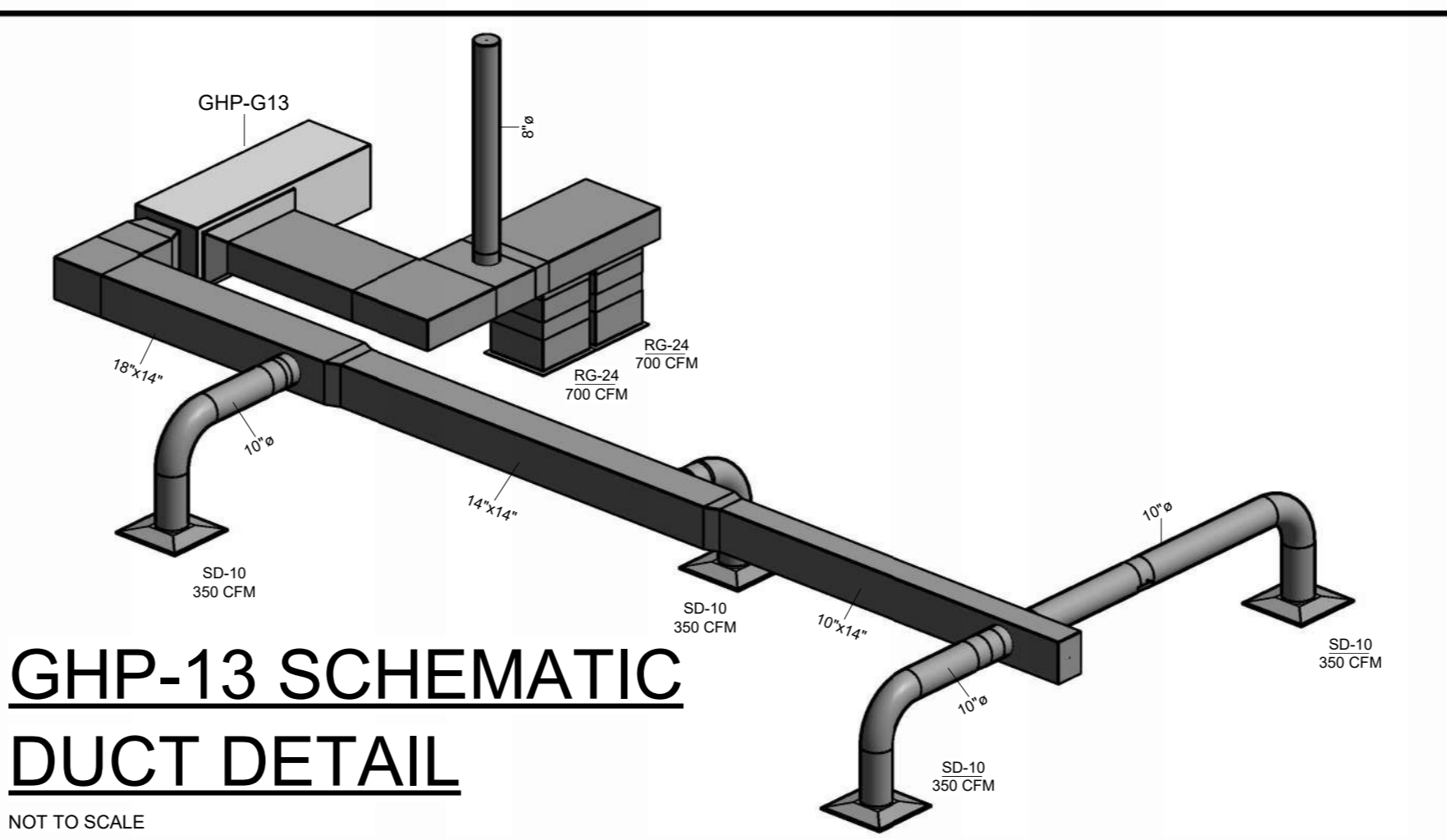
ADDENDUM NO.1  
 11-25-2024



## UNIT SUPPLY/GPTB DIFFUSER SCHEDULE

Tag	Size	Type	Neck Size	Model Number	Manufacturer	Notes
SG-88	8"X8"	SUPPLY/RETURN		SG-PR	TITUS	WITH ANGLE MOUNTING FRAME
RG-24	24"X24"	RETURN	22"X22"	8RF	TITUS	WITH 1" FILTER
SD-8	24"X24"	SUPPLY	8" DIA	TDC	TITUS	
ASD-8	24"X24"	SUPPLY	8" DIA	TDC-AA	TITUS	ALUMINUM
SD-10	24"X24"	SUPPLY	10" DIA	TDC	TITUS	
SASD-66	6"X6"	SUPPLY	6"X6"	TDC-AA	TITUS	ALUMINUM
SD-1212	24"X24"	SUPPLY	12"X12"	TDC	TITUS	

FURNISH AND INSTALL AN INSULATION BLANKET ON THE BACK OF ALL DIFFUSERS AND GRILLES



### VEHICLE EXHAUST NOTES

- ARI-HETRA SPRING OPERATED HOSE REEL EXTRACTION SYSTEM. (1500 CFM EACH)
- ARI-HETRA ARI-3000 ALUMINUM SLOTTED SUCTION DUCTING
- 12" DIA. EXHAUST DUCT CONNECTION TO EXHAUST CHANNEL. CONNECT TO CHANNEL WITH FACTORY EXHAUST CONNECTORS.
- CARBON MONOXIDE WALL MOUNT CONTROLLER WITH VISIBLE AND AUDIBLE ALARMS. CARBON MONOXIDE WALL MOUNTED CONTROLLER/MONITOR SHALL BE EQUAL TO ENMET CORPORATION CP-10 ALARM MONITOR WITH CARBON MONOXIDE ROOM SENSOR. CONTROLLER REQUIRES 120V-60 POWER. ALARM SHALL BE INTERLOCKED TO VEHICLE EXHAUST FANS EF-G1 ROOM EXHAUST FAN TO ACTIVATE FANS IF FAN IS NOT ALREADY "ON".
- CARBON MONOXIDE ROOM SENSOR EQUAL TO ENMET CORPORATION SDS-87D. 24 VDC LOOP POWER FROM CONTROLLER TO SENSOR SHALL BE INSTALLED BY THE MECHANICAL SUB-CONTRACTOR. SENSOR SHALL BE MOUNTED AT 48" AFF. VERIFY FINAL HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.

### EXHAUST FAN SEQUENCE OF OPERATION

**EF-G1** WALL MOUNTED "HIGH/LOW/OFF" SWITCH/CONTROL SHALL BE MOUNTED AT 48" AFF. WHEN THE FAN IS SWITCHED "ON" L-G6 SHALL OPEN. VERIFY FINAL HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.

**EF-G2** WALL MOUNTED THERMOSTAT SHALL BE MOUNTED AT 48" AFF. WHEN THE FAN IS SWITCHED "ON" L-G1 AND L-G2 SHALL OPEN. VERIFY FINAL HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.

**EF-G3** WALL MOUNTED THERMOSTAT SHALL BE MOUNTED AT 48" AFF. WHEN THE FAN IS SWITCHED "ON" L-G3 AND L-G4 SHALL OPEN. VERIFY FINAL HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.

- SWITCH AND ALL WIRING SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- MAGNETIC MOTOR STARTERS AND OVERLOADS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- THE INTAKE LOUVER DAMPER OPERATOR AND LIMIT SWITCH SHALL BE MOUNTED IN A BASE FRAME BELOW THE FAN/LOUVER WALL SLEEVE.

### GENERAL NOTES:

- ALL DIFFUSERS/GRILLE RUNOUTS SHALL INCLUDE SPIN-IN WITH DAMPER.
- ALL OUTSIDE AIR RUNOUTS, EXHAUST, ETC. AND BRANCH DUCTS SHALL INCLUDE SPIN-IN WITH DAMPER
- REFERENCE PLUMBING PLANS FOR CONDENSATE PIPING.
- TEST AND BALANCE IS REQUIRED FOR ALL UNITS, DUCT, GRILLES, ETC. SHOWN ON PLANS. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ALL LOUVERS SHALL HAVE A PLENUM BOX. PLENUM BOX SHALL BE SIZED TO MATCH LOUVER DIMENSIONS. PLENUM BOX SHALL BE 18" DEEP.
- MECHANICAL CONTRACTOR SHALL COORDINATE ROUTING OF REFRIGERANT LINES AND DUCTWORK WITH ALL OTHER TRADES.
- COORDINATE FINAL LOCATION OF PORTABLE DEHUMIDIFIERS WITH ARCHITECT, PLUMBING, ELECTRICAL, AND GENERAL CONTRACTOR PRIOR TO INSTALLATION.

ADDENDUM NO. 1  
11-25-2024

**WHORTON ENGINEERING, INC.**  
HVAC - PLUMBING - PROCESS CONTROL.

RANDALL WHORTON, P.E.  
PHONE: (256) 820-9897

25 SUMMERALL GATE ROAD  
ANNISTON, ALABAMA 36205

WHORTON ENGINEERING PROJECT NO. 22164

**S&L ARCHITECTS**  
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Rev.	Description	Date
1	ADDENDUM NO. 1	11-25-24

Job Number: 21112  
AL ARNG IFB #: AC-25-B-0006-S  
Date: NOVEMBER 1, 2024  
Drawn By: RDW  
Checked By: RDW  
Project Title: HUNTSVILLE READINESS CENTER

HUNTSVILLE READINESS CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title: ZONE B - UNIT SUPPLY/GPTB - HVAC PLAN  
Sheet Number: GM3.2  
11-25-2024

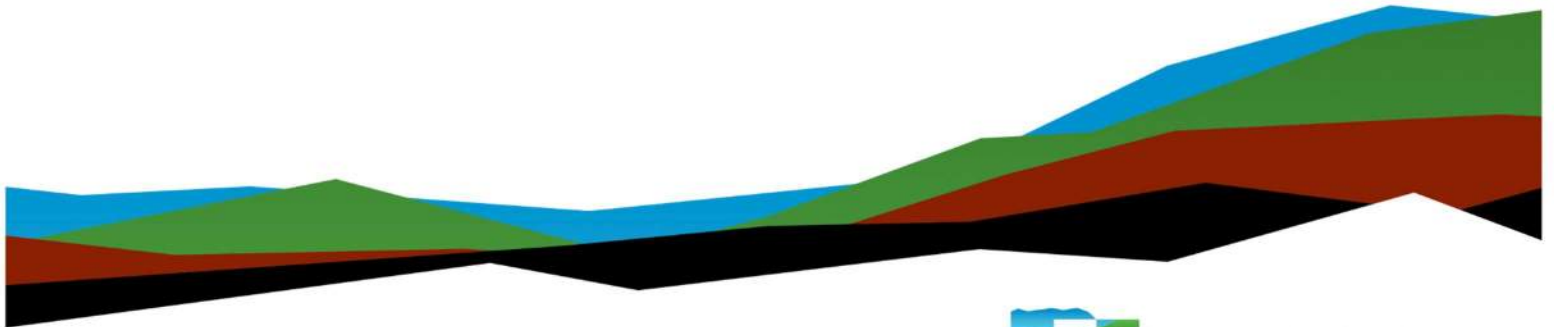
# Readiness Center - Huntsville

## Geotechnical Engineering Report

January 19, 2023 | Terracon Project No. E5225082

### Prepared for:

Seay, Seay & Litchfield, PC  
1115 S. Court Street  
Montgomery, AL 36104



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## Geotechnical Engineering Report

Readiness Center - Huntsville | Huntsville, Madison County, Alabama

January 19, 2023 | Terracon Project No. E5225082

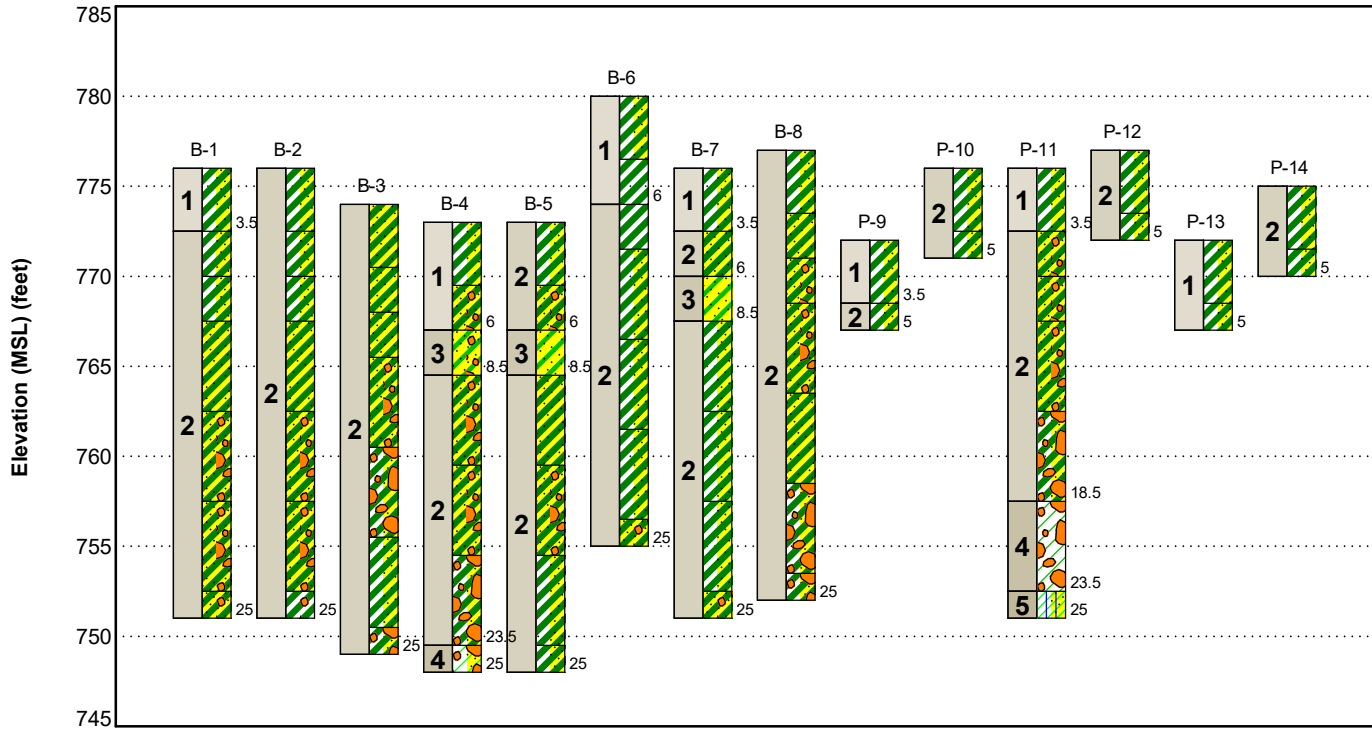


# Figures

## Contents:

GeoModel

## GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	<b>Moderate Plasticity Fat Clays</b>	Typically red to dark red in color, soft to very stiff in consistency, with varying sand contents
2	<b>High Plasticity Fat Clays</b>	Typically red in color, soft to stiff in consistency, with varying silt and sand contents
3	<b>Clayey Sand</b>	Typically red with some tan in color, and medium dense in relative density
4	<b>Clayey Gravel</b>	Typically dark brown in color, very dense in relative density, with varying sand content
5	<b>Silty Clay</b>	Typically dark tan in color, very stiff to hard in consistency, with varying sand and gravel contents

### LEGEND

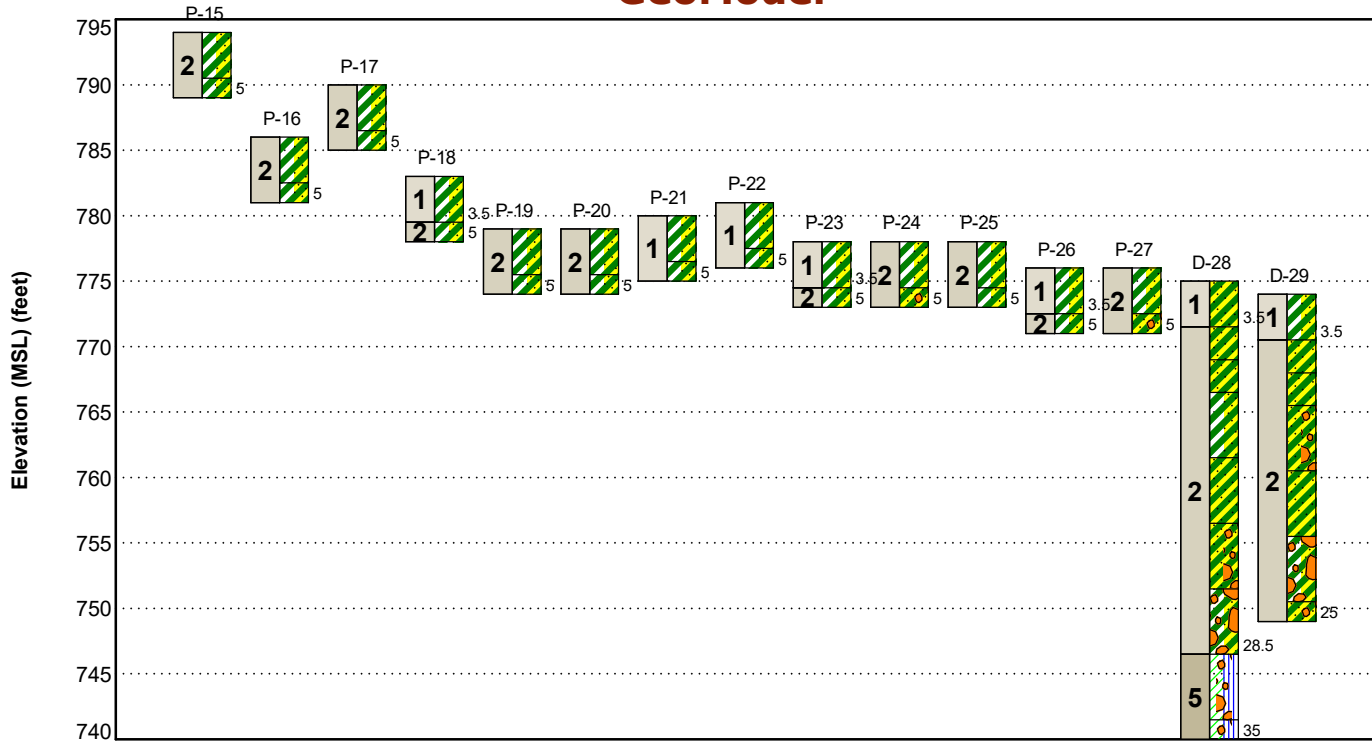


**NOTES:**

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.



## GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	<b>Moderate Plasticity Fat Clays</b>	Typically red to dark red in color, soft to very stiff in consistency, with varying sand contents
2	<b>High Plasticity Fat Clays</b>	Typically red in color, soft to stiff in consistency, with varying silt and sand contents
3	<b>Clayey Sand</b>	Typically red with some tan in color, and medium dense in relative density
4	<b>Clayey Gravel</b>	Typically dark brown in color, very dense in relative density, with varying sand content
5	<b>Silty Clay</b>	Typically dark tan in color, very stiff to hard in consistency, with varying sand and gravel contents

### LEGEND

- Fat Clay with Sand
- Gravelly Fat Clay with Sand
- Sandy Fat Clay with Gravel
- Silty Clay with Gravel
- Sandy Fat Clay

**NOTES:**

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

**Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama

January 19, 2023 | Terracon Project No. E5225082



## Attachments

# Exploration and Testing Procedures

## Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
5	25	Readiness Center Area
3	25	GPTB Area
2	25 at D-28 Auger Refusal at D-29	Geothermal/Detention Area
19	25 at P-11 5 at All Other Pavement Borings	Pavement Areas

**Boring Layout and Elevations:** Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ±15 feet) and referencing existing site features. Approximate ground surface elevations were interpolated from the client-provided site survey. If more accurate elevations and a more precise boring layout are desired, we recommend borings be surveyed.

**Subsurface Exploration Procedures:** We advanced the borings with an ATV-mounted rotary drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Four samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

## Geotechnical Engineering Report

Readiness Center - Huntsville | Huntsville, Madison County, Alabama  
January 19, 2023 | Terracon Project No. E5225082



## Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture Content
- Atterberg Limits
- Standard Proctor
- California Bearing Ratio (CBR)

The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.



**Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama  
January 19, 2023 | Terracon Project No. E5225082



## Site Location and Exploration Plans

**Contents:**

Site Location Plan  
Exploration Plan

**Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama

January 19, 2023 | Terracon Project No. E5225082



**Site Location**



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

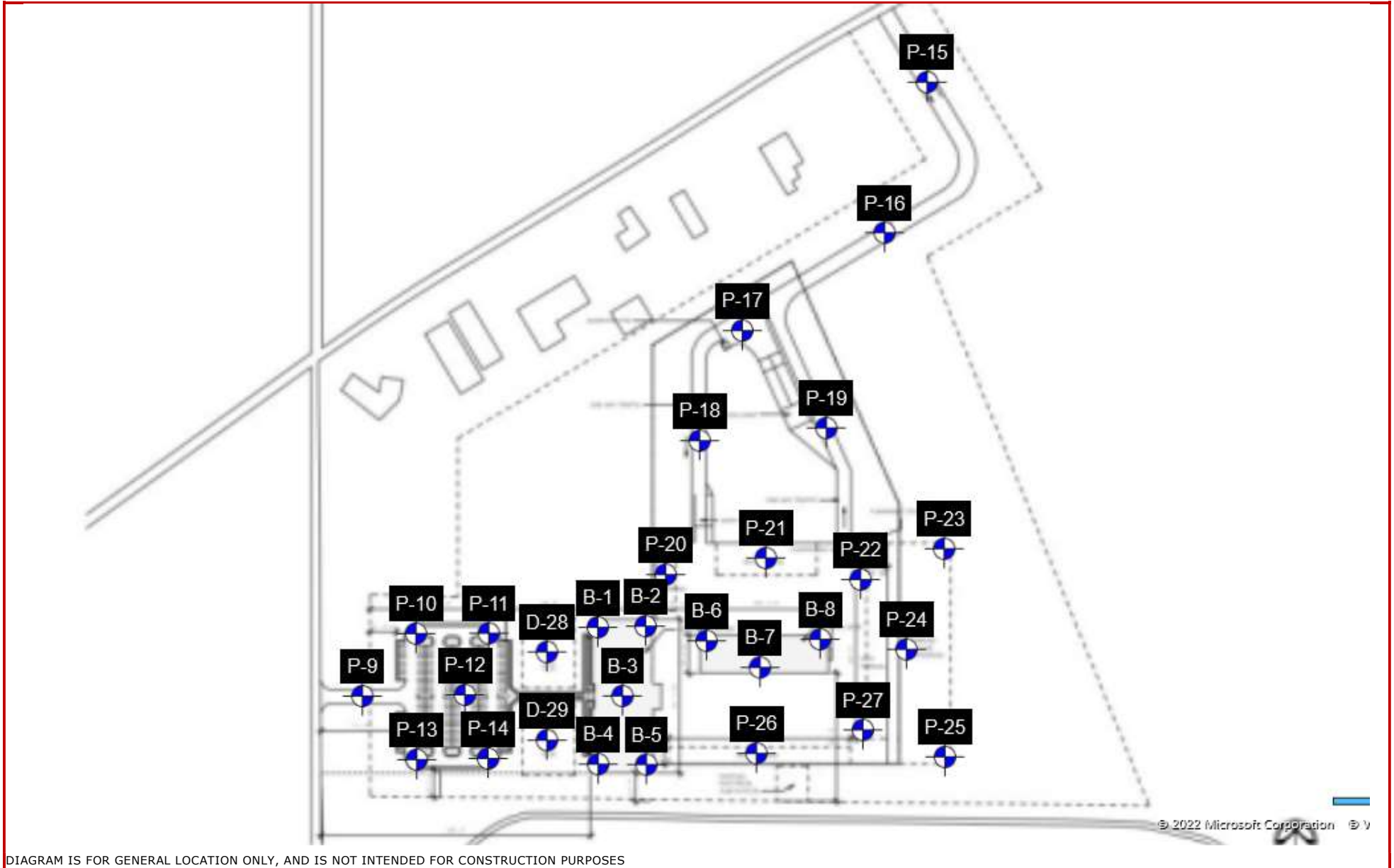
**Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama

January 19, 2023 | Terracon Project No. E5225082



**Exploration Plan**





**Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama

January 19, 2023 | Terracon Project No. E5225082



**Exploration Plan**



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## **Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama  
January 19, 2023 | Terracon Project No. E5225082



# **Exploration and Laboratory Results**

## **Contents:**

Boring Logs (B-1 through D-29)  
California Bearing Ratio (CBR) Results

## Boring Log No. B-1

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7966° Longitude: -86.5341°	Depth (Ft.)	Elevation.: 776 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
									LL-PL-PI	
1		<b>FAT CLAY WITH SAND (CH)</b> , red, some tan, stiff, moderate plasticity								
			3.5	772.5			4-6-6 N=12	18.4		
2		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity								
			6.0	770			5-8-6 N=14	26.9		
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity								
			8.5	767.5			7-7-10 N=17	24.8		
		<b>SANDY FAT CLAY (CH)</b> , red, some tan, stiff, high plasticity								
			13.5	762.5			5-5-6 N=11	33.2		
2		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, hard, high plasticity								
			18.5	757.5			8-16-33 N=49	35.1		
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, very stiff, high plasticity								
			23.5	752.5			8-14-14 N=28	41.4		
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, very stiff, trace oxides, high plasticity								
		25.0	751			7-9-17 N=26	31.4			
		<b>Boring Terminated at 25 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-20-2022</p> <p><b>Boring Completed</b> 12-20-2022</p>

## Boring Log No. B-2

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7966° Longitude: -86.5338°						Elevation.: 776 (Ft.)	LL-PL-PI
2		<b>FAT CLAY WITH SAND (CH)</b> , red and tan, stiff, high plasticity				3-4-5 N=9	27.2		
	3.5		772.5						
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity				4-8-11 N=19	23.0		
	6.0		770						
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity				6-7-13 N=20	22.4		
	8.5		767.5						
		<b>SANDY FAT CLAY (CH)</b> , red, tan, stiff, high plasticity				6-7-8 N=15	27.9		
	13.5		762.5						
	<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, hard, high plasticity				13-17-25 N=42	30.7			
18.5		757.5							
	<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, very stiff, high plasticity				10-13-16 N=29	46.7			
23.5		752.5							
	<b>FAT CLAY WITH GRAVEL (CH)</b> , red, very stiff, trace oxides, high plasticity				6-9-13 N=22	38.0			
25.0		751							
		<b>Boring Terminated at 25 Feet</b>							

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-20-2022</p> <p><b>Boring Completed</b>                  12-20-2022</p>

## Boring Log No. B-3

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7962° Longitude: -86.5340°	Elevation.: 774 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 774 (Ft.)							
		<b>SANDY FAT CLAY (CH)</b> , dark red, stiff, high plasticity								
		3.5		770.5	5	X	2-4-6 N=10	37.1		
		<b>SANDY FAT CLAY (CH)</b> , red, very stiff, high plasticity								
		6.0		768		X	5-10-11 N=21	27.0		
		<b>SANDY FAT CLAY (CH)</b> , red and tan, very stiff, high plasticity								
		8.5		765.5		X	7-13-12 N=25	27.1		
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, very stiff, high plasticity								
		13.5	760.5	10	X	8-11-12 N=23	28.9			
		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , red, hard, high plasticity								
		18.5	755.5	15	X	7-18-23 N=41	25.6			
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, trace oxides, high plasticity								
		23.5	750.5	20	X	6-7-9 N=16	25.6			
		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , dark tan, hard, trace oxides, high plasticity								
		25.0	749	25	X	5-13-29 N=42	37.3			
		<b>Boring Terminated at 25 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p>	<p><b>Driller</b>                  South Brothers</p>
	<p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Logged by</b></p>
		<p><b>Boring Started</b>                  12-21-2022</p>
		<p><b>Boring Completed</b>                  12-21-2022</p>



## Boring Log No. B-4

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7957° Longitude: -86.5341°	Depth (Ft.)	Elevation.: 773 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
									LL-PL-PI	
1		<b>FAT CLAY WITH SAND (CH)</b> , red, soft, moderate plasticity								
		3.5	769.5			2-2-2 N=4	23.5			
3		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, moderate plasticity								
		6.0	767			9-11-16 N=27	23.0			
3		<b>CLAYEY GRAVEL WITH SAND (SC)</b> , red and tan, dense								
		8.5	764.5			18-20-16 N=36	19.3			
2		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, hard, high plasticity								
		13.5	759.5			50/3"	33.2			
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, stiff, high plasticity								
		18.5	754.5			11-5-9 N=14	29.7			
4		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , red and tan, very stiff, trace oxides								
		23.5	749.5			22-15-14 N=29	35.6			
4		<b>CLAYEY GRAVEL WITH SAND (GC)</b> , dark tan, some red, medium dense, trace oxides								
		25.0	748			11-13-12 N=25	27.5			
		<b>Boring Terminated at 25 Feet</b>								








<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-21-2022</p> <p><b>Boring Completed</b> 12-21-2022</p>

## Boring Log No. B-5

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7958° Longitude: -86.5338°	Depth (Ft.)	Elevation.: 773 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
									LL-PL-PI	
2		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, high plasticity								
		3.5	769.5			2-2-3 N=5	27.7			
3		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, high plasticity								
		6.0	767			10-14-15 N=29	28.0			
3		<b>CLAYEY SAND (SC)</b> , red and tan, very dense								
		8.5	764.5			N=50+	17.1			
2		<b>SANDY FAT CLAY (CH)</b> , red and tan, hard, high plasticity								
		13.5	759.5			N=50+	27.1			
2		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, hard, high plasticity								
		18.5	754.5			10-16-20 N=36	24.2			
2		<b>FAT CLAY WITH SAND (CH)</b> , reddish brown, very stiff, trace oxides, high plasticity								
		23.5	749.5			9-13-14 N=27	59.6			
2		<b>FAT CLAY WITH SAND (CH)</b> , dark tan, hard, high plasticity								
		25.0	748			10-15-16 N=31	60.4			
<b>Boring Terminated at 25 Feet</b>			25							

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-21-2022</p> <p><b>Boring Completed</b> 12-21-2022</p>

## Boring Log No. B-6

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7965° Longitude: -86.5333°	Depth (Ft.)	Elevation.: 780 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
									LL-PL-PI	
1		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, moderate plasticity								
		3-2-4 N=6	23.2							
5		<b>FAT CLAY (CH)</b> , red, stiff, moderate plasticity	3.5	776.5						
		5-5-6 N=11	23.2							
7		<b>FAT CLAY (CH)</b> , red, very stiff, high plasticity	6.0	774						
		7-7-9 N=16	23.6							
10		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity	8.5	771.5						
		9-9-11 N=20	27.8							
15		<b>FAT CLAY WITH SAND (CH)</b> , red, some tan, very stiff, high plasticity	13.5	766.5						
		7-7-12 N=19	25.0							
20		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity	18.5	761.5						
		5-7-9 N=16	29.1							
25		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, stiff, high plasticity	23.5	756.5						
		5-7-5 N=12	43.2							
		<b>Boring Terminated at 25 Feet</b>	25.0	755						

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-21-2022</p> <p><b>Boring Completed</b> 12-21-2022</p>

## Boring Log No. B-7

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7963° Longitude: -86.5329°	Depth (Ft.)	Elevation.: 776 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits
									LL-PL-PI
1		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, moderate plasticity	3.5	772.5			3-2-2 N=4	25.2	52-18-34
2		<b>SANDY FAT CLAY (CH)</b> , red, some tan, very stiff, high plasticity	6.0	770			5-12-16 N=28	36.0	
3		<b>CLAYEY SAND (SC)</b> , red, some tan, medium dense	8.5	767.5			9-14-15 N=29	35.6	
2		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity	13.5	762.5			5-8-13 N=21	35.5	
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity	18.5	757.5			9-10-13 N=23	26.3	
		<b>FAT CLAY WITH SAND (CH)</b> , red, some tan, very stiff, high plasticity	23.5	752.5			6-8-11 N=19	26.8	
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, stiff, high plasticity	25.0	751			7-7-8 N=15	33.0	
		<b>Boring Terminated at 25 Feet</b>							

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-21-2022</p> <p><b>Boring Completed</b> 12-21-2022</p>

## Boring Log No. B-8

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits
		Latitude: 34.7965° Longitude: -86.5325°						Elevation.: 777 (Ft.)
2		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity	3.5		X	6-7-6 N=13	34.0	
		<b>SANDY FAT CLAY (CH)</b> , red, very stiff, high plasticity	6.0	5		7-8-10 N=18	35.1	
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, high plasticity	8.5			10-13-14 N=27	38.1	
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, hard, high plasticity	13.5	10		N=50+	31.1	
		<b>SANDY FAT CLAY (CH)</b> , red and tan, very stiff, high plasticity	18.5			7-8-12 N=20	30.6	
		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , red, hard, high plasticity	23.5	15		4-20-18 N=38	35.4	
		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , tan and red, hard, high plasticity	25.0			6-23-24 N=47	35.5	
		<b>Boring Terminated at 25 Feet</b>		25				

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-9

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7962° Longitude: -86.5359°	Elevation.: 772 (Ft.)						LL-PL-PI	
1		Depth (Ft.) 3.5 Elevation.: 768.5	FAT CLAY WITH SAND (CH), red, medium-stiff, trace oxides, moderate plasticity	-		X	2-2-4 N=6	15.3		
2		Depth (Ft.) 5.0 Elevation.: 767	FAT CLAY WITH SAND (CH), red, some tan, very stiff, high plasticity	-		X	7-12-11 N=23	29.3		
		<b>Boring Terminated at 5 Feet</b>		5						

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-10

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7965° Longitude: -86.5355°	Elevation.: 776 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 776 (Ft.)							
		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, high plasticity				X	5-4-4 N=8	24.0		
		3.5	772.5			X	5-5-8 N=13	25.0		
		5.0	771	5						
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

# Boring Log No. P-11

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7965° Longitude: -86.5349° Depth (Ft.) Elevation.: 776 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
								LL-PL-PI	
1		<b>FAT CLAY WITH SAND (CH)</b> , red, some tan, medium-stiff, moderate plasticity	3.5 772.5			2-3-2 N=5	24.4		
2		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, high plasticity	6.0 770			7-7-9 N=16	28.9		
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, trace oxides, high plasticity	8.5 767.5			8-10-11 N=21	28.1		
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, high plasticity	13.5 762.5			10-11-9 N=20	23.3		
4		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , red, some tan, hard, high plasticity	18.5 757.5			12-15-16 N=31	31.9		
		<b>CLAYEY GRAVEL (GC)</b> , dark brown, some red, very dense, trace oxides	23.5 752.5			N=50+	21.3		
5		<b>SILTY CLAY WITH SAND (CL-ML)</b> , dark brown, some tan, stiff, trace oxides	25.0 751			6-8-7 N=15	38.8		
<b>Boring Terminated at 25 Feet</b>			25						

See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any). See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.	<b>Water Level Observations</b> Groundwater not encountered	<b>Drill Rig</b> Diedrich
<b>Notes</b>	<b>Advancement Method</b> Hollow Stem Auger	<b>Driller</b> South Brothers
	<b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.	<b>Logged by</b>
		<b>Boring Started</b> 12-21-2022
		<b>Boring Completed</b> 12-21-2022



## Boring Log No. P-12

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7962° Longitude: -86.5351°	Elevation.: 777 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 777 (Ft.)							
		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, high plasticity				X	3-2-3 N=5	25.1	93-42-51	
		3.5	773.5			X	4-6-9 N=15	27.0		
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity				X				
		5.0	772	5						
<b>Boring Terminated at 5 Feet</b>										

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-13

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits		
		Latitude: 34.7958° Longitude: -86.5355°	Elevation.: 772 (Ft.)						LL-PL-PI		
1		Depth (Ft.)	Elevation.: 772 (Ft.)								
		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, moderate plasticity									
		3.5	768.5	X	4-4-3 N=7	23.6					
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, moderate plasticity									
		5.0	767	5		X	5-7-10 N=17	22.7			
<b>Boring Terminated at 5 Feet</b>											

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-14

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7958° Longitude: -86.5349°	Elevation.: 775 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 775 (Ft.)							
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity				X	3-4-5 N=9	25.5		
		3.5	771.5			X	4-6-9 N=15	26.0		
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity								
		5.0	770	5						
<b>Boring Terminated at 5 Feet</b>										

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p>	<p><b>Driller</b>                  South Brothers</p>
	<p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Logged by</b></p>
		<p><b>Boring Started</b>                  12-21-2022</p>
		<p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-15

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7999° Longitude: -86.5317°	Elevation.: 794 (Ft.)						LL-PL-PI	
2		Depth (Ft.) <span style="float: right;">Elevation.: 794 (Ft.)</span> <b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity					3-5-6 N=11	24.3	87-30-57	
		3.5 <span style="float: right;">790.5</span> <b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity						6-10-10 N=20	31.0	
		<b>Boring Terminated at 5 Feet</b>		5						

See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any). See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.	<b>Water Level Observations</b> Groundwater not encountered	<b>Drill Rig</b> Diedrich
<b>Notes</b>	<b>Advancement Method</b> Hollow Stem Auger	<b>Driller</b> South Brothers
	<b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.	<b>Logged by</b>  <b>Boring Started</b> 12-20-2022  <b>Boring Completed</b> 12-20-2022

## Boring Log No. P-16

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits		
		Latitude: 34.7990° Longitude: -86.5320°	Elevation.: 786 (Ft.)						LL-PL-PI		
2		Depth (Ft.)	Elevation.: 786 (Ft.)								
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity									
		3.5	782.5			4-4-6 N=10	30.3				
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity									
		5.0	781	5			6-4-12 N=16	28.0			
<b>Boring Terminated at 5 Feet</b>											

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-20-2022</p> <p><b>Boring Completed</b>                  12-20-2022</p>

## Boring Log No. P-17

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7984° Longitude: -86.5331°	Elevation.: 790 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 790 (Ft.)							
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity				X	5-7-9 N=16	26.7		
		3.5	786.5			X	8-14-18 N=32	25.4		
		<b>FAT CLAY WITH SAND (CH)</b> , red, hard, high plasticity								
		5.0	785	5						
<b>Boring Terminated at 5 Feet</b>										

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-20-2022</p> <p><b>Boring Completed</b>                  12-20-2022</p>

## Boring Log No. P-18

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7977° Longitude: -86.5334°	Elevation.: 783 (Ft.)						LL-PL-PI	
1		Depth (Ft.) <b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, moderate plasticity	Elevation.: 783 (Ft.) 779.5	5			3-3-4 N=7	23.5		
2		3.5 <b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity 5.0	778				6-7-6 N=13	25.1		
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-20-2022</p> <p><b>Boring Completed</b>                  12-20-2022</p>

## Boring Log No. P-19

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7978° Longitude: -86.5325°	Elevation.: 779 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 779 (Ft.)							
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity				X	4-5-5 N=10	26.1		
		3.5	775.5							
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity				X	6-13-15 N=28	22.9		
		5.0	774	5						
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-20-2022</p> <p><b>Boring Completed</b>                  12-20-2022</p>



## Boring Log No. P-20

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7969° Longitude: -86.5336°	Elevation.: 779 (Ft.)						LL-PL-PI	
2		Depth (Ft.)	Elevation.: 779 (Ft.)							
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity				X	4-4-5 N=9	25.4		
		3.5	775.5							
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity				X	5-5-7 N=12	23.7		
		5.0	774	5						
<b>Boring Terminated at 5 Feet</b>										

See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any). See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.	<b>Water Level Observations</b> Groundwater not encountered	<b>Drill Rig</b> Diedrich
<b>Notes</b>	<b>Advancement Method</b> Hollow Stem Auger	<b>Driller</b> South Brothers
	<b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.	<b>Logged by</b>  <b>Boring Started</b> 12-20-2022  <b>Boring Completed</b> 12-20-2022

## Boring Log No. P-21

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7970° Longitude: -86.5329°	Elevation.: 780 (Ft.)						LL-PL-PI	
1		Depth (Ft.)	Elevation.: 780 (Ft.)	5						
		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, moderate plasticity				X	2-2-3 N=5	22.0		
		3.5	776.5			X	5-8-13 N=21	22.1		
		5.0	775							
		<b>Boring Terminated at 5 Feet</b>								

See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any). See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.	<b>Water Level Observations</b> Groundwater not encountered	<b>Drill Rig</b> Diedrich
<b>Notes</b>	<b>Advancement Method</b> Hollow Stem Auger	<b>Driller</b> South Brothers
	<b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.	<b>Logged by</b>  <b>Boring Started</b> 12-20-2022  <b>Boring Completed</b> 12-20-2022

## Boring Log No. P-22

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7969° Longitude: -86.5322°	Elevation.: 781 (Ft.)						LL-PL-PI	
1		Depth (Ft.)	Elevation.: 781 (Ft.)	5						
		<b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, moderate plasticity				X	3-3-2 N=5	17.4		
		3.5	777.5			X	4-5-6 N=11	22.6		
		5.0	776							
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-20-2022</p> <p><b>Boring Completed</b>                  12-20-2022</p>

## Boring Log No. P-23

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7970° Longitude: -86.5316°	Elevation.: 778 (Ft.)						LL-PL-PI	
1		Depth (Ft.) <b>FAT CLAY WITH SAND (CH)</b> , red, medium-stiff, moderate plasticity	Elevation.: 778 (Ft.) 774.5	5			3-3-3 N=6	22.4		
2		3.5 <b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity 5.0	773				3-6-9 N=15	26.2		
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-24

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7964° Longitude: -86.5319°	Elevation.: 778 (Ft.)						LL-PL-PI	
2		3.5	774.5	5	X	X	4-4-3 N=7	30.4		
		5.0	773				13-12-17 N=29	24.3		
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-25

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7958° Longitude: -86.5316°	Elevation.: 778 (Ft.)						LL-PL-PI	
2		Depth (Ft.)								
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity					7-11-12 N=23	24.5		
		3.5	774.5							
		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity					5-9-13 N=22	30.8		
		5.0	773	5						
		<b>Boring Terminated at 5 Feet</b>								


<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>

## Boring Log No. P-26

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7958° Longitude: -86.5330°	Depth (Ft.)	Elevation.: 776 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
									LL-PL-PI	
1		<b>FAT CLAY WITH SAND (CH)</b> , reddish brown, medium-stiff, moderate plasticity	3.5	772.5	X		3-2-3 N=5	22.6		
2		<b>FAT CLAY WITH SAND (CH)</b> , red, very stiff, high plasticity	5.0	771	X		5-10-10 N=20	24.3		
		<b>Boring Terminated at 5 Feet</b>			5					

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-21-2022</p> <p><b>Boring Completed</b> 12-21-2022</p>




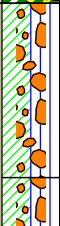
## Boring Log No. P-27

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a>		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
		Latitude: 34.7960° Longitude: -86.5322°	Elevation.: 776 (Ft.)						LL-PL-PI	
2		3.5	772.5	5	X	X	8-6-6 N=12	29.5		
		5.0	771				9-13-10 N=23	28.0		
		<b>Boring Terminated at 5 Feet</b>								

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b>                  Groundwater not encountered</p>	<p><b>Drill Rig</b>                  Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b>                  Hollow Stem Auger</p> <p><b>Abandonment Method</b>                  Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b>                  South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b>                  12-21-2022</p> <p><b>Boring Completed</b>                  12-21-2022</p>



## Boring Log No. D-28

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7964° Longitude: -86.5345°	Depth (Ft.)	Elevation.: 775 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits		
									LL-PL-PI		
1		<b>SANDY FAT CLAY (CH)</b> , red and tan, medium-stiff, moderate plasticity					3-3-3 N=6	22.8			
			3.5	771.5							
2		<b>SANDY FAT CLAY (CH)</b> , red. some tan, very stiff, high plasticity					7-9-11 N=20	32.8			
			6.0	769							
		<b>SANDY FAT CLAY (CH)</b> , red. some tan, very stiff, high plasticity						8-12-15 N=27	29.1		
			8.5	766.5							
		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, high plasticity						4-5-8 N=13	39.6		
2			13.5	761.5							
		<b>SANDY FAT CLAY (CH)</b> , red, very stiff, high plasticity						7-9-13 N=22	32.2		
			18.5	756.5							
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, hard, trace oxides, high plasticity						7-16-18 N=34	39.8		
			23.5	751.5							
5		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , red, hard, high plasticity					18-50/5"	33.2			
			28.5	746.5							
		<b>SILTY CLAY WITH GRAVEL (CL-ML)</b> , dark tan, very stiff						11-14-13 N=27	31.5		
			33.5	741.5							
		<b>SILTY CLAY WITH GRAVEL (CL-ML)</b> , dark tan, hard, wet					8-50/4"	39.0			
			35.0	740							
		<b>Auger Refusal at 35 Feet</b>									

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-20-2022</p> <p><b>Boring Completed</b> 12-20-2022</p>

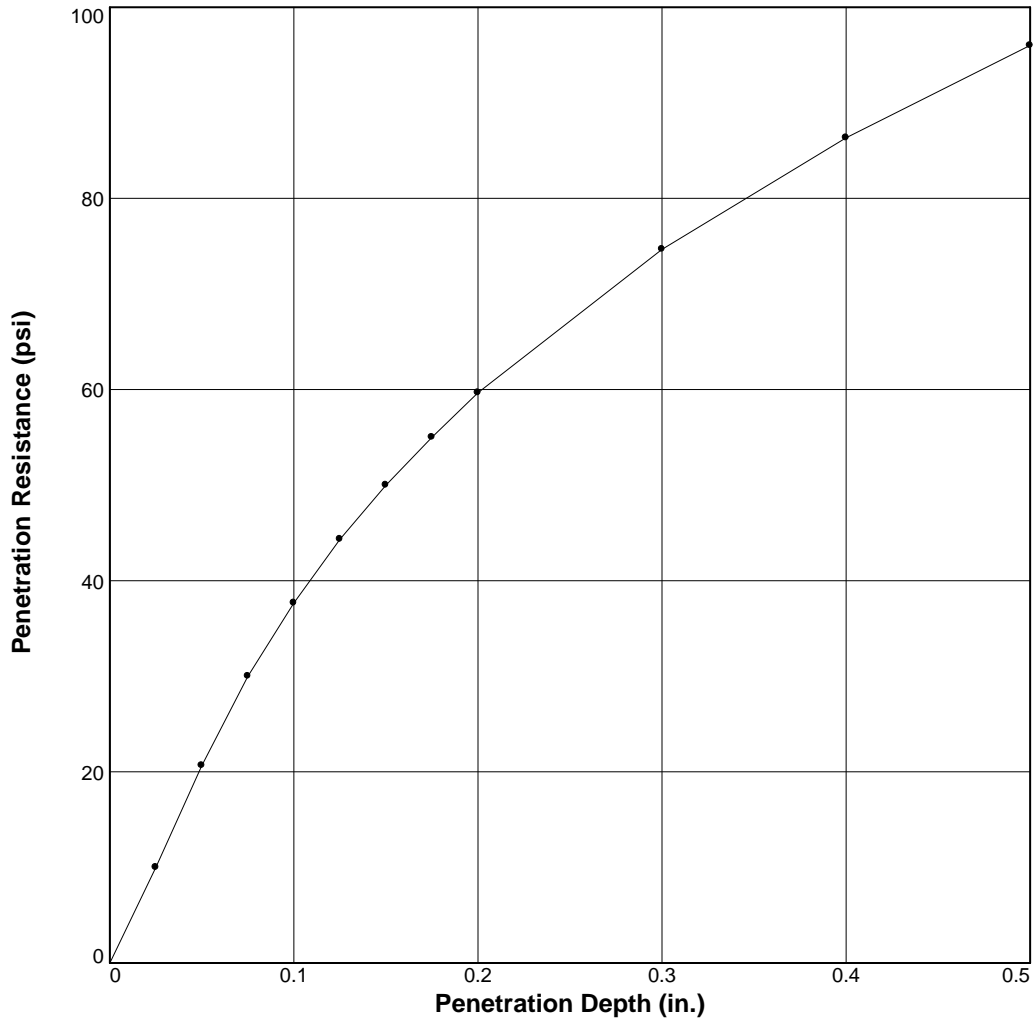
## Boring Log No. D-29

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 34.7959° Longitude: -86.5345°	Depth (Ft.)	Elevation.: 774 (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits		
									LL-PL-PI		
1		<b>FAT CLAY WITH SAND (CH)</b> , red, stiff, moderate plasticity									
			3.5	770.5			3-4-6 N=10	23.3			
2		<b>SANDY FAT CLAY (CH)</b> , red, very stiff, high plasticity									
			6.0	768			10-10-15 N=25	33.6			
		<b>SANDY FAT CLAY (CH)</b> , red, very stiff, high plasticity									
			8.5	765.5			8-13-16 N=29	33.8			
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, very stiff, high plasticity									
			13.5	760.5			11-13-15 N=28				
		<b>SANDY FAT CLAY (CH)</b> , red and tan, very stiff, high plasticity									
			15								
		<b>GRAVELLY FAT CLAY WITH SAND (CH)</b> , red, some tan, hard, high plasticity									
			20								
		<b>SANDY FAT CLAY WITH GRAVEL (CH)</b> , red, some tan, very stiff, trace oxides, high plasticity									
			25								
		<b>Boring Terminated at 25 Feet</b>									

<p>See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any).                  See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.</p>	<p><b>Water Level Observations</b> Groundwater not encountered</p>	<p><b>Drill Rig</b> Diedrich</p>
<p><b>Notes</b></p>	<p><b>Advancement Method</b> Hollow Stem Auger</p> <p><b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.</p>	<p><b>Driller</b> South Brothers</p> <p><b>Logged by</b></p> <p><b>Boring Started</b> 12-21-2022</p> <p><b>Boring Completed</b> 12-21-2022</p>

# BEARING RATIO TEST REPORT

## ASTM D1883-16



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	107.5	97.3	17.9				3.8	4.0	0.000	10	0
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
	Red Lean Clay with Sand (CL)	CL	110.5	15.8	34

**Project No:** E5225082  
**Project:** Readiness Center - Huntsville  
**Source of Sample:** Near P-9    **Depth:** 1.0-2.5 ft  
**Sample Number:** Bulk  
**Date:** 12.21.2022

BEARING RATIO TEST REPORT

## Terracon Consultants, Inc.

**Test Description/Remarks:**  
 Compaction based on D698 efforts.

Figure \_\_\_\_\_

## **Geotechnical Engineering Report**

Readiness Center - Huntsville | Huntsville, Madison County, Alabama  
January 19, 2023 | Terracon Project No. E5225082














# **Supporting Information**

## **Contents:**

General Notes  
Unified Soil Classification System

# GENERAL NOTES

## DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

<b>SAMPLING</b>			<b>WATER LEVEL</b>		Water Initially Encountered	<b>FIELD TESTS</b>	(HP) Hand Penetrometer	
	<b>Auger</b>	<b>Split Spoon</b>			Water Level After a Specified Period of Time		(T) Torvane	
					Water Level After a Specified Period of Time		(b/f) Standard Penetration Test (blows per foot)	
	<b>Shelby Tube</b>	<b>Macro Core</b>		Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.			(PID) Photo-Ionization Detector	
							(OVA) Organic Vapor Analyzer	
<b>Ring Sampler</b>	<b>Rock Core</b>							
								
<b>Grab Sample</b>	<b>No Recovery</b>							

## DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

## LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

<b>STRENGTH TERMS</b>	<b>RELATIVE DENSITY OF COARSE-GRAINED SOILS</b> (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			<b>CONSISTENCY OF FINE-GRAINED SOILS</b> (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
	Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength, Qu, tsf	Standard Penetration or N-Value Blows/Ft.
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	0.50 to 1.00	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42
			Hard	> 4.00	> 30	> 42

## RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 - 29
Modifier	> 30

## GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 sieve (0.075mm)

## RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 - 12
Modifier	> 12

## PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity Index</u>
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

## Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests <sup>A</sup>				Soil Classification	
				Group Symbol	Group Name <sup>B</sup>
<b>Coarse-Grained Soils:</b> More than 50% retained on No. 200 sieve	<b>Gravels:</b> More than 50% of coarse fraction retained on No. 4 sieve	<b>Clean Gravels:</b> Less than 5% fines <sup>C</sup>	$Cu \geq 4$ and $1 \leq Cc \leq 3$ <sup>E</sup>	GW	Well-graded gravel <sup>F</sup>
		<b>Gravels with Fines:</b> More than 12% fines <sup>C</sup>	$Cu < 4$ and/or $[Cc < 1$ or $Cc > 3.0]$ <sup>E</sup>	GP	Poorly graded gravel <sup>F</sup>
			Fines classify as ML or MH	GM	Silty gravel <sup>F, G, H</sup>
		<b>Sands:</b> 50% or more of coarse fraction passes No. 4 sieve	<b>Clean Sands:</b> Less than 5% fines <sup>D</sup>	Fines classify as CL or CH	GC
	$Cu \geq 6$ and $1 \leq Cc \leq 3$ <sup>E</sup>			SW	Well-graded sand <sup>I</sup>
	<b>Sands with Fines:</b> More than 12% fines <sup>D</sup>		$Cu < 6$ and/or $[Cc < 1$ or $Cc > 3.0]$ <sup>E</sup>	SP	Poorly graded sand <sup>I</sup>
			Fines classify as ML or MH	SM	Silty sand <sup>G, H, I</sup>
	<b>Fine-Grained Soils:</b> 50% or more passes the No. 200 sieve	<b>Silts and Clays:</b> Liquid limit less than 50	<b>Inorganic:</b>	$PI > 7$ and plots above "A" line <sup>J</sup>	CL
$PI < 4$ or plots below "A" line <sup>J</sup>				ML	Silt <sup>K, L, M</sup>
<b>Organic:</b>			$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OL	Organic clay <sup>K, L, M, N</sup> Organic silt <sup>K, L, M, O</sup>
			<b>Silts and Clays:</b> Liquid limit 50 or more	<b>Inorganic:</b>	PI plots on or above "A" line
PI plots below "A" line		MH			Elastic silt <sup>K, L, M</sup>
<b>Organic:</b>		$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$		OH	Organic clay <sup>K, L, M, P</sup> Organic silt <sup>K, L, M, Q</sup>
		<b>Highly organic soils:</b>		Primarily organic matter, dark in color, and organic odor	

<sup>A</sup> Based on the material passing the 3-inch (75-mm) sieve.

<sup>B</sup> If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

<sup>C</sup> Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

<sup>D</sup> Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

<sup>E</sup>  $Cu = D_{60}/D_{10}$      $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

<sup>F</sup> If soil contains  $\geq 15\%$  sand, add "with sand" to group name.

<sup>G</sup> If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

<sup>H</sup> If fines are organic, add "with organic fines" to group name.

<sup>I</sup> If soil contains  $\geq 15\%$  gravel, add "with gravel" to group name.

<sup>J</sup> If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

<sup>K</sup> If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

<sup>L</sup> If soil contains  $\geq 30\%$  plus No. 200 predominantly sand, add "sandy" to group name.

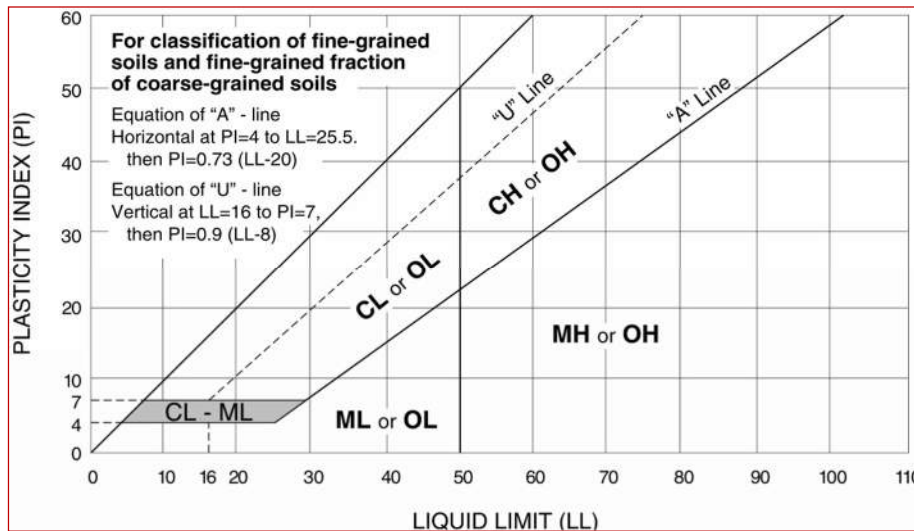
<sup>M</sup> If soil contains  $\geq 30\%$  plus No. 200, predominantly gravel, add "gravelly" to group name.

<sup>N</sup>  $PI \geq 4$  and plots on or above "A" line.

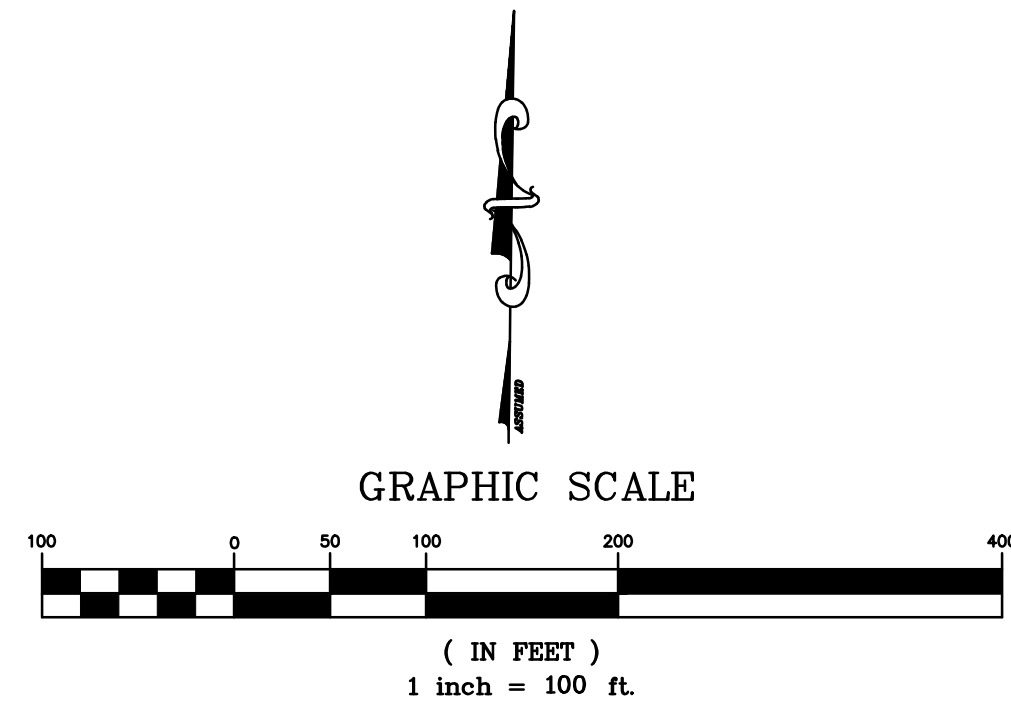
<sup>O</sup>  $PI < 4$  or plots below "A" line.

<sup>P</sup> PI plots on or above "A" line.

<sup>Q</sup> PI plots below "A" line.

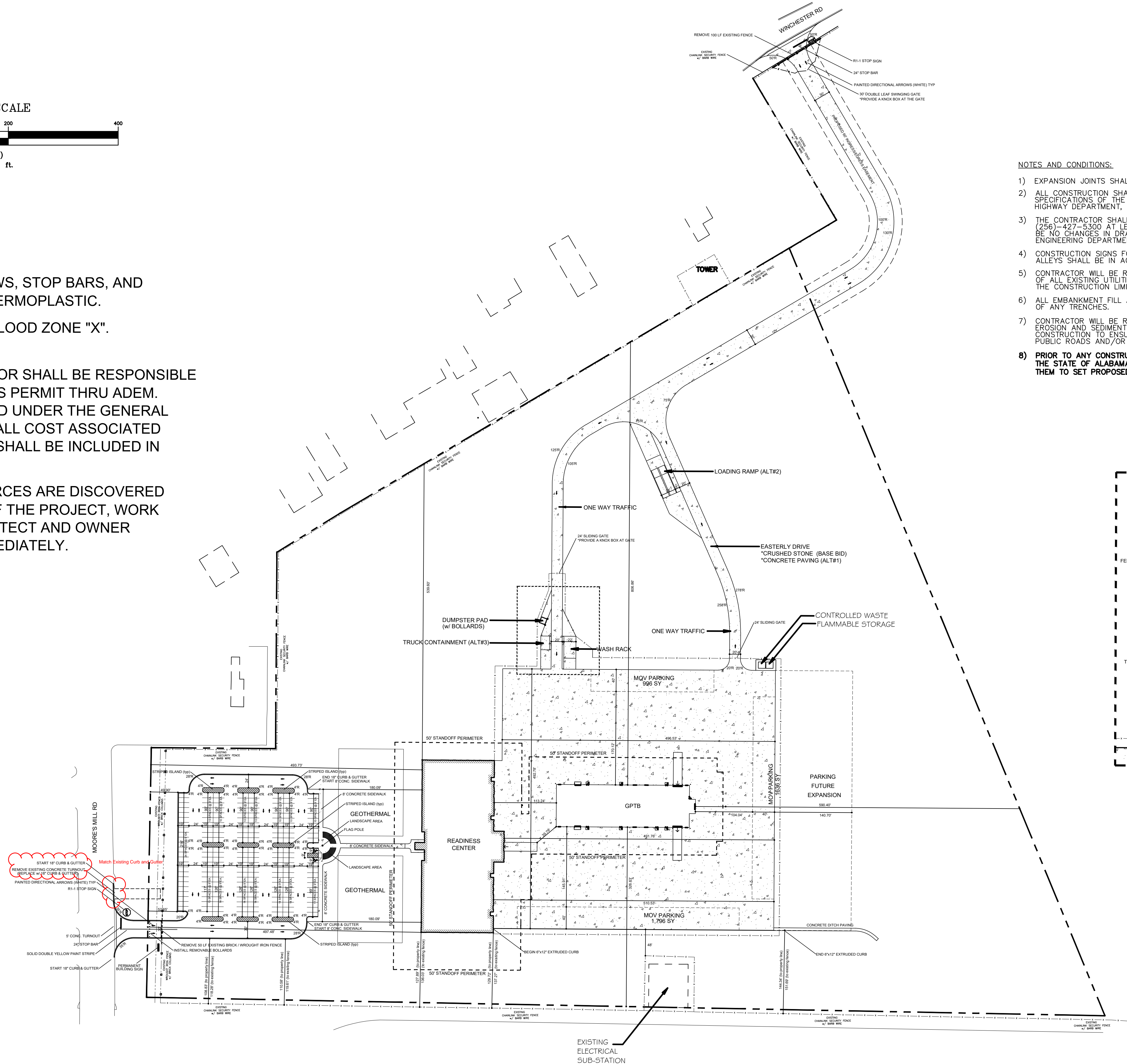






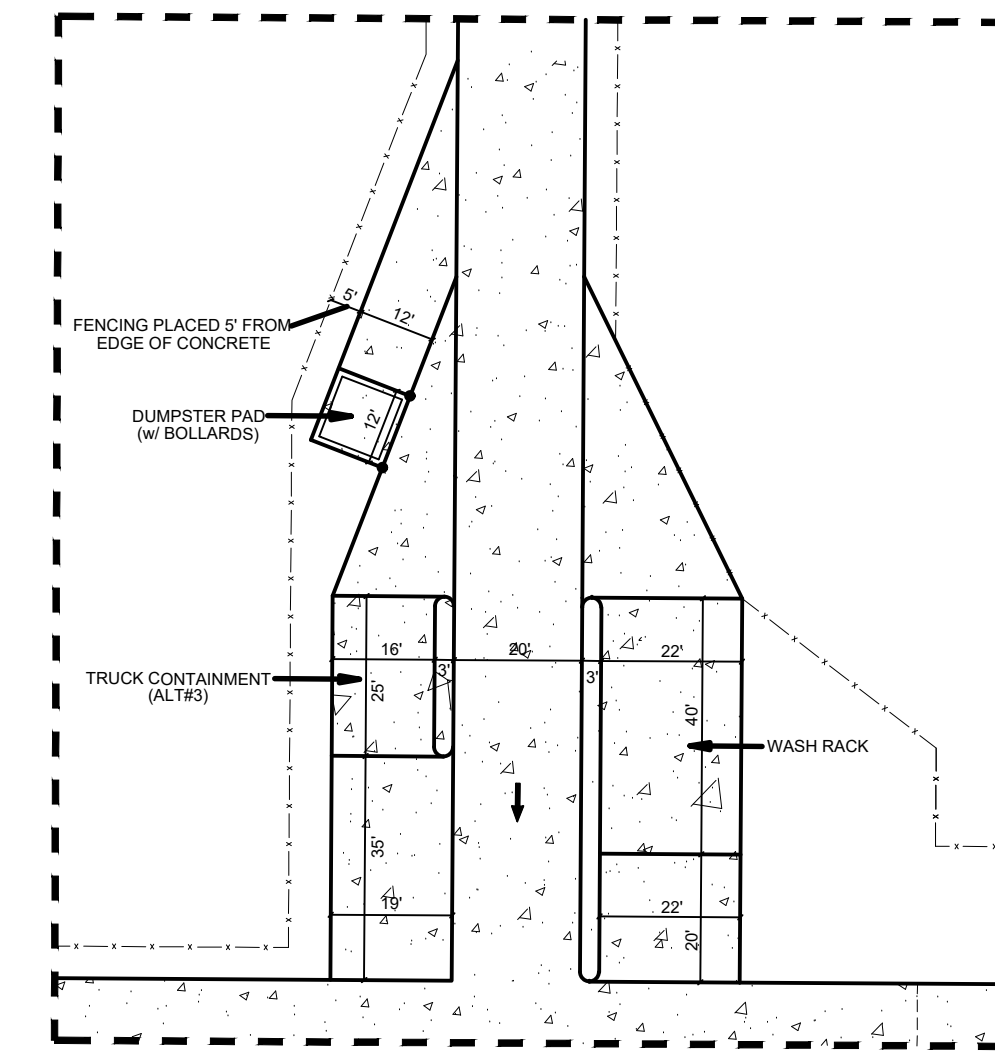
NOTE:

- 1) ALL STRIPING, ARROWS, STOP BARS, AND CENTERLINES TO BE THERMOPLASTIC.
- 2) SITE IS LOCATED IN FLOOD ZONE "X".
- 3) GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING A NPDES PERMIT THRU ADEM. PERMIT SHALL BE ISSUED UNDER THE GENERAL CONTRACTOR'S NAME. ALL COST ASSOCIATED WITH APPLICATION FEE SHALL BE INCLUDED IN CONTRACT BASE BID.
- 4) IF CULTURAL RESOURCES ARE DISCOVERED DURING THE COURSE OF THE PROJECT, WORK SHALL HALT. THE ARCHITECT AND OWNER SHALL BE NOTIFIED IMMEDIATELY.



NOTES AND CONDITIONS:

- 1) EXPANSION JOINTS SHALL BE PLACED IN CURB AT 40 FT O.C. AND AT ALL PC'S, PT'S.
- 2) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND THE SPECIFICATIONS OF THE CITY OF FOLEY, THE LOCAL MUNICIPALITY AND/OR THE STATE HIGHWAY DEPARTMENT, AND APPLICABLE OSHA REGULATIONS, AS APPLICABLE.
- 3) THE CONTRACTOR SHALL NOTIFY THE CITY OF HUNTSVILLE ENGINEERING DEPARTMENT (256)-427-5300 AT LEAST 24 HOURS PRIOR TO BEGINNING CONSTRUCTION. THERE SHALL BE NO CHANGES IN DRAWINGS WITHOUT WRITTEN APPROVAL BY THE CITY OF HUNTSVILLE ENGINEERING DEPARTMENT AND THE CIVIL ENGINEER.
- 4) CONSTRUCTION SIGNS FOR WORK WITHIN AND ADJACENT TO PUBLIC ROADS, HIGHWAYS, AND ALLEYS SHALL BE IN ACCORDANCE WITH ADOT STANDARDS AND THE CURRENT MUTCD MANUAL.
- 5) CONTRACTOR WILL BE RESPONSIBLE FOR THE CONTINUOUS AND PROPER OPERATION OF ALL EXISTING UTILITIES LOCATED ON OR ADJACENT TO THE PROJECT SITE OR WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT.
- 6) ALL EMBANKMENT FILL AREAS SHALL BE FILED AND COMPACTED PRIOR TO EXCAVATION OF ANY TRENCHES.
- 7) CONTRACTOR WILL BE RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS AND FOR ACQUISITION OF ALL PERMITS DURING CONSTRUCTION TO ENSURE THAT DAMAGE DOES NOT OCCUR TO ADJACENT PROPERTIES, PUBLIC ROADS AND/OR DITCHES (CREEKS, STREAMS).
- 8) PRIOR TO ANY CONSTRUCTION, CONTRACTOR SHALL ENGAGE A REGISTERED LAND SURVEYOR IN THE STATE OF ALABAMA TO LOCATE ALL PINS ASSOCIATED WITH SUBJECT PROPERTY AND ENGAGE THEM TO SET PROPOSED BUILDING CORNERS AND ALL PERMANENT DRAINAGE STRUCTURES.



HUNTSVILLE READINESS  
 CENTER  
 5180 MOORE'S MILL ROAD  
 HUNTSVILLE AL, 35811

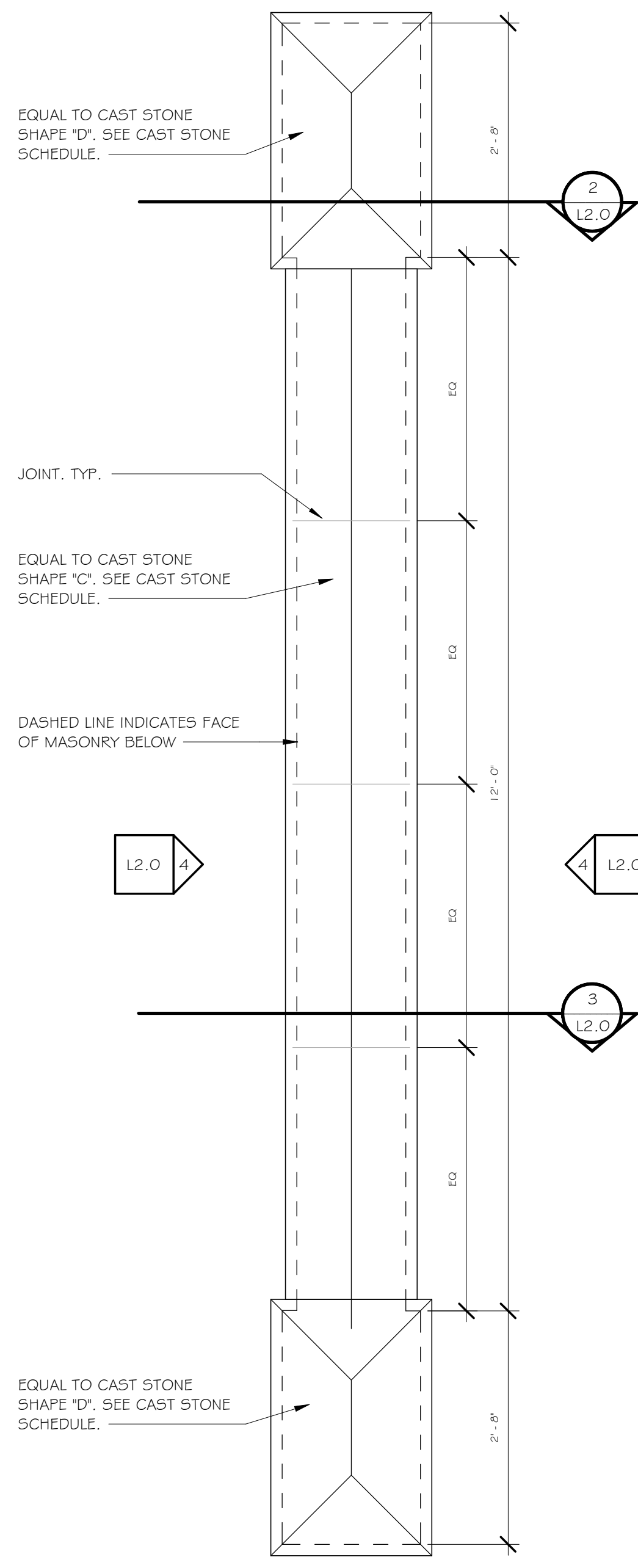
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 SITE PLAN

Sheet Number  
 C2

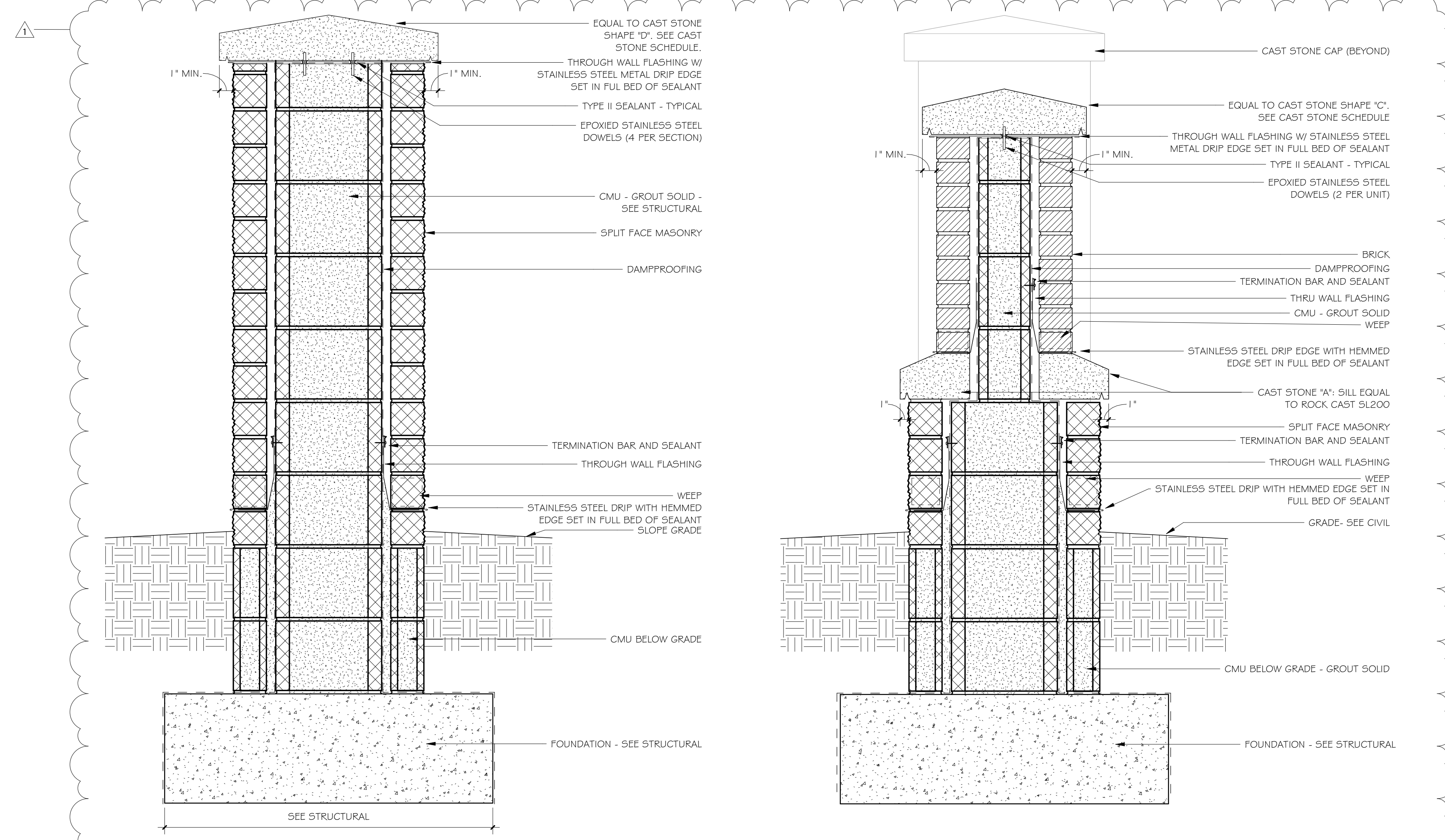




NOTE: SEE AT I.O FOR LOCATION

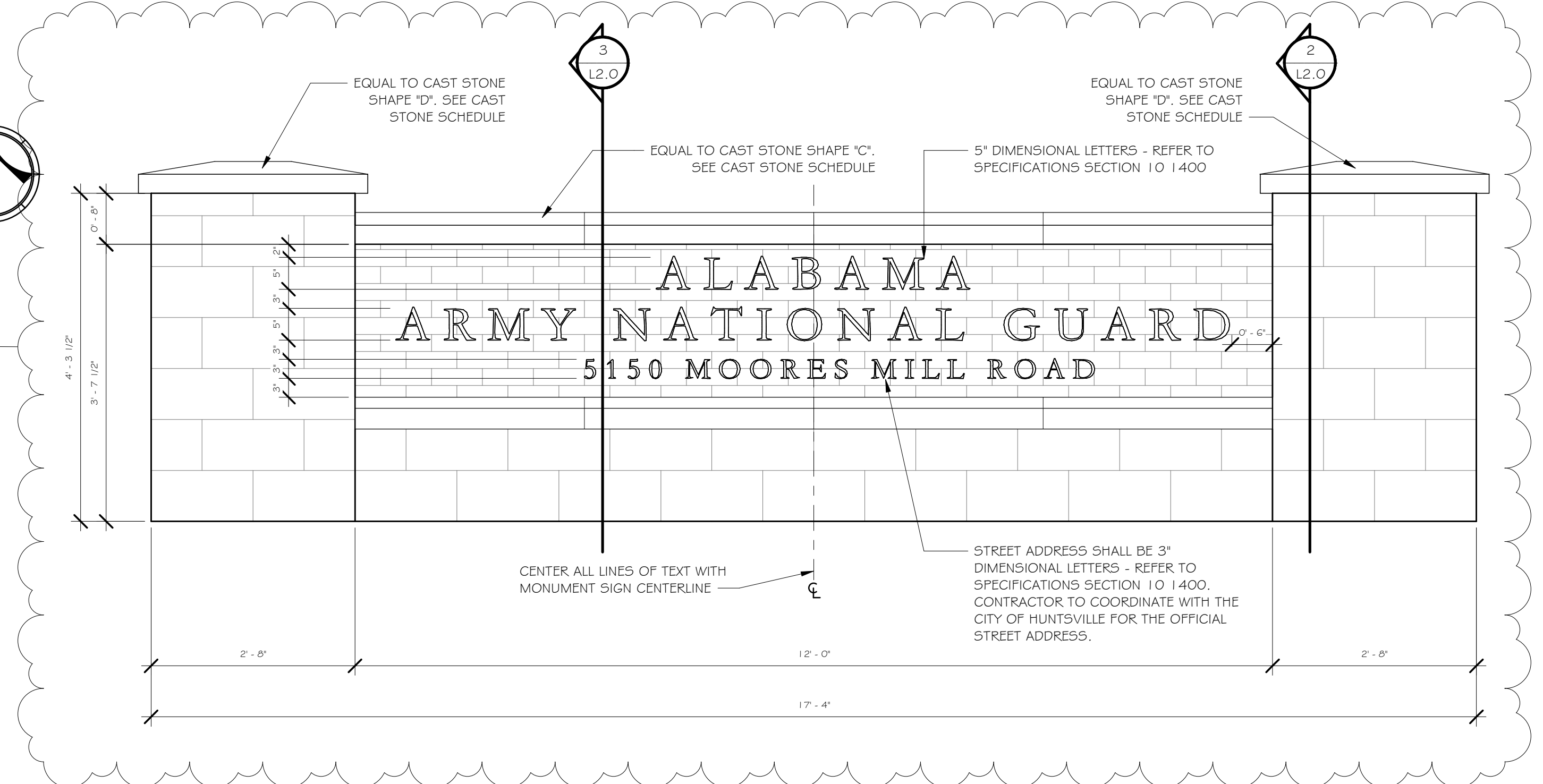


1 MONUMENT SIGN PLAN  
L2.0 3/4" = 1'-0"

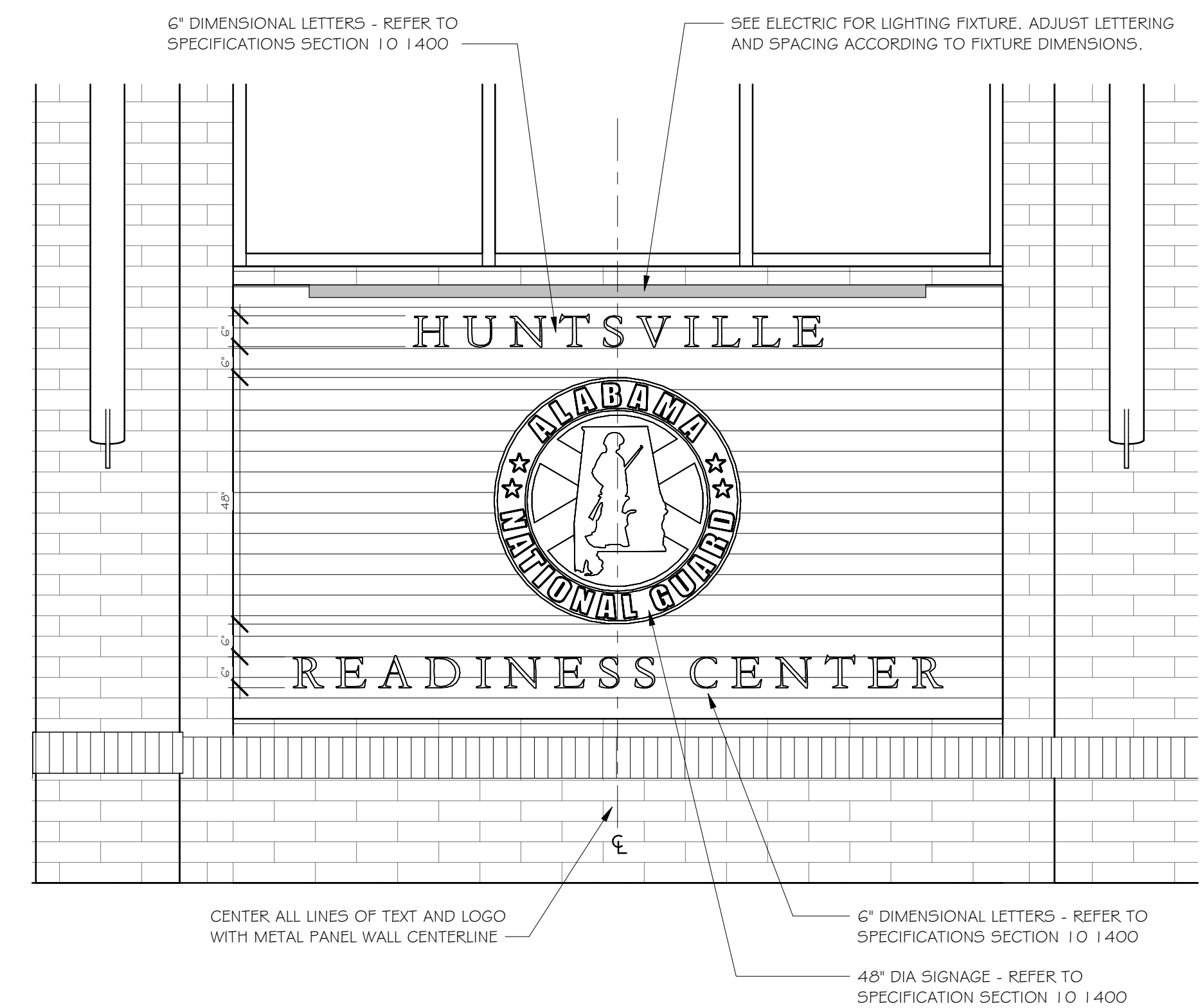


2 MONUMENT SECTION A  
L2.0 1 1/2" = 1'-0"

3 MONUMENT SECTION B  
L2.0 1 1/2" = 1'-0"



4 MONUMENT SIGN EAST/WEST ELEVATION  
L2.0 3/4" = 1'-0"



5 BUILDING ENTRY SIGN ELEVATION  
L2.0 1/2" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

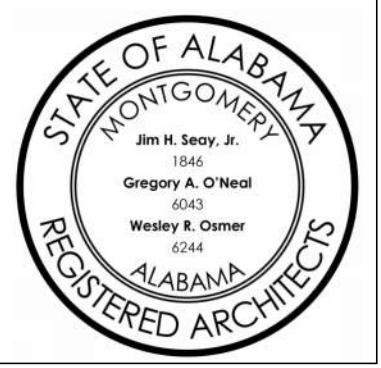
Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
SIGNAGE DETAILS

Sheet Number  
**L2.0**





## GENERAL NOTES

1) CONTRACTOR TO PROVIDE SHOP DRAWINGS TO MATCH EXISTING WROUGHT IRON FENCING AND BRICK PIER DETAILS. GC TO VERIFY CONDITION OF EXISTING BRICK PIERS AND FENCING AND REPAIR BRICK VENEER DAMAGE AND LOOSE FENCING WHERE REQUIRED.

2) EXISTING CONDITION DRAWINGS AND DIMENSIONS PROVIDED FOR CONTEXT ONLY.

3) CONTRACTOR TO PAINT ALL EXISTING AND NEW IRON FENCING- COLOR AS SELECTED BY OWNER AND ARCHITECT.

## SPECIFIC NOTES

1) WROUGHT IRON FENCE TO BE INFILLED BETWEEN POSTS 8 AND 9. MATCH EXISTING ADJACENT FENCING AND BRICK PIER DETAILS. (SEE SHEET L2.1 DETAIL #2)

2) WROUGHT IRON FENCE TO BE DEMOLISHED BETWEEN POSTS 10 AND 12 TO PROVIDE ROOM FOR NEW DRIVEWAY. (SEE SHEET L2.1 DETAIL #1)

3) NEW FENCE BRICK PIERS 15 AND 16 TO BE PROVIDED ON BOTH SIDES OF NEW DRIVEWAY. MATCH EXISTING FENCE AND POST DETAILS. FOUNDATION OF NEW POSTS SHALL BE LOCATED 24 INCHES AWAY FROM NEW STREET CURB. (SEE SHEET L2.1 DETAIL #2)

## PHOTOS



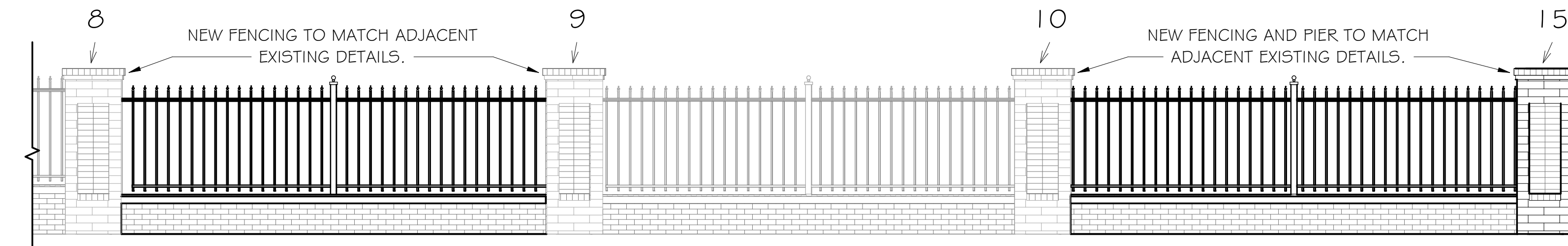
EXISTING FINIALS AND POST CAP AT IRON FENCE



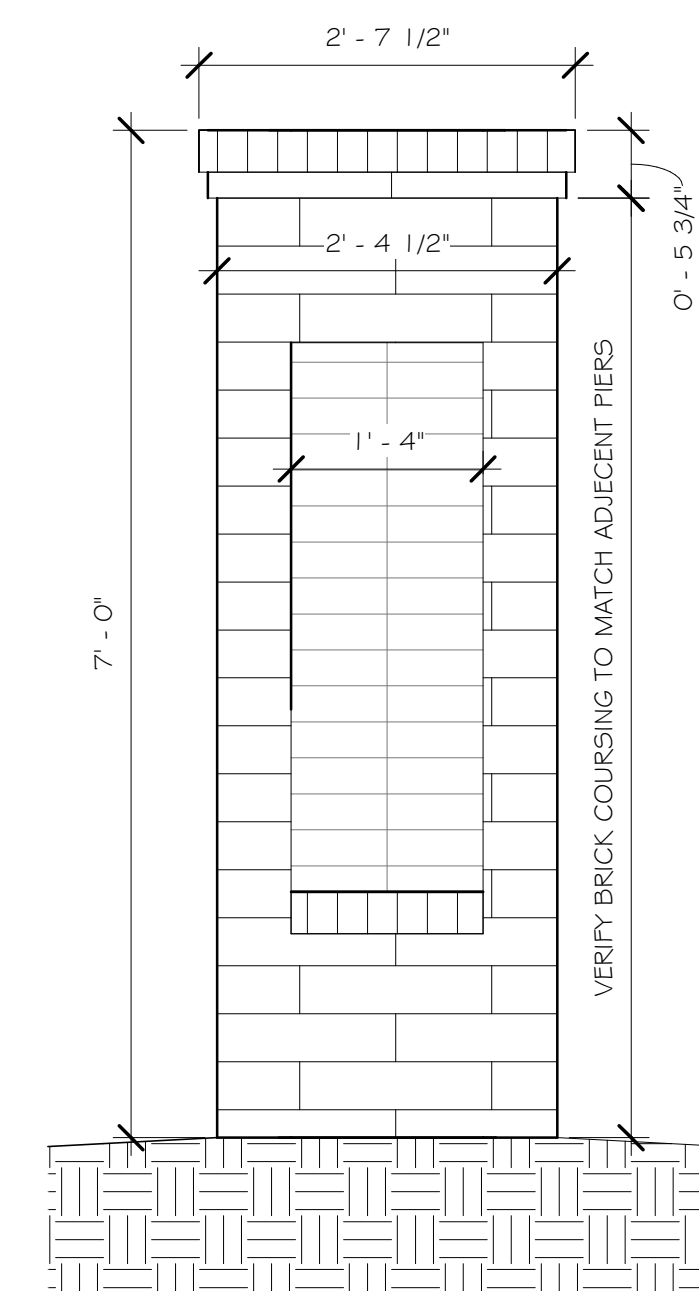
TYPICAL BRICK PIER - GC TO MATCH FOR NEW



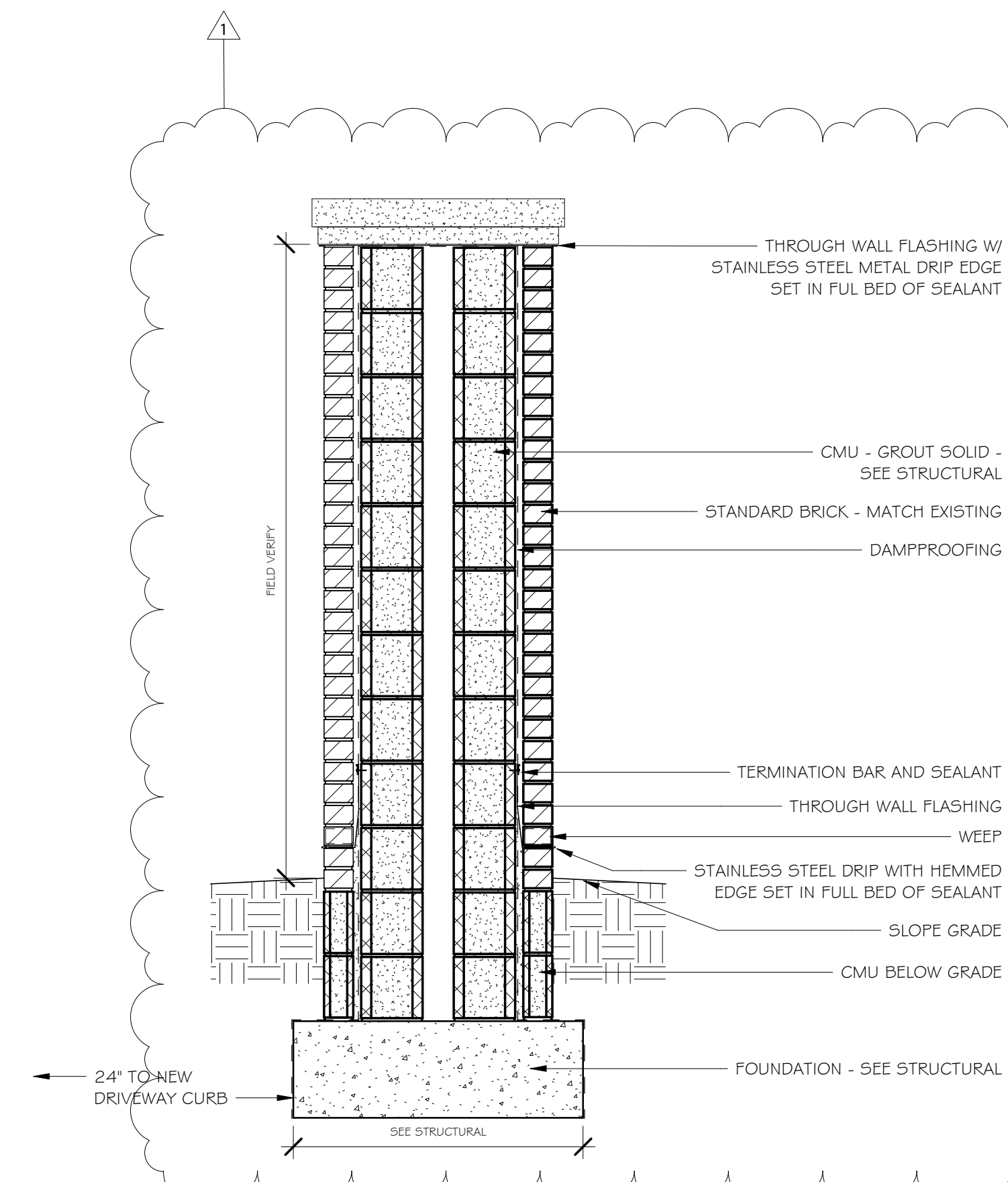
TYPICAL IRON POST CONNECTION AT FENCE



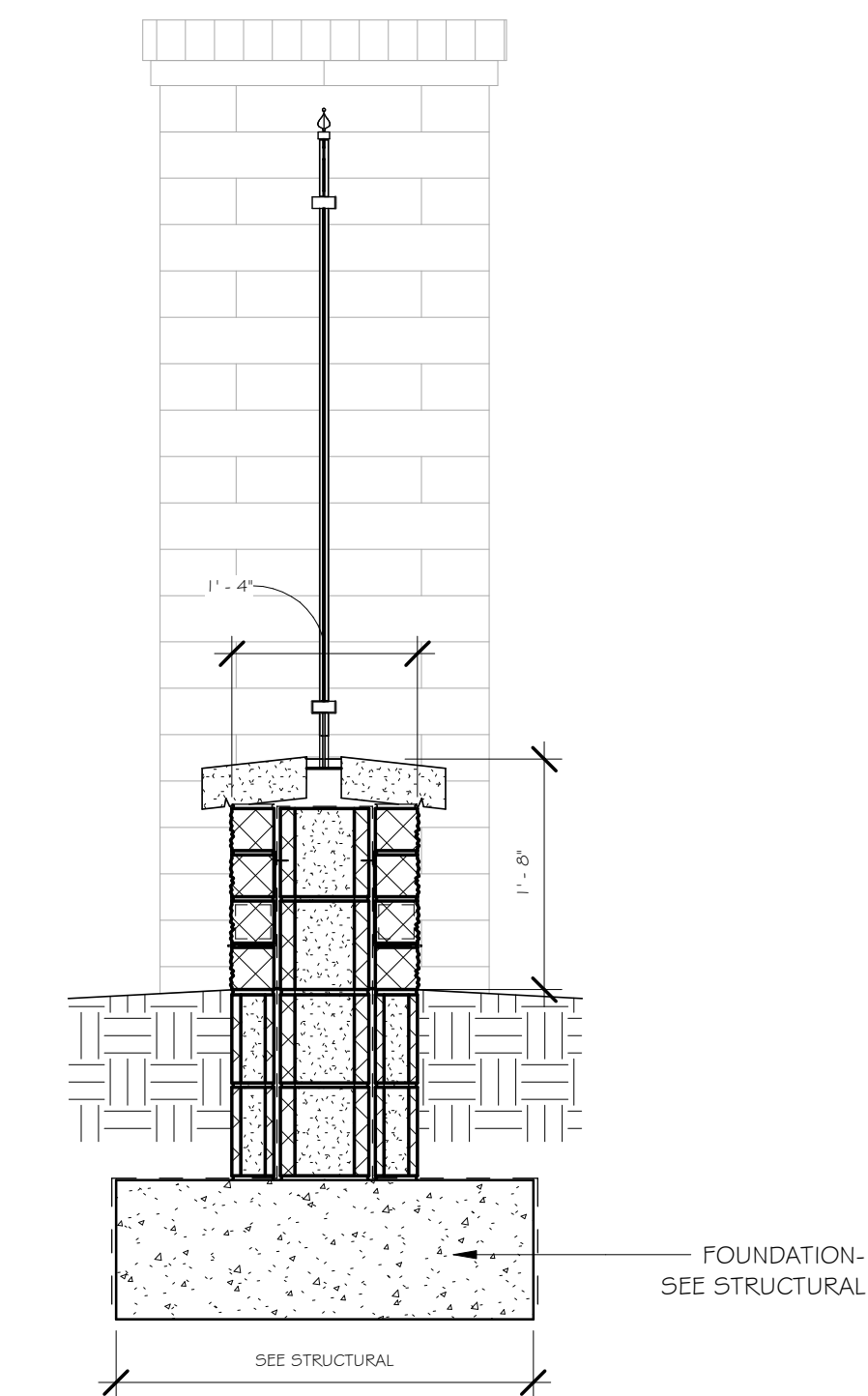
6 TYPICAL ELEVATION  
L2.1 1/4" = 1'-0"



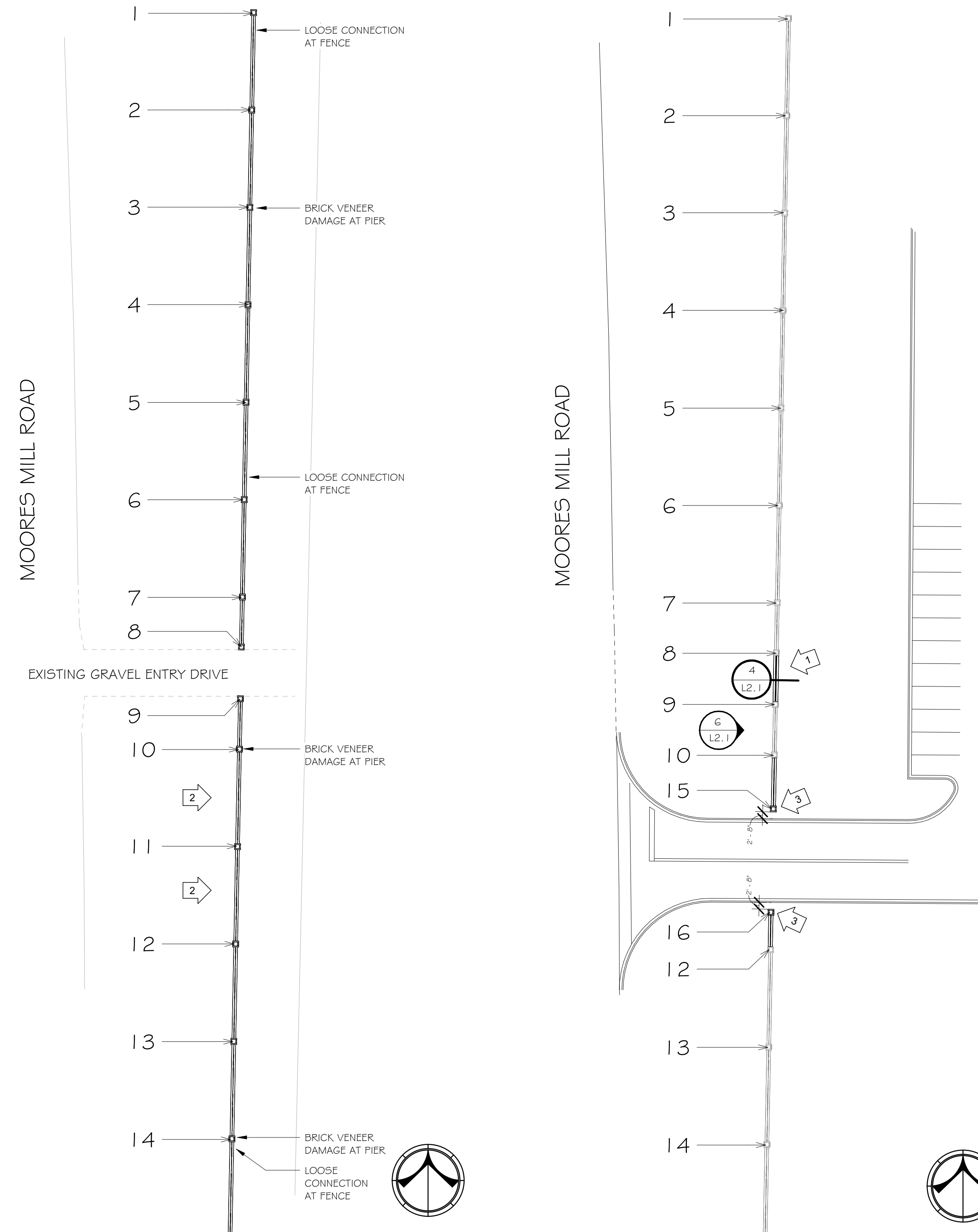
3 FENCE BRICK PIER FRONT ELEVATION  
L2.1 3/4" = 1'-0"



5 FENCE BRICK PIER SECTION  
L2.1 3/4" = 1'-0"



4 FENCE SECTION  
L2.1 3/4" = 1'-0"



1 EXISTING WROUGHT IRON FENCE REFERENCE PLAN  
L2.1 1" = 30'-0"

2 NEW WROUGHT IRON FENCE REFERENCE PLAN  
L2.1 1" = 30'-0"

ALL DIMENSIONS SHOWN ARE PROVIDED FOR DESIGN INTENT AND CONTEXT ONLY. GC TO VERIFY EXISTING CONDITIONS AND MATCH EXISTING BRICK AND WROUGHT IRON PERIMETER FENCE DETAILS.

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

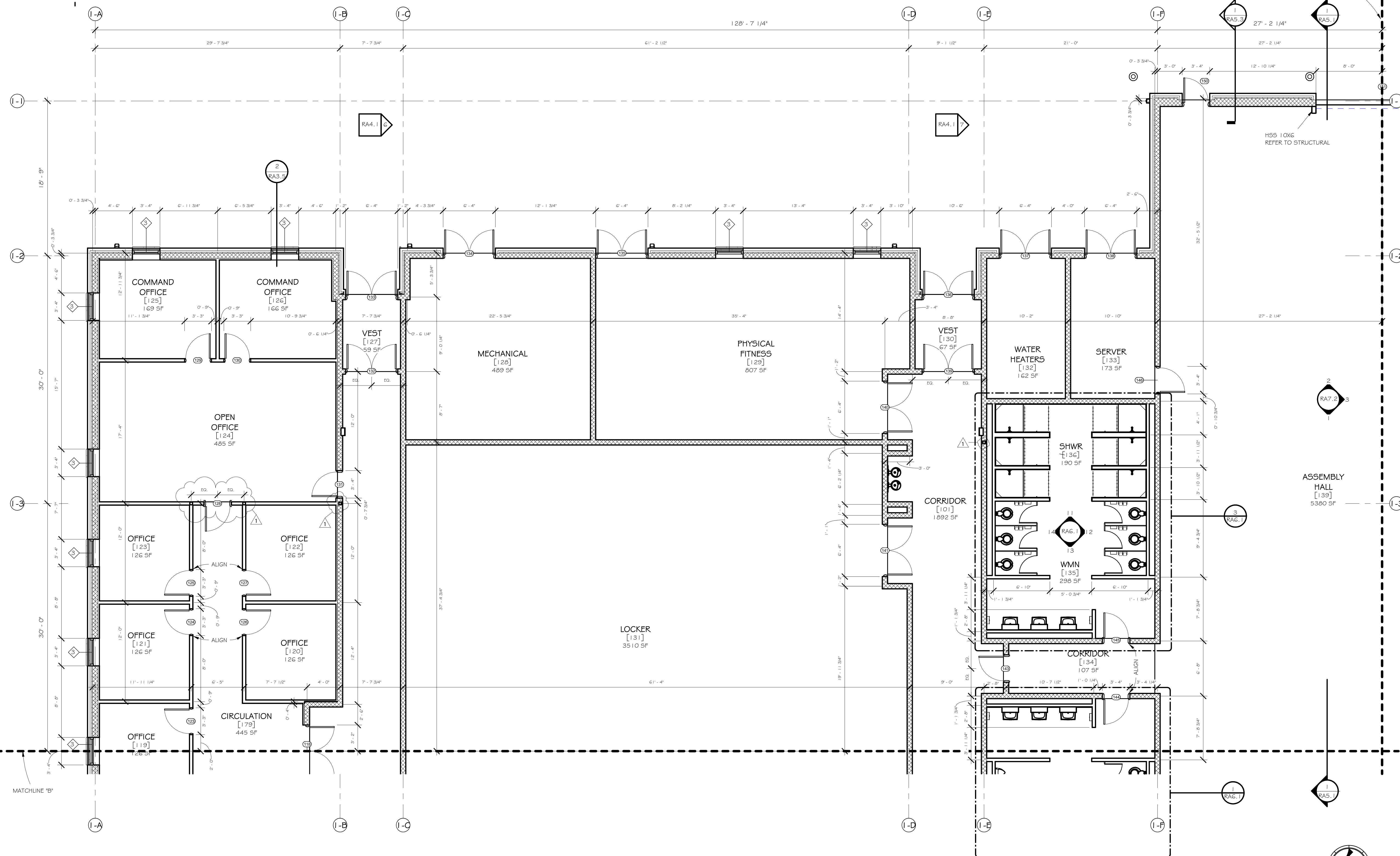
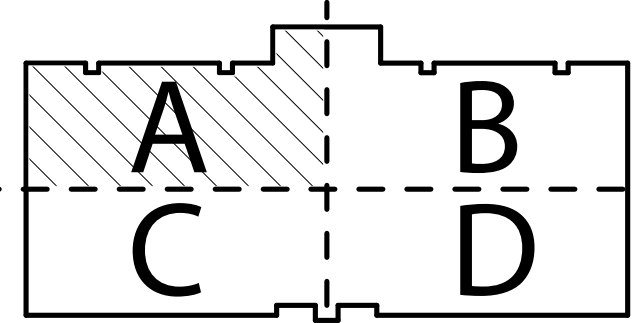
Sheet Title  
WROUGHT IRON  
FENCE DETAILS

Sheet Number

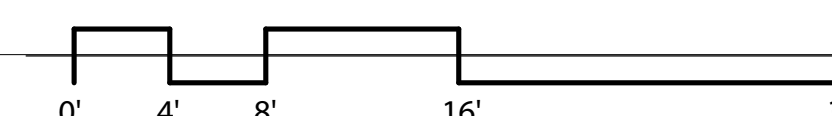
L2.1







1 READINESS CENTER ENLARGED FLOOR PLAN "ZONE A"  
RA2.1 3/16" = 1'-0"



Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

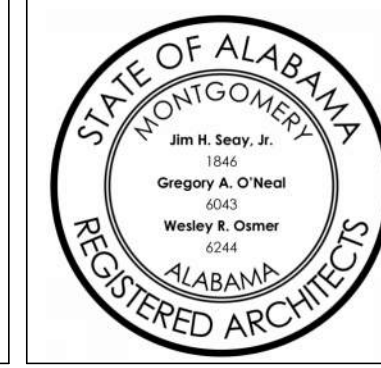
Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
ENLARGED FLOOR  
PLAN "ZONE A" -  
READINESS  
CENTER

Sheet Number

RA2.1





Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number: 21112

AL ARNG IFB #: AC-25-B-0006-S

Date: NOVEMBER 1, 2024

Drawn By: TS, CK, DW, WR

Checked By: CI

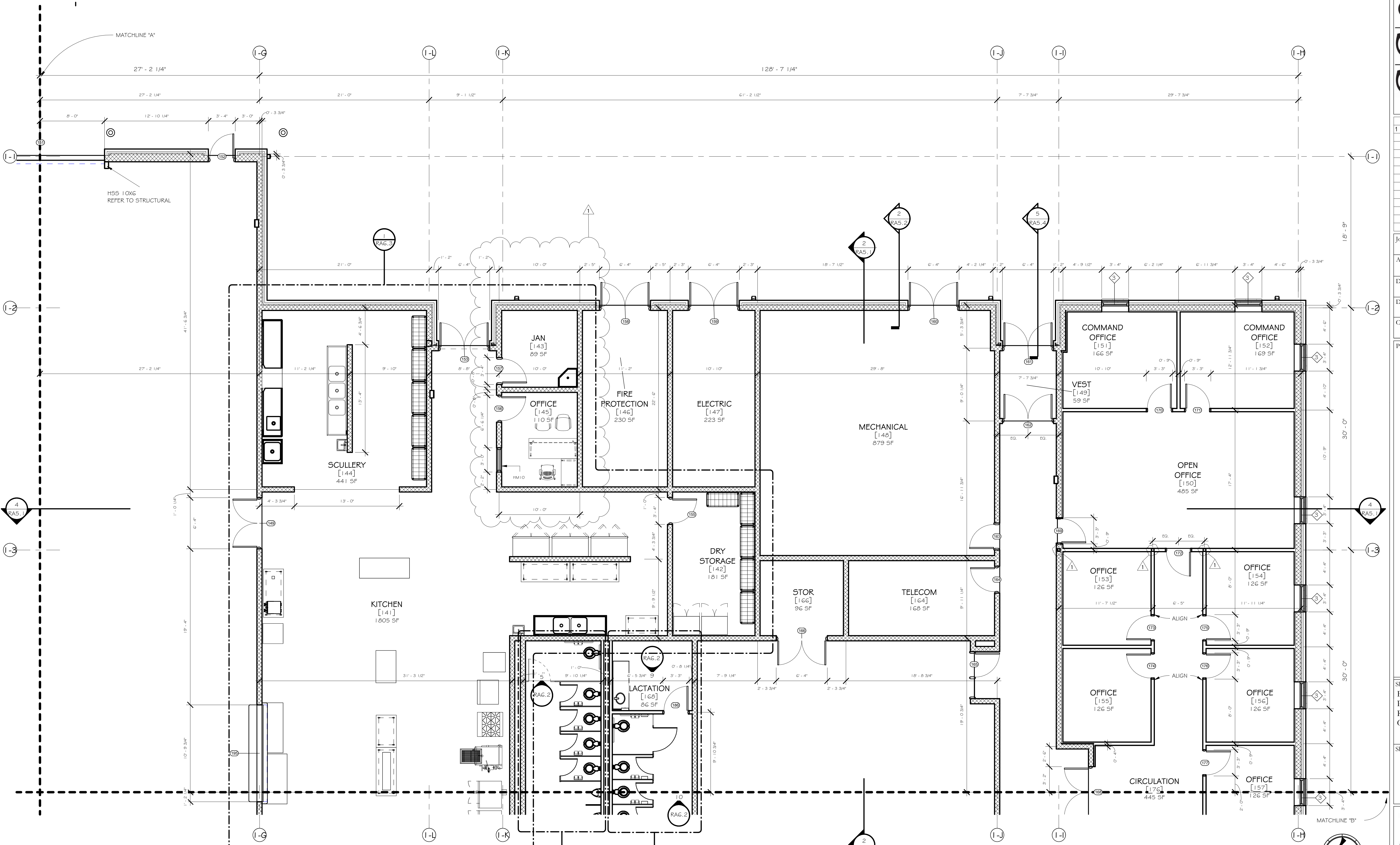
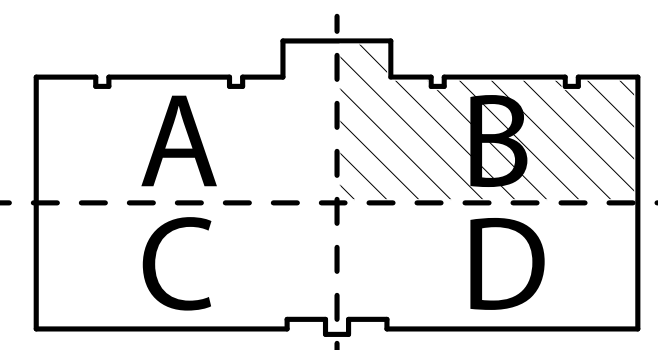
Project Title

**HUNTSVILLE READINESS CENTER**  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

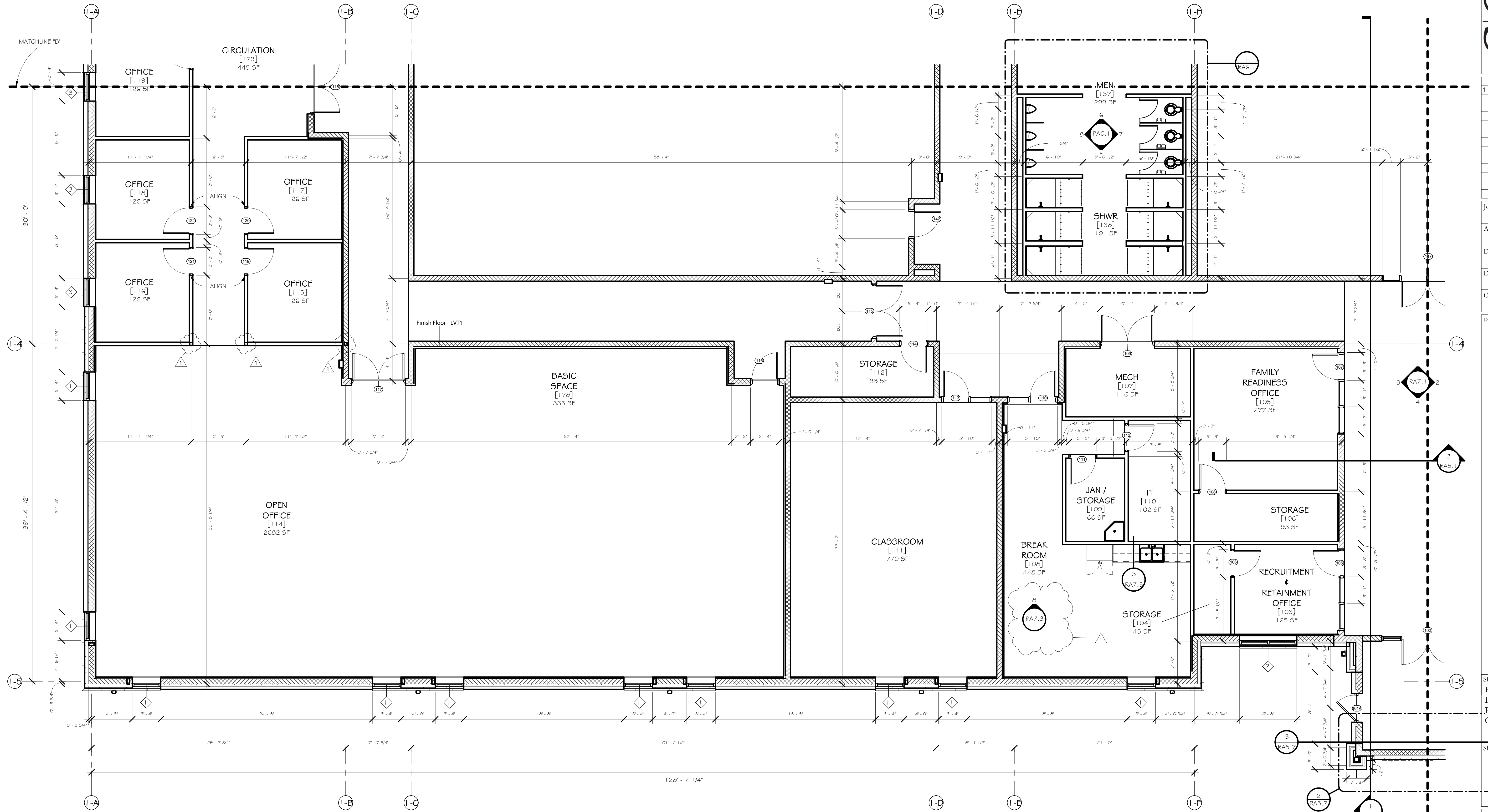
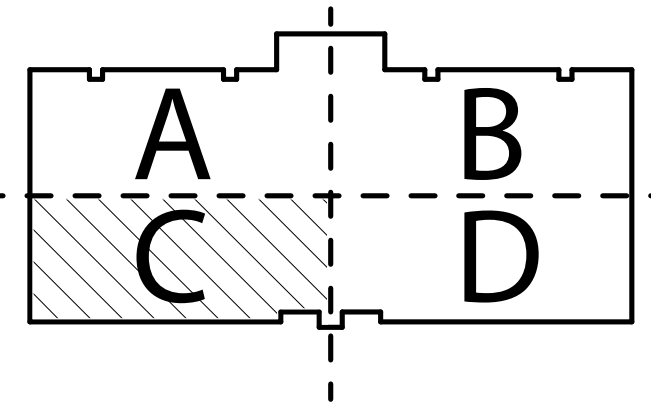
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ENLARGED FLOOR PLAN "ZONE B" - READINESS CENTER

Sheet Number

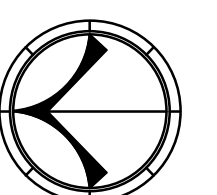
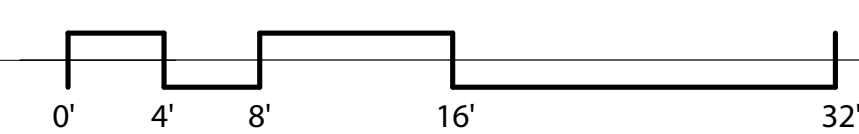
**RA2.2**







1 READINESS CENTER ENLARGED FLOOR PLAN "ZONE C"  
3/16" = 1'-0"



Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

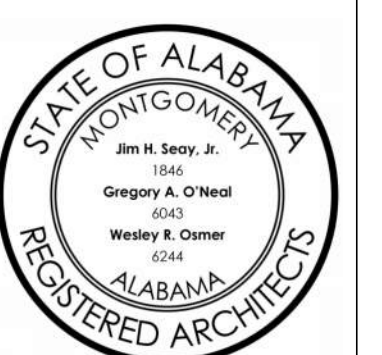
Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
ENLARGED FLOOR  
PLAN "ZONE C" -  
READINESS  
CENTER

Sheet Number

**RA2.3**



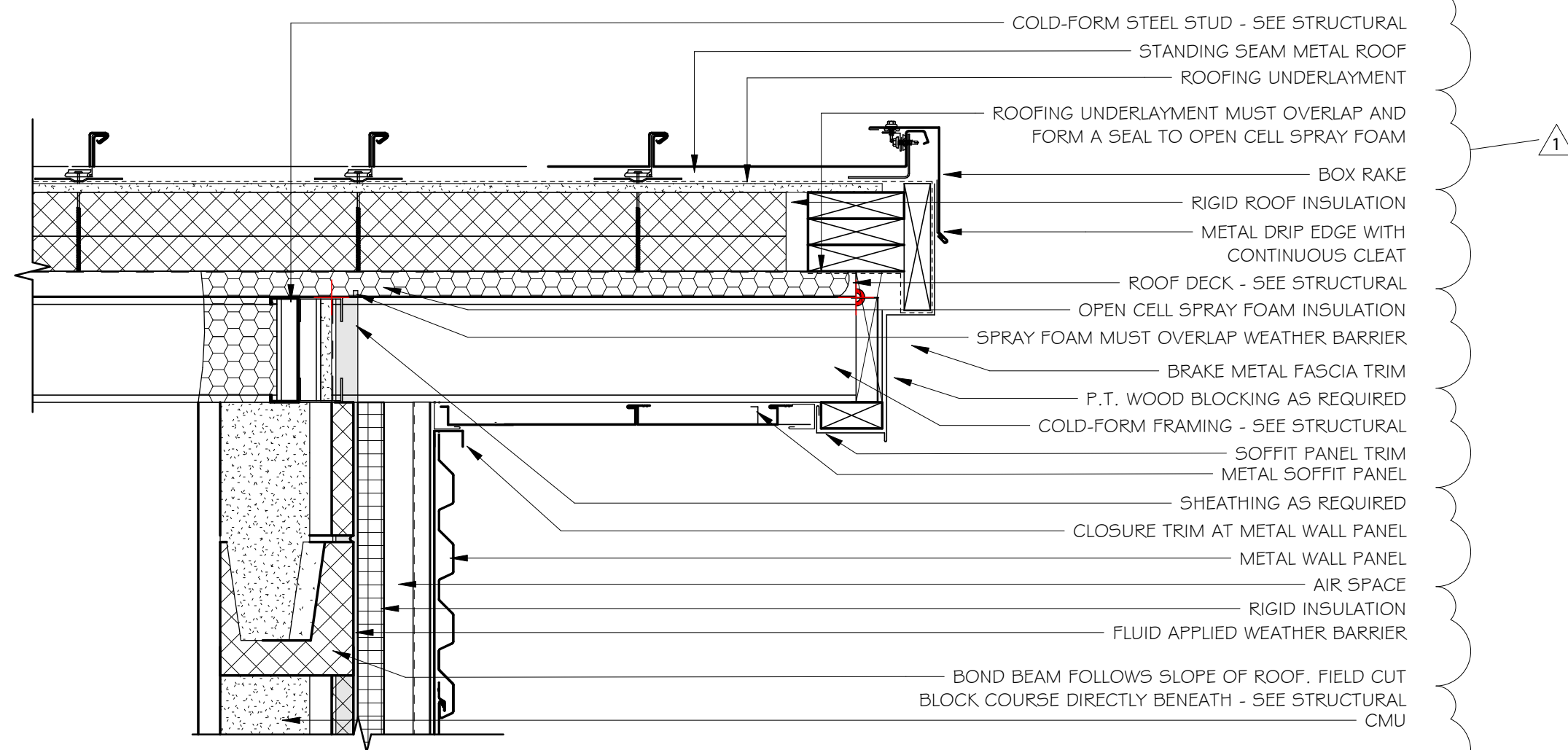




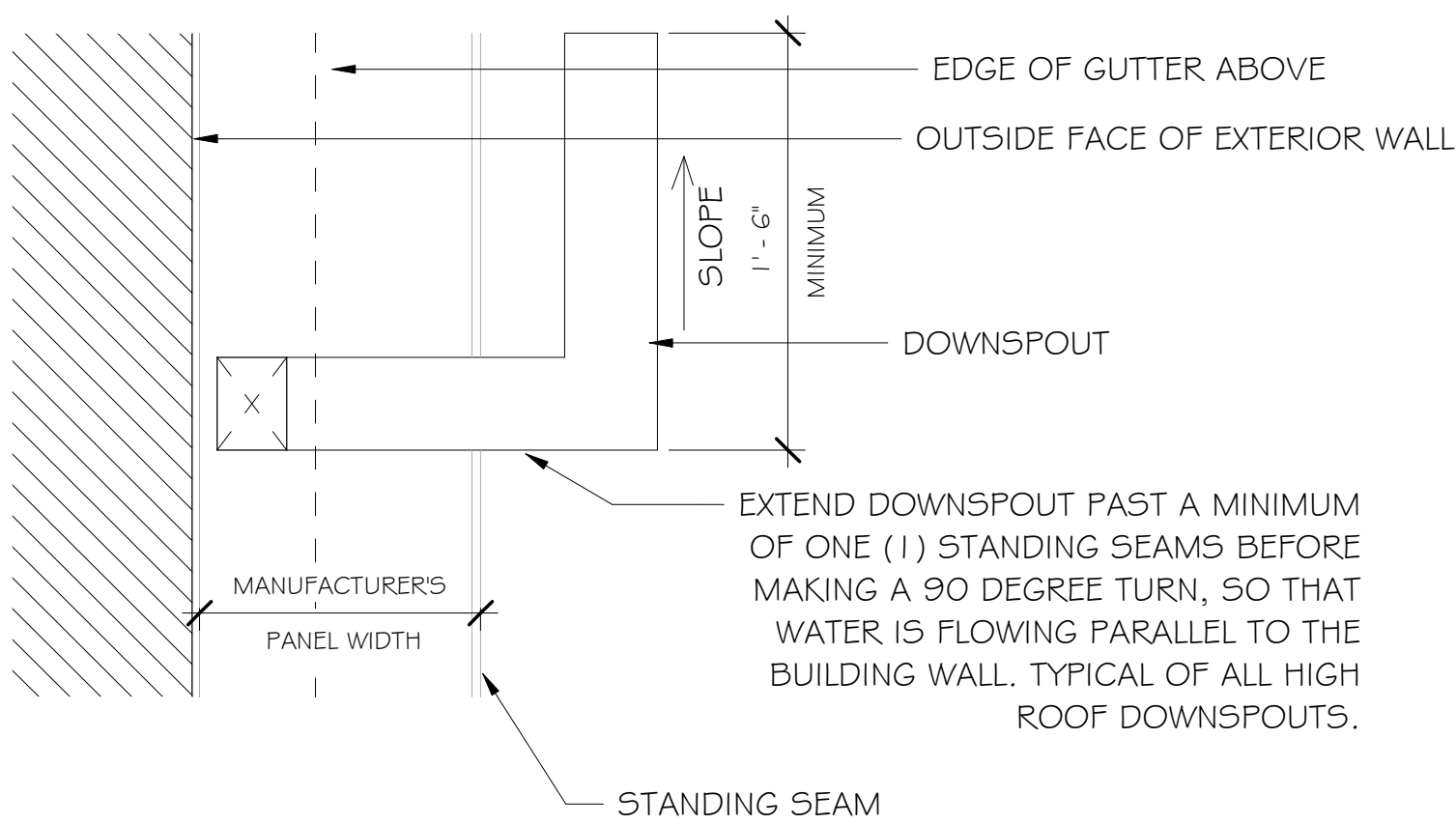


# GENERAL NOTES:

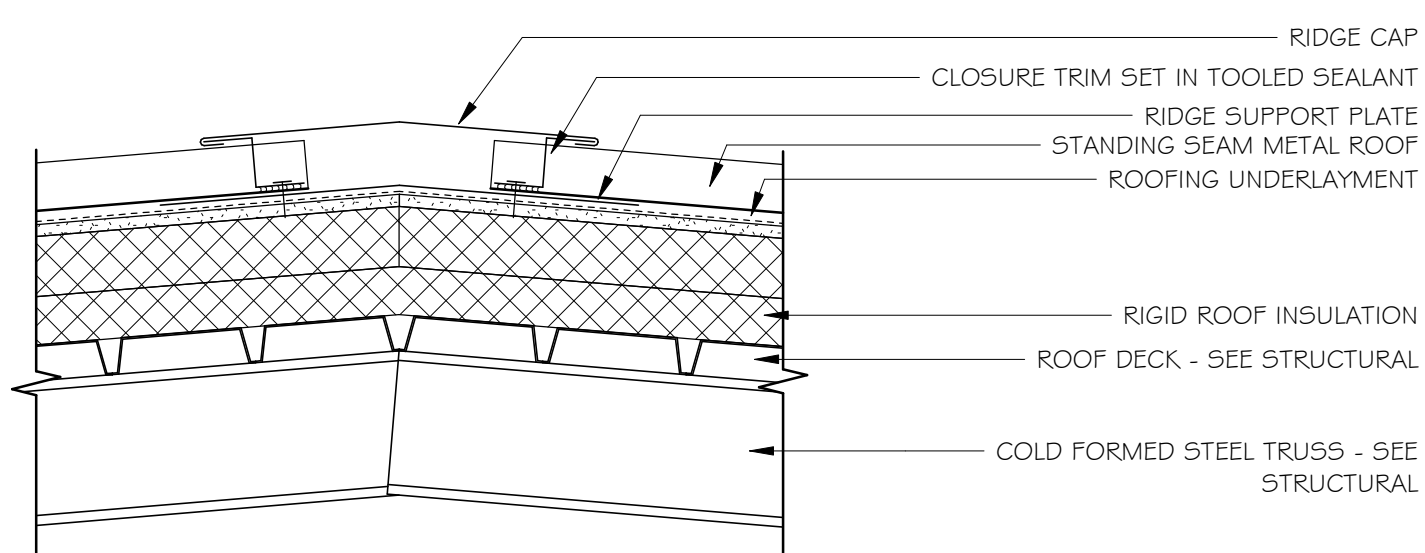
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND PROVIDING GUTTER AND DOWNSPOUT CALCULATIONS WITH SHOP DRAWINGS. SUBMIT TO ARCHITECT FOR APPROVAL. GUTTER AND DOWNSPOUT LOCATIONS SHOWN IN THE ROOF PLAN WERE DETERMINED FROM PRELIMINARY ANALYSIS AND CALCULATIONS DERIVED USING THE 7TH EDITION OF SMACNA'S ARCHITECTURAL SHEET METAL MANUAL.
- PRELIMINARY ASSESSMENT OF GUTTER AND DOWNSPOUT CALCULATIONS CONDUCTED BY THE ARCHITECT SUGGEST A MINIMUM 6"x6" GUTTER CROSS SECTION AND A MINIMUM 3.75"x4.75" DOWNSPOUT CROSS SECTION BASED ON THE NUMBER OF DOWNSPOUTS INDICATED ON THE ROOF PLAN. CONTRACTOR SHALL VERIFY CALCULATIONS PER THE ABOVE REQUIREMENTS.
- REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL FOR ADDITIONAL INFORMATION RELATED TO ROOF PENETRATIONS.
- SEE DETAIL 6/RA5.5 FOR TYPICAL DOWNSPOUT BOOT DETAILS.



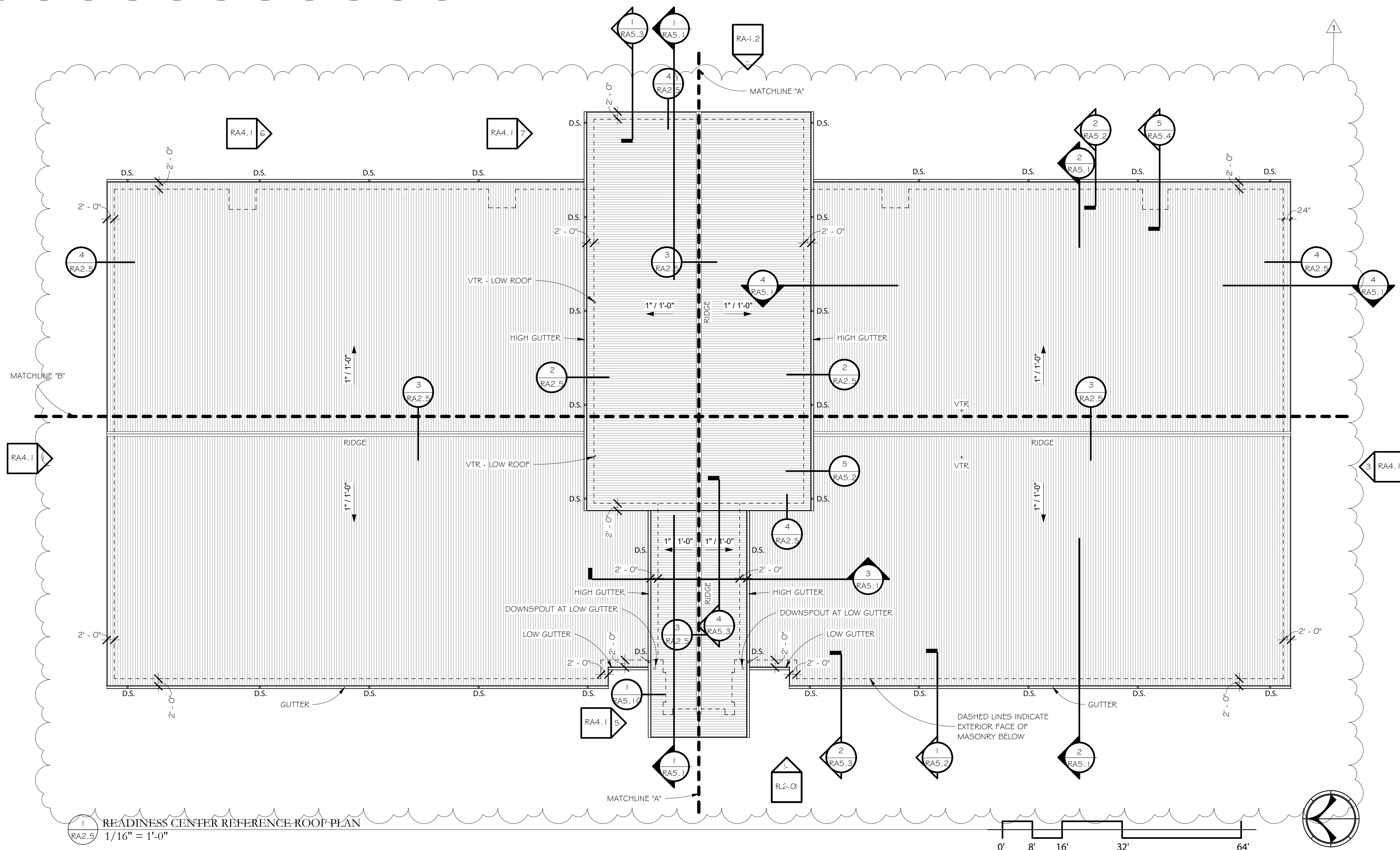
4 EAVE AT STANDING SEAM ROOF  
RA2.5 1 1/2" = 1'-0"



2 DOWNSPOUT AT ROOF TRANSITION  
RA2.5 1 1/2" = 1'-0"



3 STANDING SEAM ROOF RIDGE DETAIL  
RA2.5 1 1/2" = 1'-0"



1 READINESS CENTER REFERENCE ROOF PLAN  
RA2.5 1/16" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
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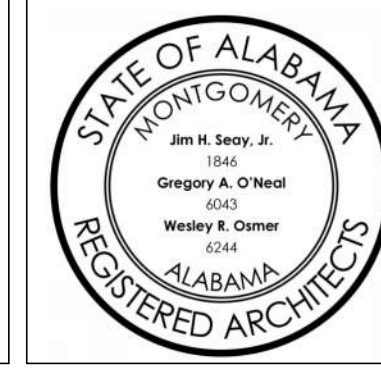
Project Title

HUNTSVILLE READINESS CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
ROOF PLAN - READINESS CENTER

Sheet Number

RA2.5













**DOOR, OPENING & FRAME SCHEDULE (READINESS CENTER)**

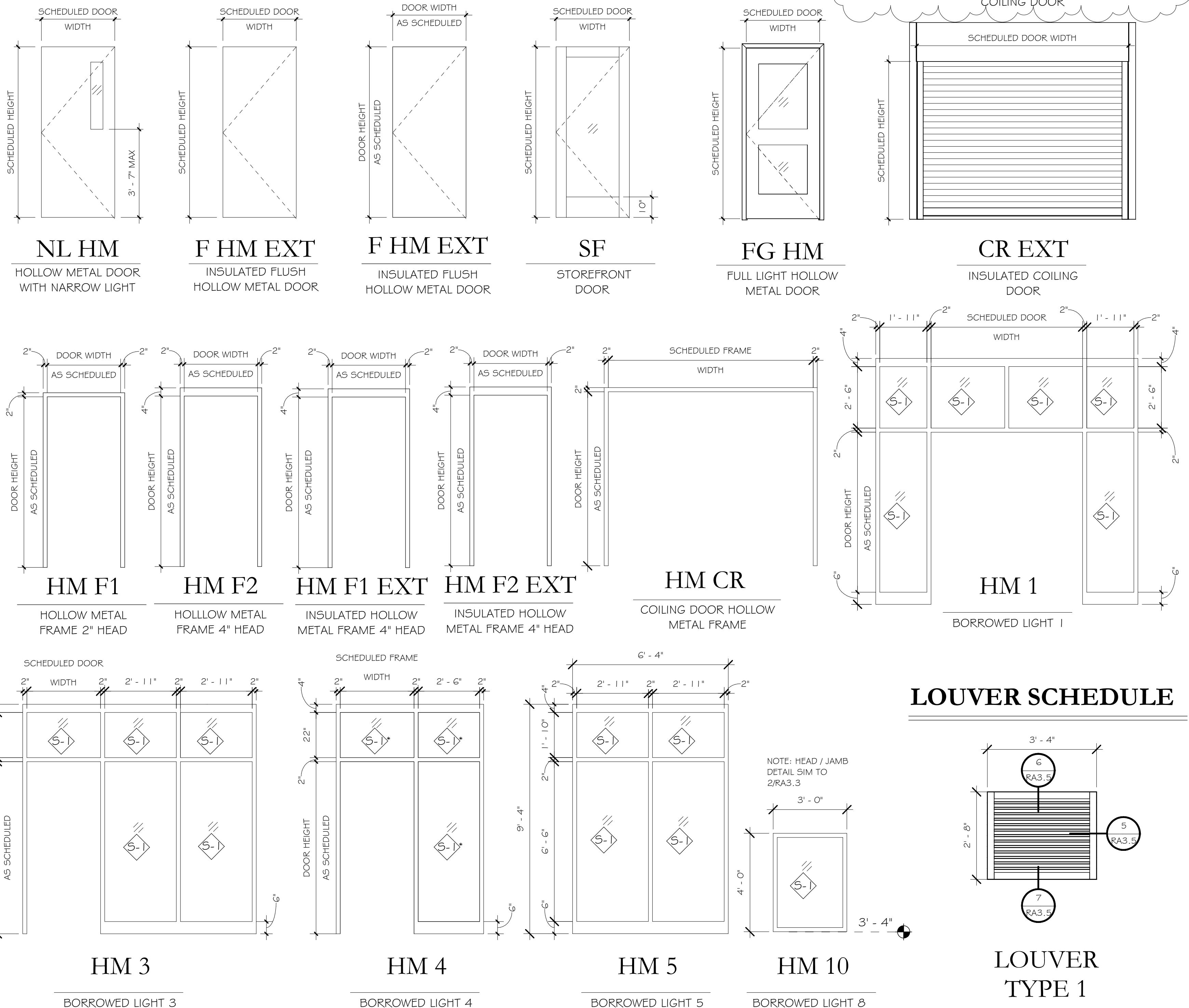
DOOR #	DOOR					ELEVATION TYPE	FRAME TYPE	DETAILS			NOTES
	TOTAL WIDTH	HEIGHT	THICKNESS	LEAVES	HEAD DETAIL			JAMB DETAIL	SILL DETAIL		
101A	3'-0"	7'-0"	0'-1 3/4"	1	NL 2 HM	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3	REFER TO SPEC SECTION 08 3402. UL752- LEVEL 5 RESISTANT DOOR.	
101B	3'-0"	7'-0"	0'-1 3/4"	1	NL 2 HM	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3	REFER TO SPEC SECTION 08 3402. UL752- LEVEL 5 RESISTANT DOOR.	
102	6'-0"	6'-11"	0'-1 3/4"	2	CW 1 I	CW 1 I	6/RA3.3	6/RA3.3			
103	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 3	2/RA3.3	2/RA3.3			
104	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 3	2/RA3.3	2/RA3.3			
105	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 3	2/RA3.3	2/RA3.3			
106	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F1	5/RA3.3	5/RA3.3			
107	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 3	2/RA3.3	2/RA3.3			
108	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F1	5/RA3.3	5/RA3.3			
109	6'-0"	7'-0"	0'-1 3/4"	2	F HM	HM F2	2/RA3.3	2/RA3.3			
110	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 4	2/RA3.3	2/RA3.3			
111	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F1	5/RA3.3	5/RA3.3			
112	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F1	5/RA3.3	5/RA3.3			
113	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 4	2/RA3.3	2/RA3.3			
114	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
115	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F2	2/RA3.3	2/RA3.3			
116	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F2	1/RA3.3	1/RA3.3			
117	6'-0"	7'-0"	0'-1 3/4"	2	NL HM	HM F2	1/RA3.3	1/RA3.3			
118	6'-0"	7'-0"	0'-1 3/4"	2	NL HM	HM F2	1/RA3.3	1/RA3.3			
119	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
120	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
121	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
122	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
123	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
124	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
125	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
126	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
127	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
128	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
129	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
130	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
131	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F2	1/RA3.3	1/RA3.3			
132	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F2	2/RA3.3	2/RA3.3			
133	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
134	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
135	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
136	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
137	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
138	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
139	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F2	2/RA3.3	2/RA3.3			
140	6'-0"	7'-0"	0'-1 3/4"	2	NL HM	HM F2	2/RA3.3	2/RA3.3			
141	6'-0"	7'-0"	0'-1 3/4"	2	F HM	HM F2	2/RA3.3	2/RA3.3			
142	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
143	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F2	2/RA3.3	2/RA3.3		1 HOUR RATING	
144	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
145	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
146	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3		1 HOUR RATING	
147	6'-0"	7'-0"	0'-1 3/4"	2	SF 13	SF 13				1 HOUR RATING	
148	6'-0"	7'-0"	0'-1 3/4"	2	F HM	HM F2	2/RA3.3	2/RA3.3			
149	6'-0"	7'-0"	0'-1 3/4"	2	NL HM	HM F2	2/RA3.3	2/RA3.3			
150	3'-0"	7'-0"	0'-1 3/4"	1	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
151	16'-0"	16'-0"	0'-0 1/4"	0	CR EXT	HM CR	1/RA3.5	1/RA3.5	9/RA3.5		
152	3'-0"	7'-0"	0'-1 3/4"	1	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
153	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
155	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
156	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F1	2/RA3.3	2/RA3.3			
157	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
158	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
159	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
160	6'-0"	7'-0"	0'-1 3/4"	2	F HM EXT	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
161	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F1 EXT	9/RA3.3	10/RA3.3	8/RA3.3		
162	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F2	2/RA3.3	2/RA3.3			
163	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
164	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
165	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F2	2/RA3.3	2/RA3.3			
166	6'-0"	7'-0"	0'-1 3/4"	2	F HM	HM F2	2/RA3.3	2/RA3.3			
167	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 4	2/RA3.3	2/RA3.3			
168	6'-0"	7'-0"	0'-1 3/4"	2	NL HM	HM F2	2/RA3.3	2/RA3.3			
169	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F2	1/RA3.3	1/RA3.3			
170	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
171	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
172	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
173	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
174	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
175	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
176	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
177	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
178	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			

**DOOR, OPENING & FRAME SCHEDULE (READINESS CENTER)**

DOOR #	DOOR					ELEVATION TYPE	FRAME TYPE	DETAILS			NOTES
	TOTAL WIDTH	HEIGHT	THICKNESS	LEAVES	HEAD DETAIL			JAMB DETAIL	SILL DETAIL		
179	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
180	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
181	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F1	5/RA3.3	5/RA3.3			
182	6'-0"	7'-0"	0'-1 3/4"	2	NL HM	HM F2	1/RA3.3	1/RA3.3			
183	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM F2	1/RA3.3	1/RA3.3			
184	6'-0"	7'-0"	0'-1 3/4"	2	FG HM	HM F2	2/RA3.3	2/RA3.3			
185	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
186	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F1	5/RA3.3	5/RA3.3			
187	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
188	6'-0"	7'-0"	0'-1 3/4"	2	F HM	HM F2	2/RA3.3	2/RA3.3			
189	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
190	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 4	2/RA3.3	2/RA3.3			
193	3'-0"	7'-0"	0'-1 3/4"	1	NL HM	HM 4	2/RA3.3	2/RA3.3			
194	3'-0"	7'-0"	0'-1 3/4"	1	F HM	HM F2	2/RA3.3	2/RA3.3			
195	12'-0"	3'-8"		0	CCR	-	2/RA6.3	3/RA6.3			

NOTE: DOORS 191 AND 192 OMITTED.

**DOOR/FRAME SCHEDULE**



**GENERAL NOTES:**

- 1.) ALL WALL PAINT TO EXTEND TO DECK WHEN CEILING IS EXPOSED. PAINT EVERYTHING EXPOSED TO VIEW INCLUDING BUT NOT LIMITED TO FIRE PROTECTION, STRUCTURAL, MECHANICAL, ELECTRICAL.
- 2.) AT ALL ROOMS TO RECEIVE ACCENT WALLS, G.C. TO COORDINATE EXACT LOCATION WITH OWNER AND ARCHITECT.
- 3.) PAINT TEST AREA OF ALL PAINT COLORS FOR ARCHITECTS APPROVAL BEFORE PROCEEDING.
- 4.) RUBBER BASE @ CASEWORK TO MATCH RUBBER BASE IN ROOM, UNLESS NOTED OTHERWISE.
- 5.) PROVIDE WINDOW SILL AT ALL WINDOW SILLS 7'-0" AFF OR BELOW.
- 6.) GC TO PROVIDE A CONTINUOUS LINE OF CAULK AT THE BASE OF ALL DOOR FRAMES- COLOR TO BE SELECTED BY OWNER.
- 7.) WHERE SLAB EXPANSION JOINTS ARE VISIBLE AT THE BASE OF WALLS, THEY ARE TO BE FILLED WITH BACKER ROD AND CONTINUOUS CAULK FOR A SMOOTH AND CLEAN FINISH.

**SS&L ARCHITECTS**  
 Montgomery | Dothan | Auburn | Huntsville | Pensacola  
 WWW.SS&LARCH.COM | 256.285.0063

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number: 21112  
 AL ARNG IFB #: AC-25-B-0006-S  
 Date: NOVEMBER 1, 2024  
 Drawn By: TS, CK, DW, WR  
 Checked By: CI

Project Title:  
**HUNTSVILLE READINESS CENTER**  
 5180 MOORE'S MILL ROAD  
 HUNTSVILLE, AL, 35811

Sheet Title:  
**DOOR & FRAME SCHEDULES - READINESS CENTER**

Sheet Number:  
**RA3.2**

STATE OF ALABAMA  
 MONTGOMERY  
 Gregory A. O'Neal  
 1968  
 6244  
 Western & Center  
 ALABAMA  
 REGISTERED ARCHITECTS



Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG I/FB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

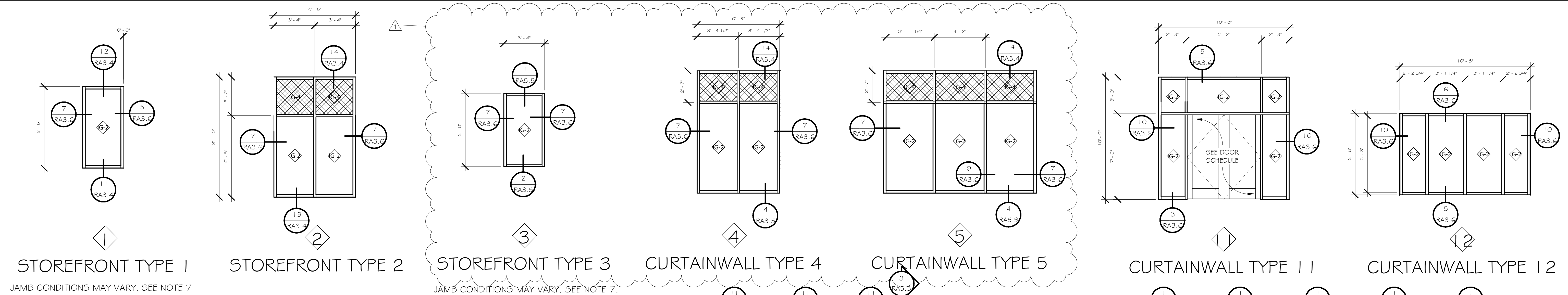
Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE, AL, 35811

Sheet Title  
OPENING  
SCHEDULE &  
DETAILS -  
READINESS  
CENTER

Sheet Number

RA3.4



STOREFRONT TYPE 1  
JAMB CONDITIONS MAY VARY. SEE NOTE 7

STOREFRONT TYPE 2

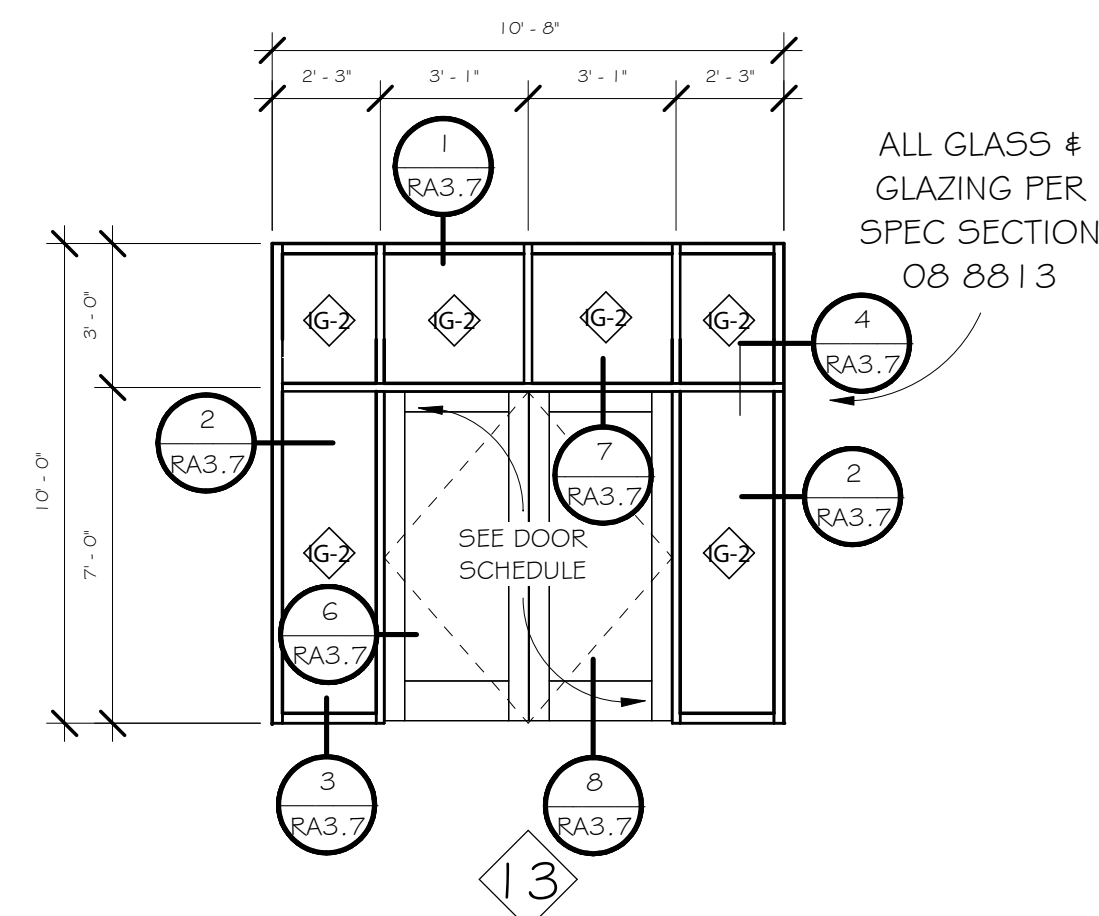
STOREFRONT TYPE 3  
JAMB CONDITIONS MAY VARY. SEE NOTE 7.

CURTAINWALL TYPE 4

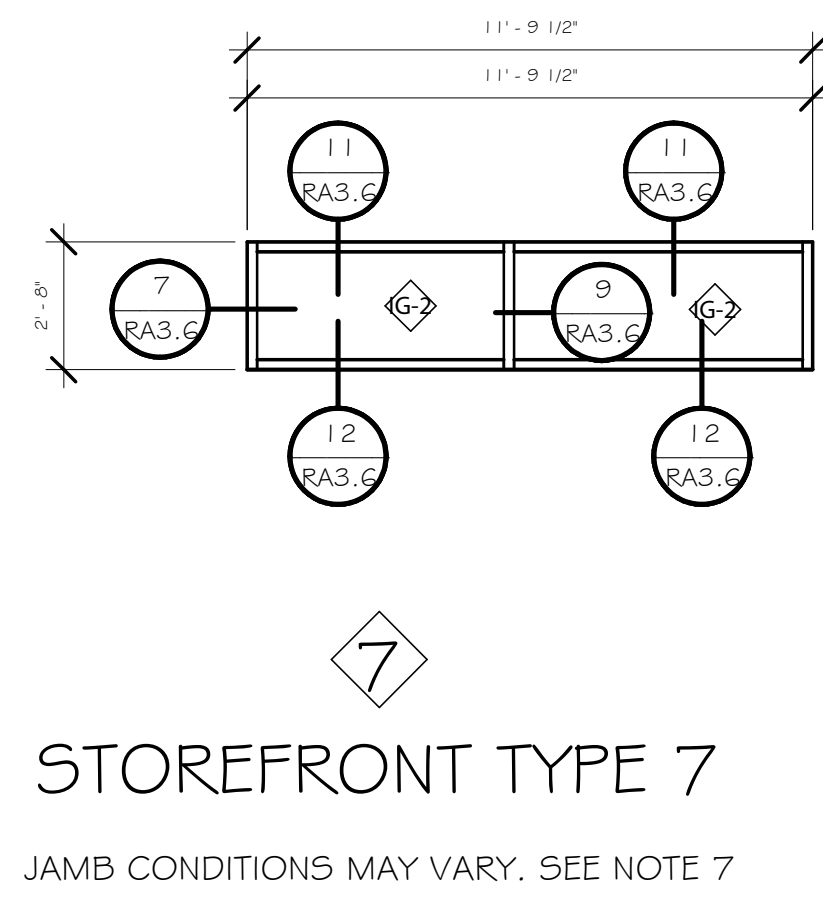
CURTAINWALL TYPE 5

CURTAINWALL TYPE 11

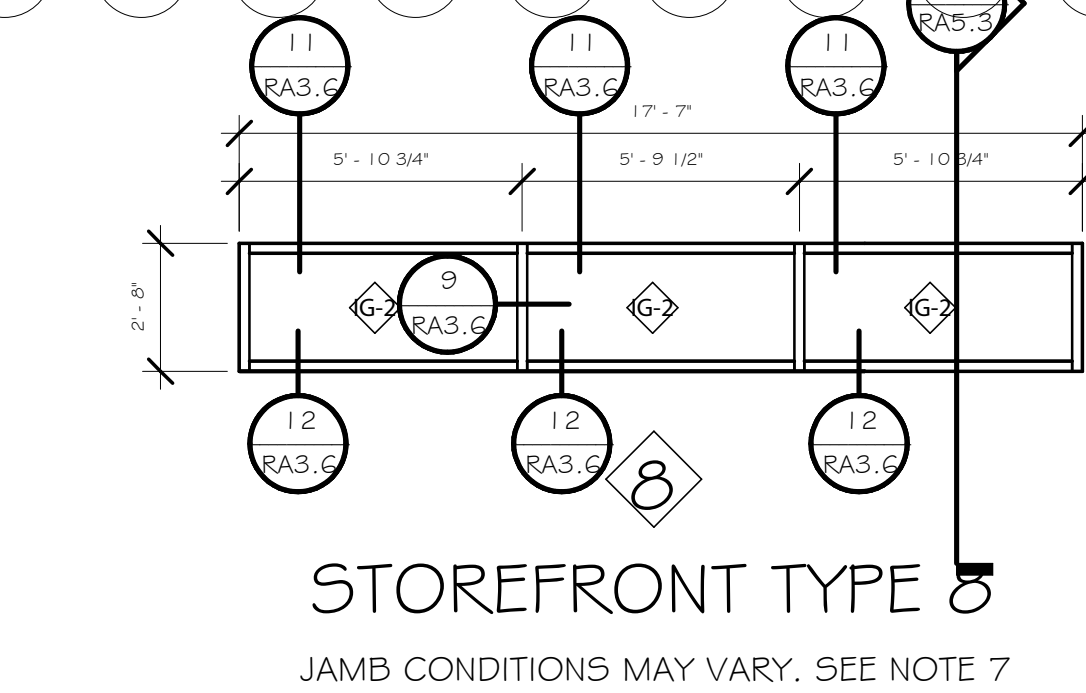
CURTAINWALL TYPE 12



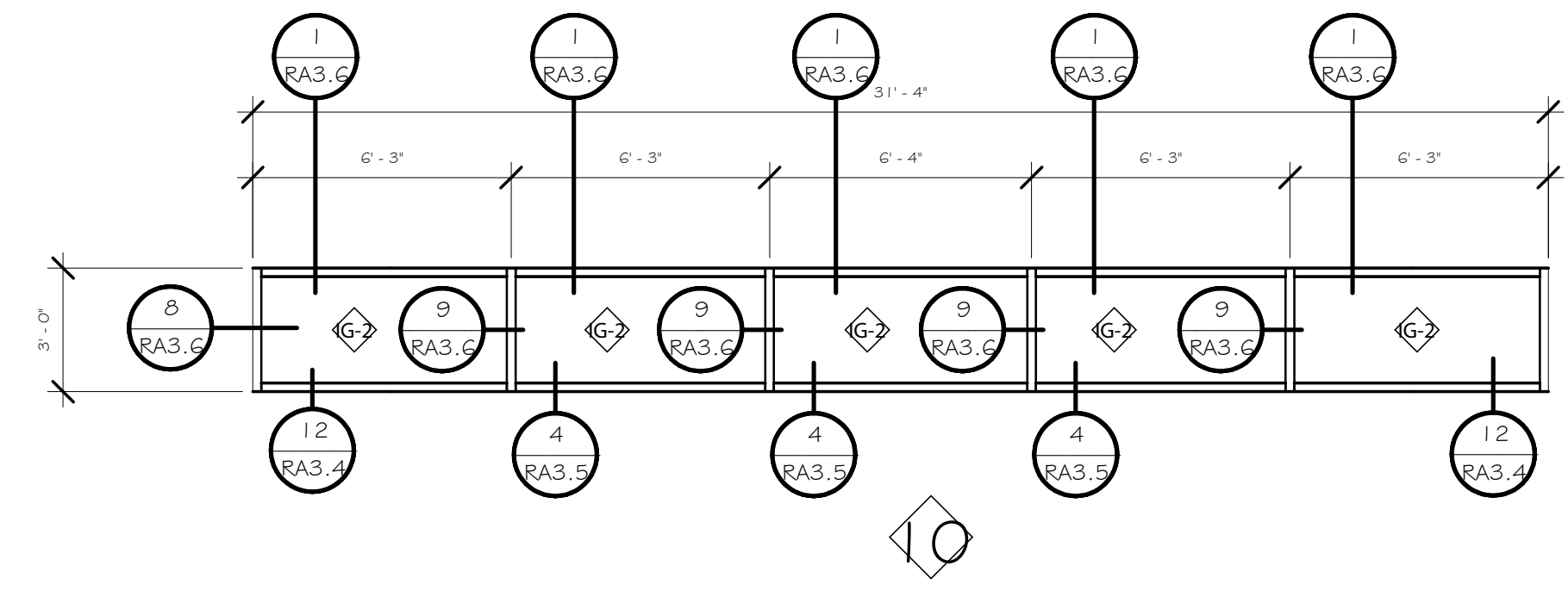
1 HR FIRE RATED ALUMINUM  
STOREFRONT TYPE 13  
SEE SPEC SECTION 08 41 14



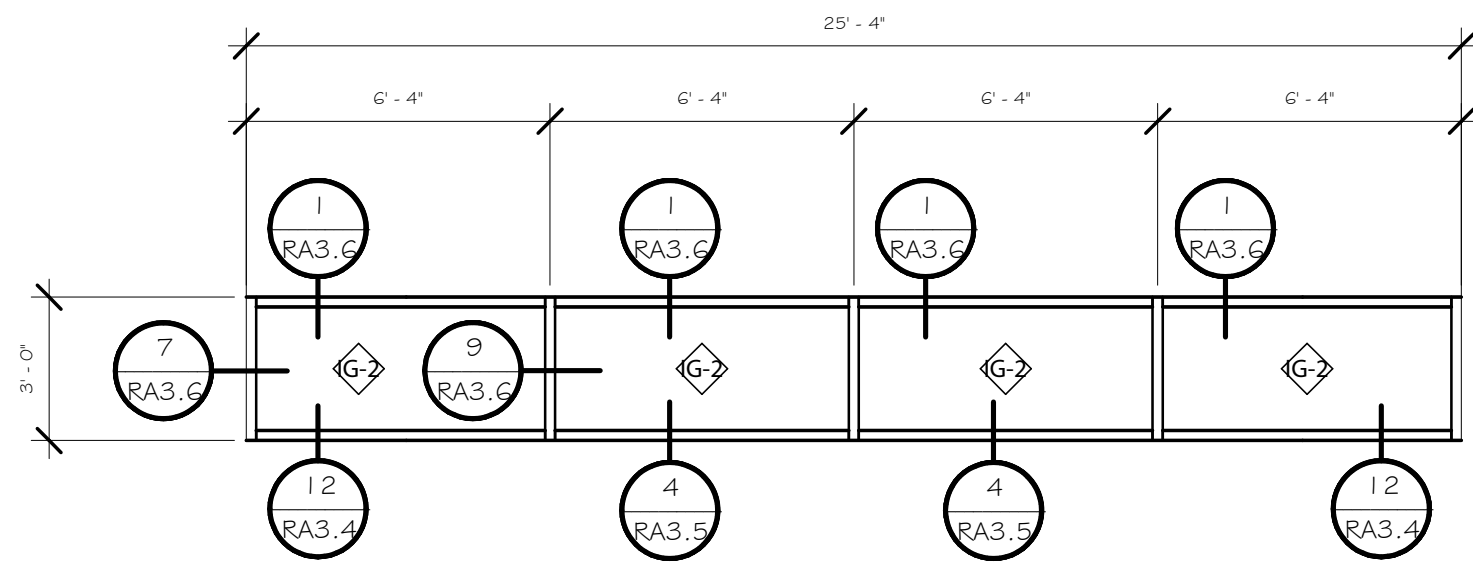
STOREFRONT TYPE 7  
JAMB CONDITIONS MAY VARY. SEE NOTE 7



STOREFRONT TYPE 8  
JAMB CONDITIONS MAY VARY. SEE NOTE 7



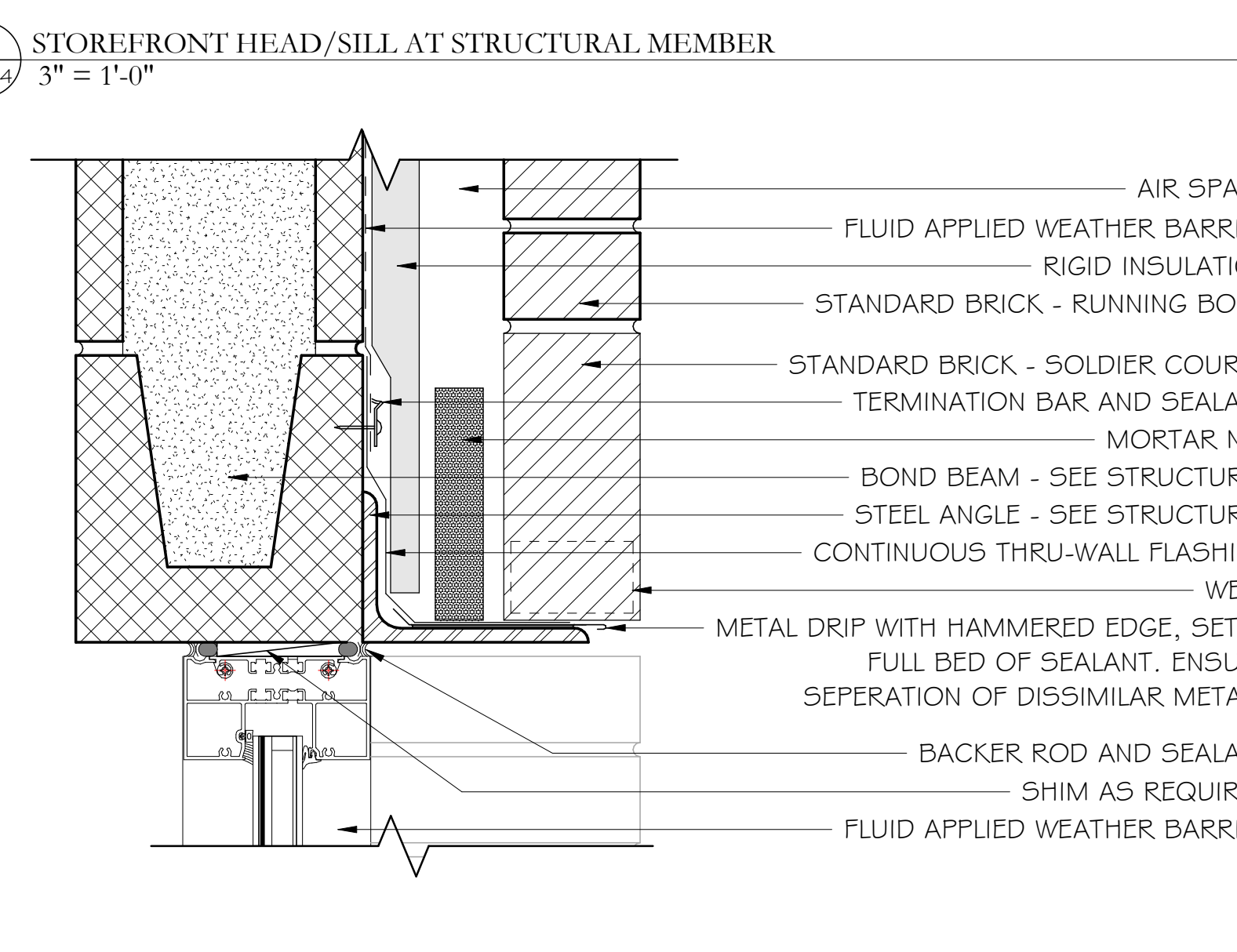
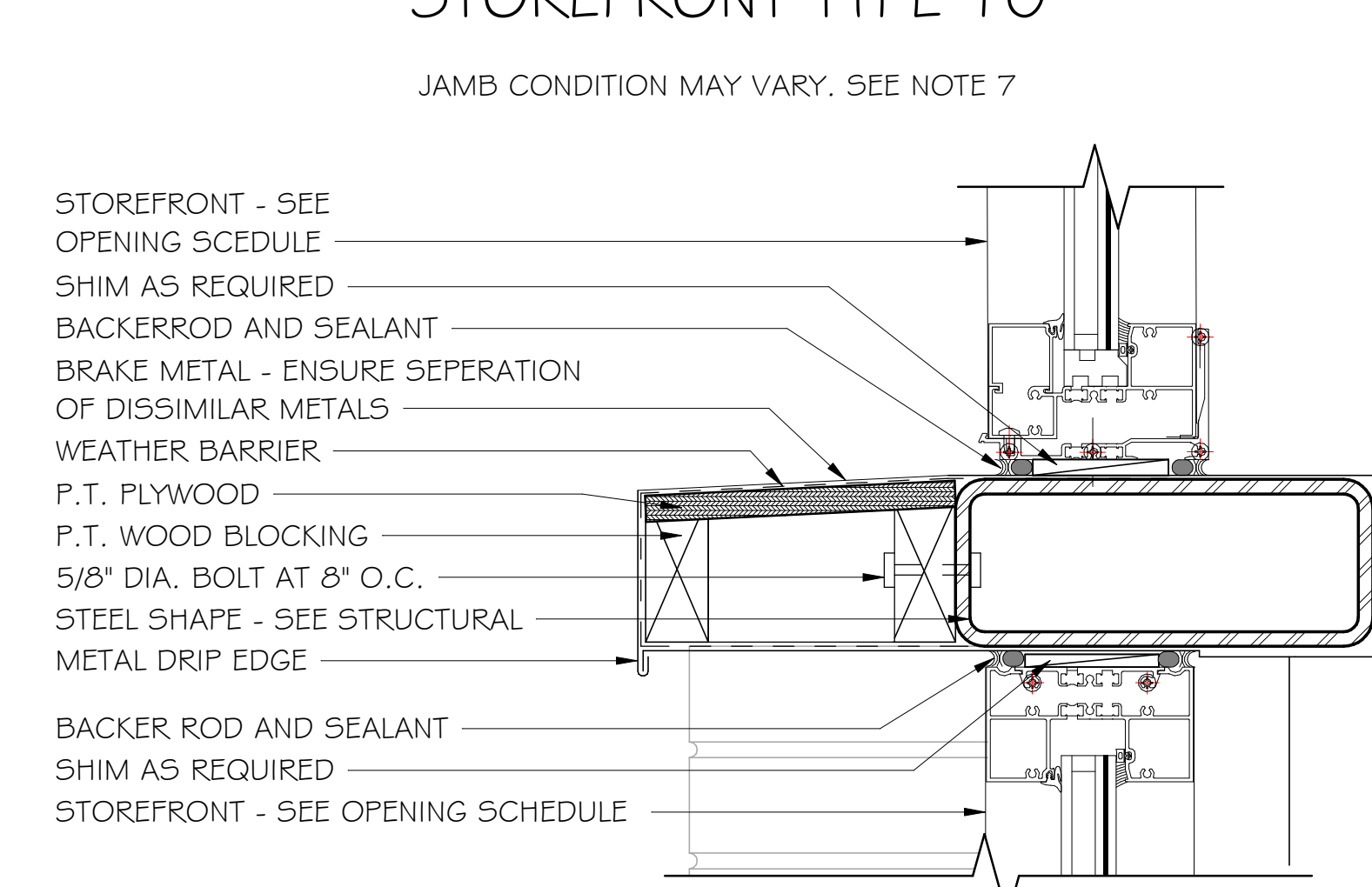
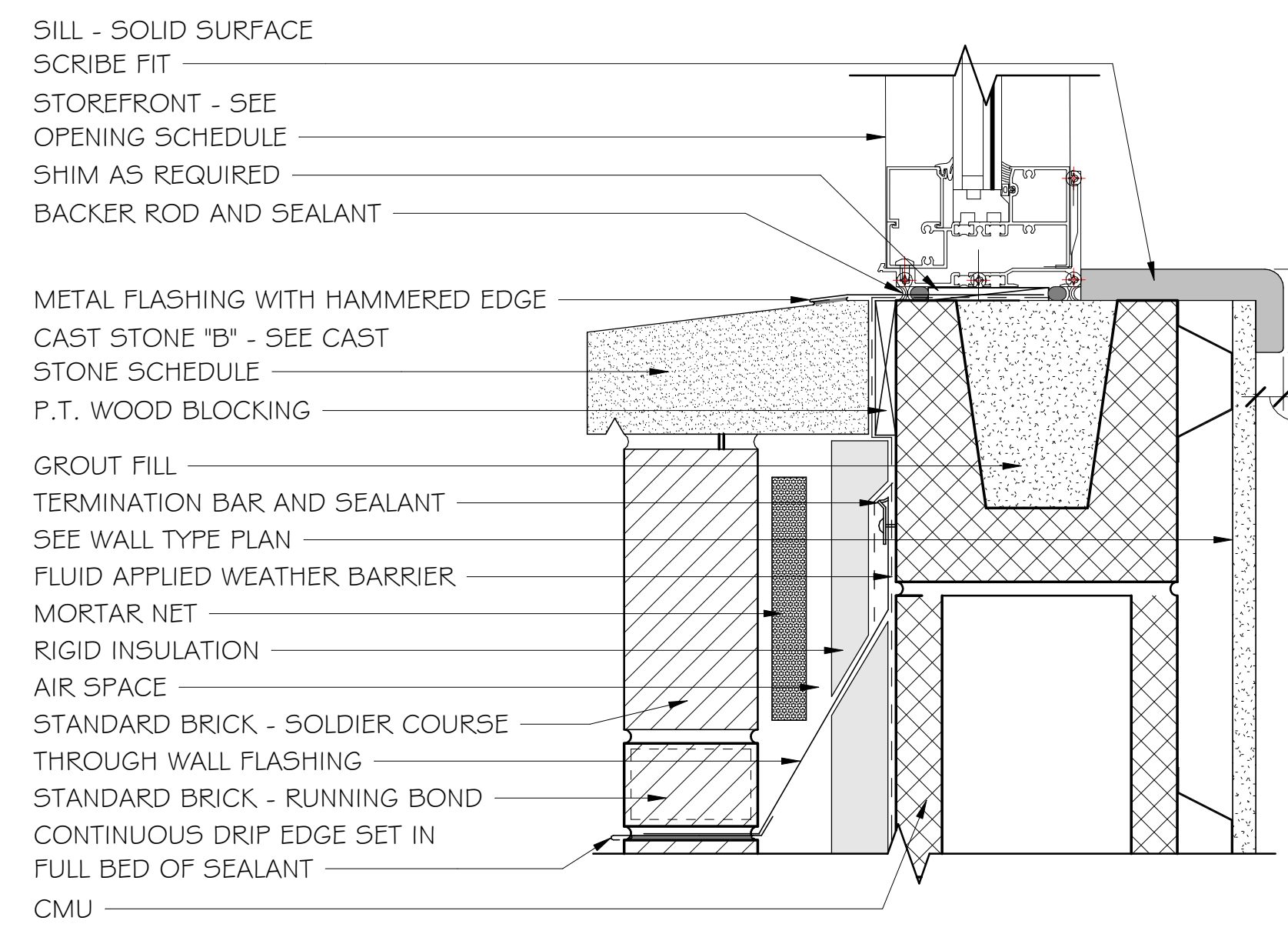
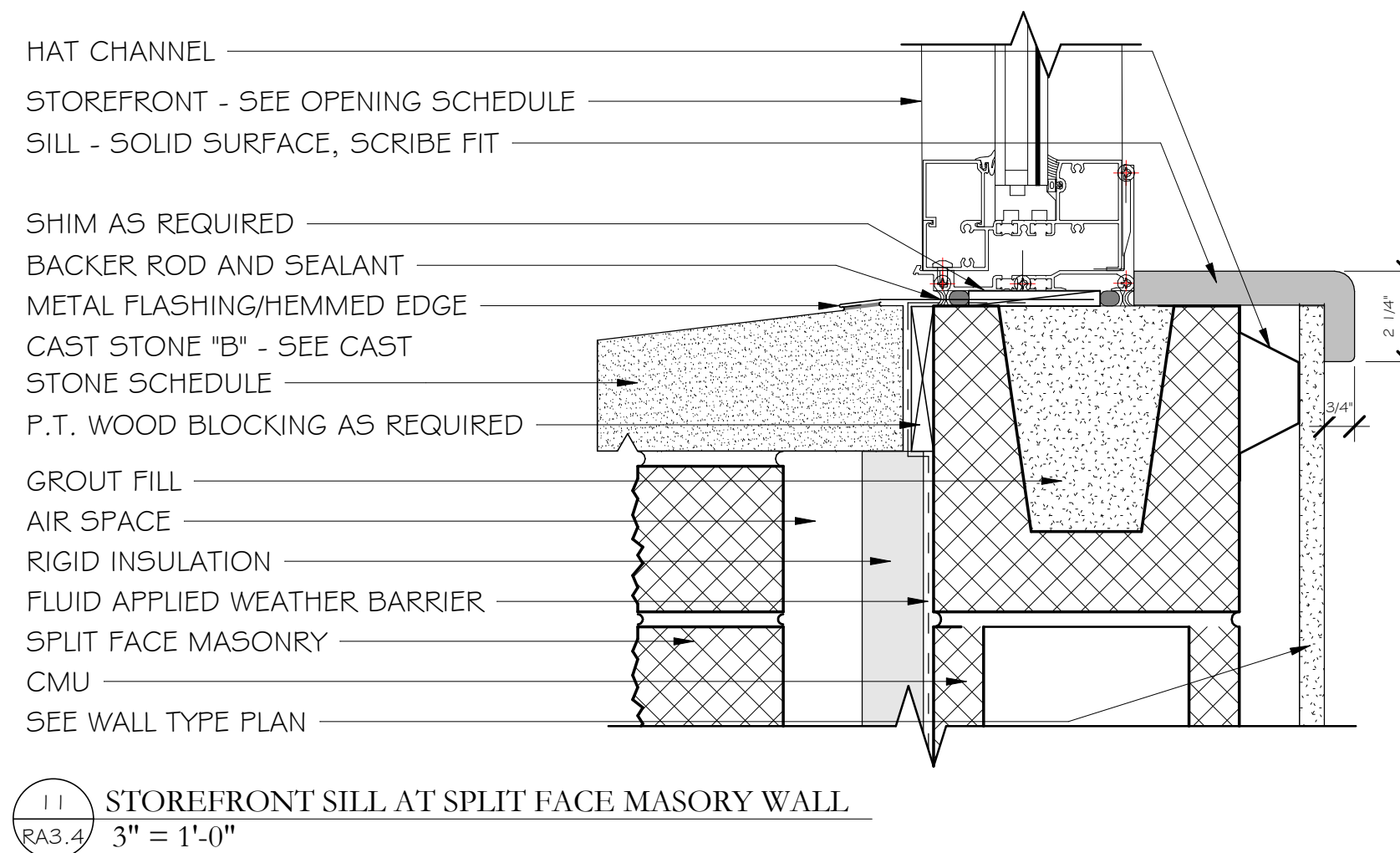
STOREFRONT TYPE 10  
JAMB CONDITION MAY VARY. SEE NOTE 7



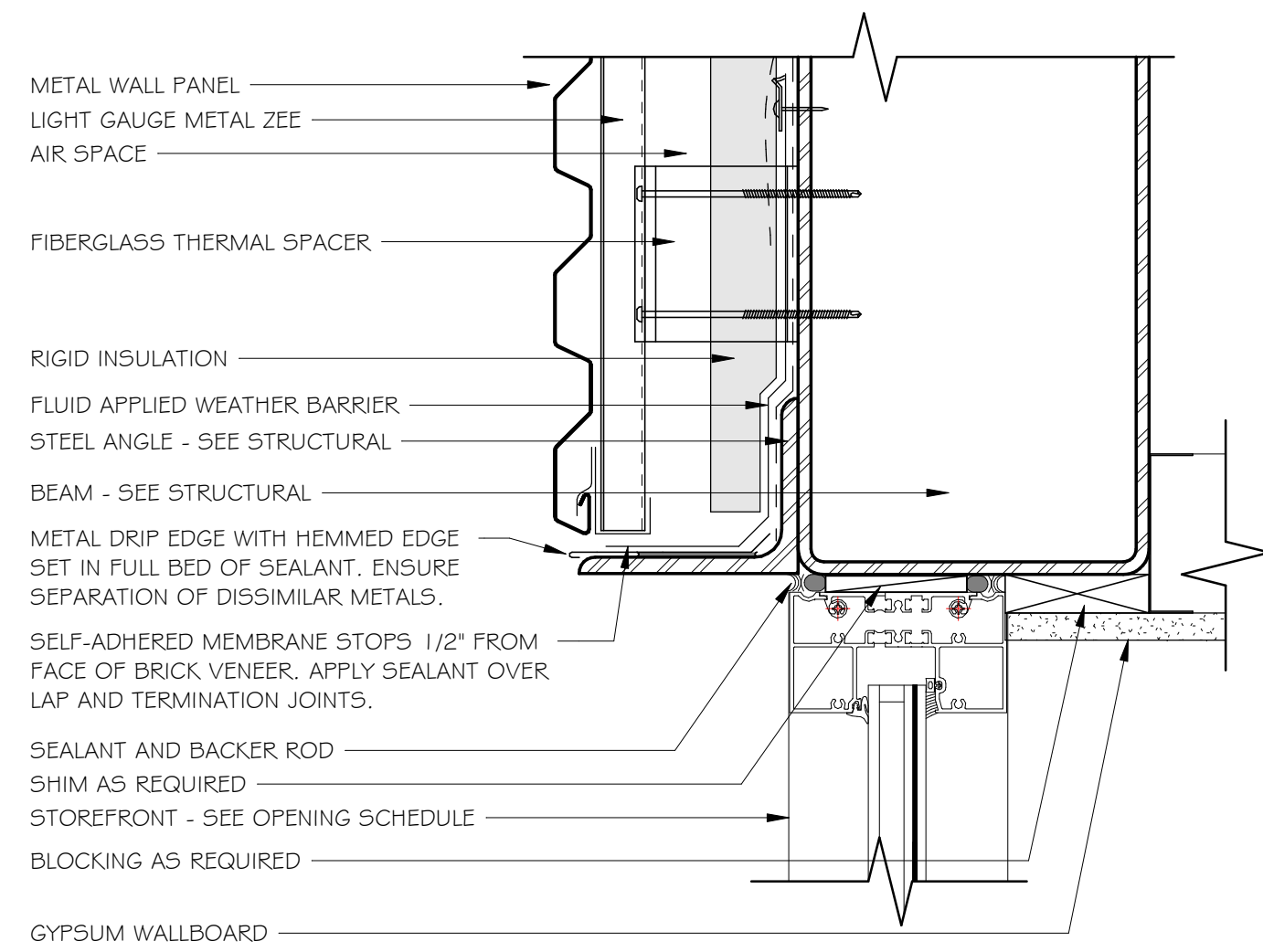
STOREFRONT TYPE 9  
JAMB CONDITIONS MAY VARY. SEE NOTE 7

**GENERAL CURTAIN WALL AND STOREFRONT NOTES:**

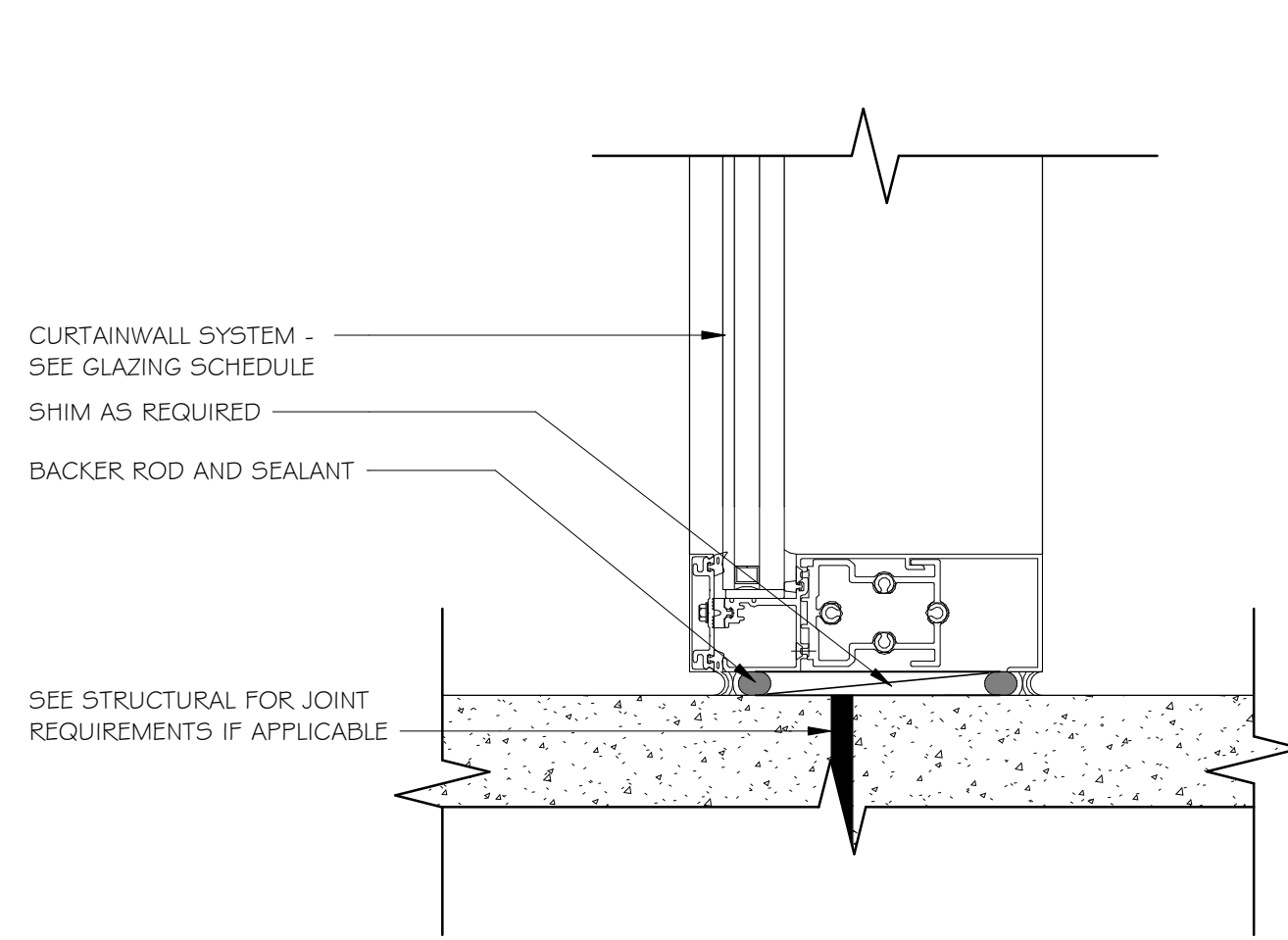
- BLAST MITIGATION:
  - ALL EXTERIOR GLAZED CURTAIN WALL AND STOREFRONT FRAMED ENTRANCE ASSEMBLIES, INCLUDING BUT NOT LIMITED TO, GLAZING FRAMING, CONNECTIONS, AND SUPPORTING STRUCTURAL ELEMENTS MUST MEET OR EXCEED DESIGN AND TEST REQUIREMENTS OF UFC 4-10-01 DOD MINIMUM ANTITERRORISM STANDARD FOR BUILDINGS (LATEST EDITION).
- FIRE-RESISTANCE RATING:
  - INTERIOR STOREFRONT ENTRANCE SHALL BE PROVIDED TO MEET THE FIRE-RESISTANCE RATINGS AT LOCATION INDICATED ON SCHEDULES AND DRAWING. SEE LIFE SAFETY PLAN FOR REQUIRED ASSEMBLY RATINGS.
- CURTAIN WALL AND STOREFRONT MANUFACTURER/ FABRICATION/ INSTALLER SHALL PROVIDE, INSTALL AND / OR ANCHOR ANY ADDITIONAL STEEL / REINFORCEMENT NOT OTHERWISE SHOWN ON DRAWINGS AND PROVIDE ALL ACHORAGES NECESSARY TO MEET ANTITERRORISM STANDARDS AND INTERNATIONAL BUILDING CODE WINDLOADING REQUIREMENTS.
- VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION FOR CURTAIN WALL AND STOREFRONT. IMMEDIATELY NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- INSTALL CURTAIN WALL AND STOREFRONT ASSEMBLIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- SEALANT AND BACKER ROD JOINT AT CURTAIN WALL TO ADJACENT EXTERIOR MATERIAL SHALL BE WIDTH AND INLOCATIONS AS REQUIRED BY CURTAIN WALL MANUFACTURER DEPTH OF SEALANT JOINT SHALL BE PER SEALANT MANUFACTURER.
- STOREFRONT HEAD / JAMB / SILL CONDITIONS VARY. SECTION MARKERS ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT ACCOUNT FOR ALL CONDITIONS FOUND IN THIS PROJECT. VERIFY THE EXACT LOCATION OF OPENINGS AND FOR ADJACENT BLDG MATERIALS ON RA4.1 ELEVATIONS.
- AT ALL STOREFRONT AND CURTAIN WALL SILLS, CONTRACTOR SHALL PROVIDE ONE PIECE SHEET METAL SILL PAN WITH 2" MINIMUM END DAMS FOR ALL SILLS.



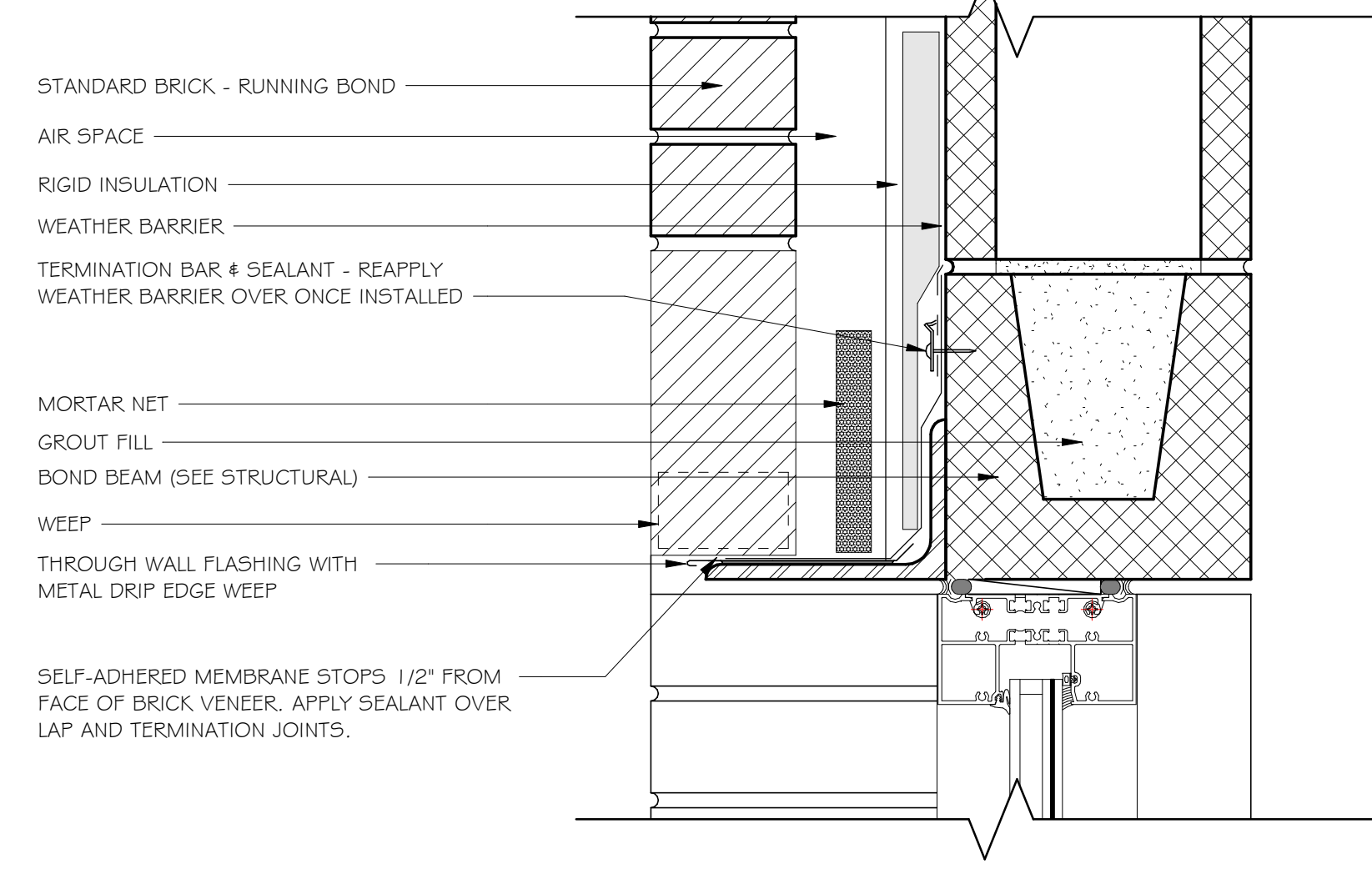




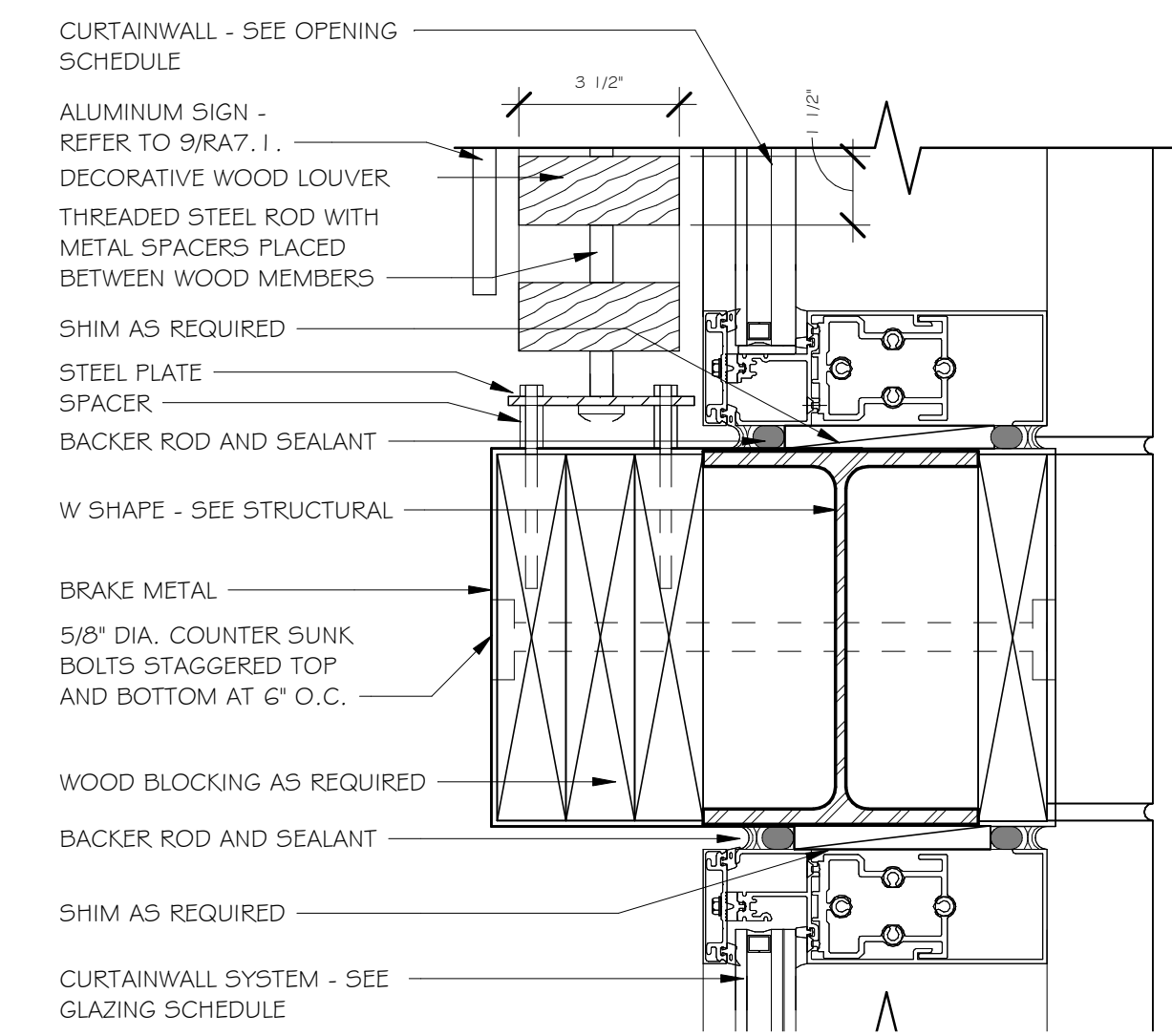
1 STOREFRONT HEAD AT METAL PANEL  
3" = 1'-0"



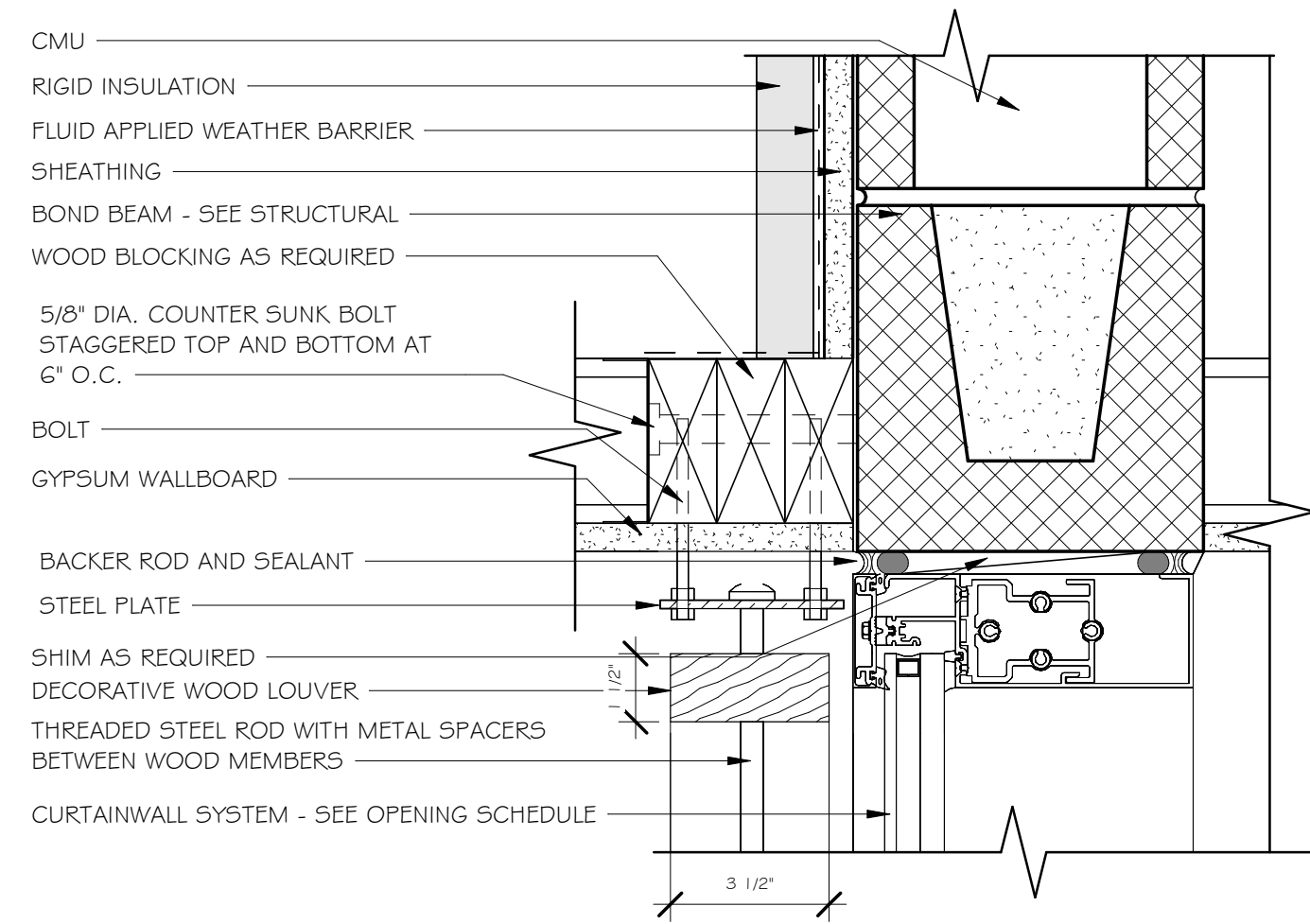
3 CURTAINWALL SILL AT FLOOR- INTERIOR TO INTERIOR  
3" = 1'-0"



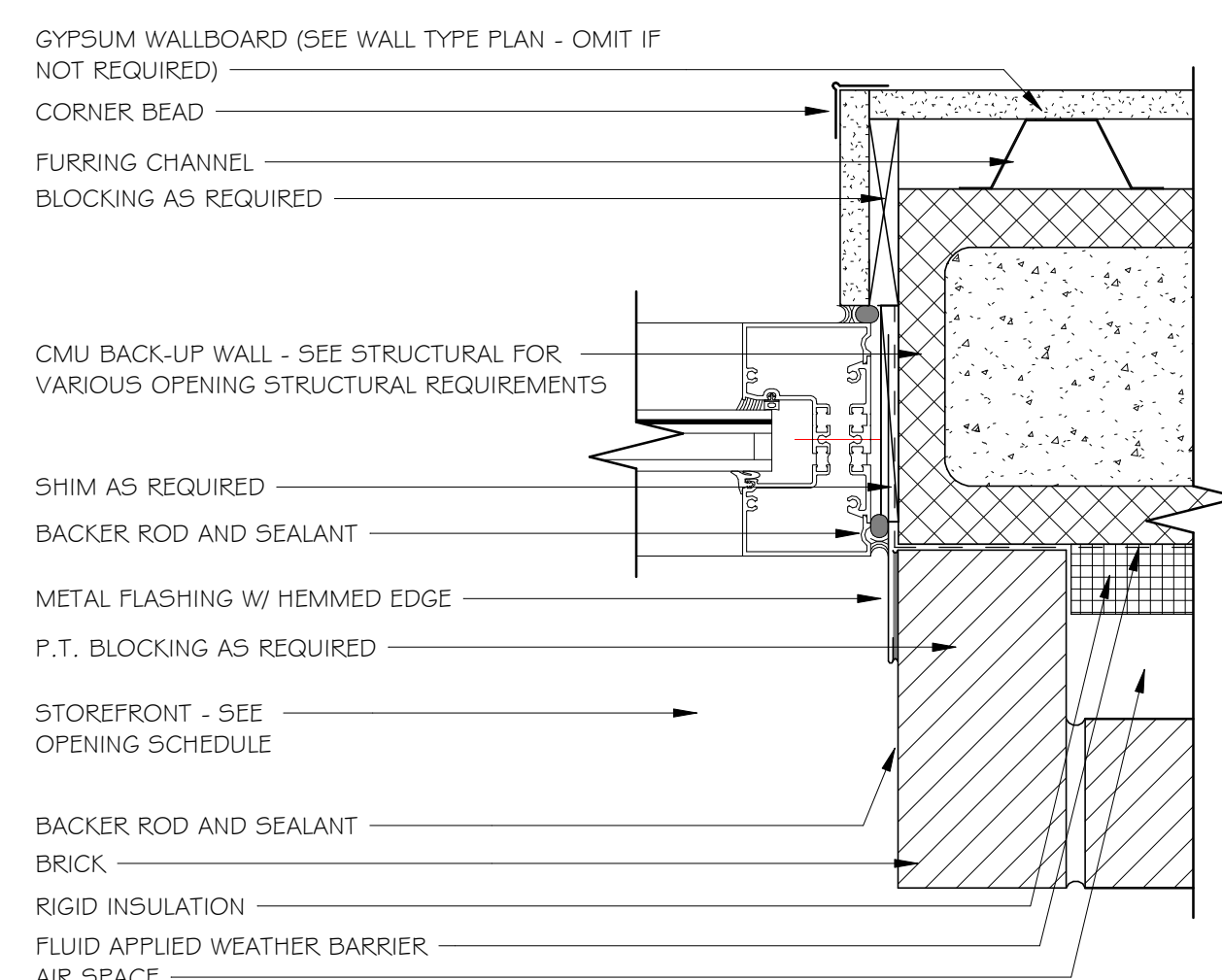
4 STOREFRONT HEAD AT SOLDIER COURSE BRICK EXTERIOR  
3" = 1'-0"



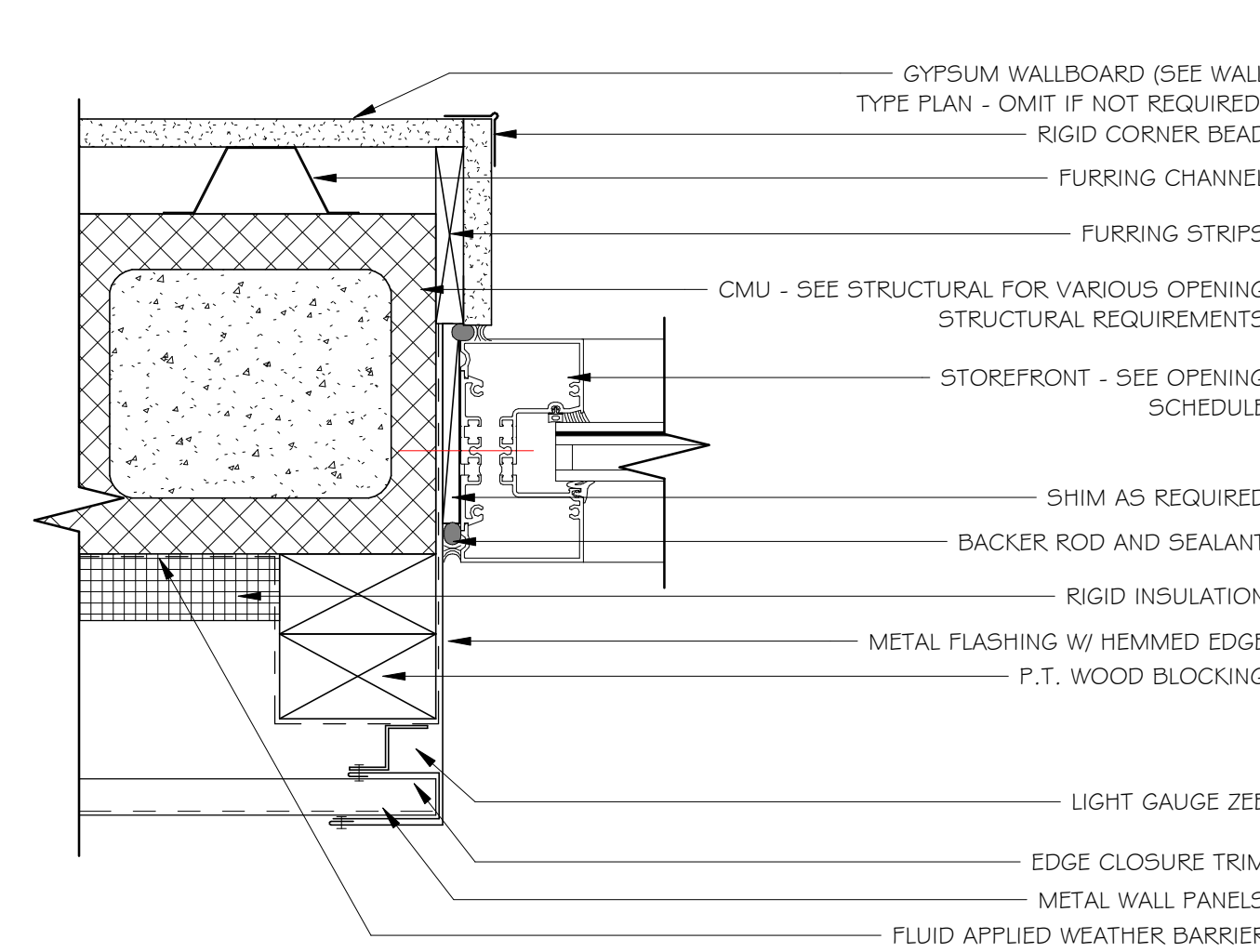
5 CURTAINWALL HEAD/SILL AT STRUCTURE  
3" = 1'-0"



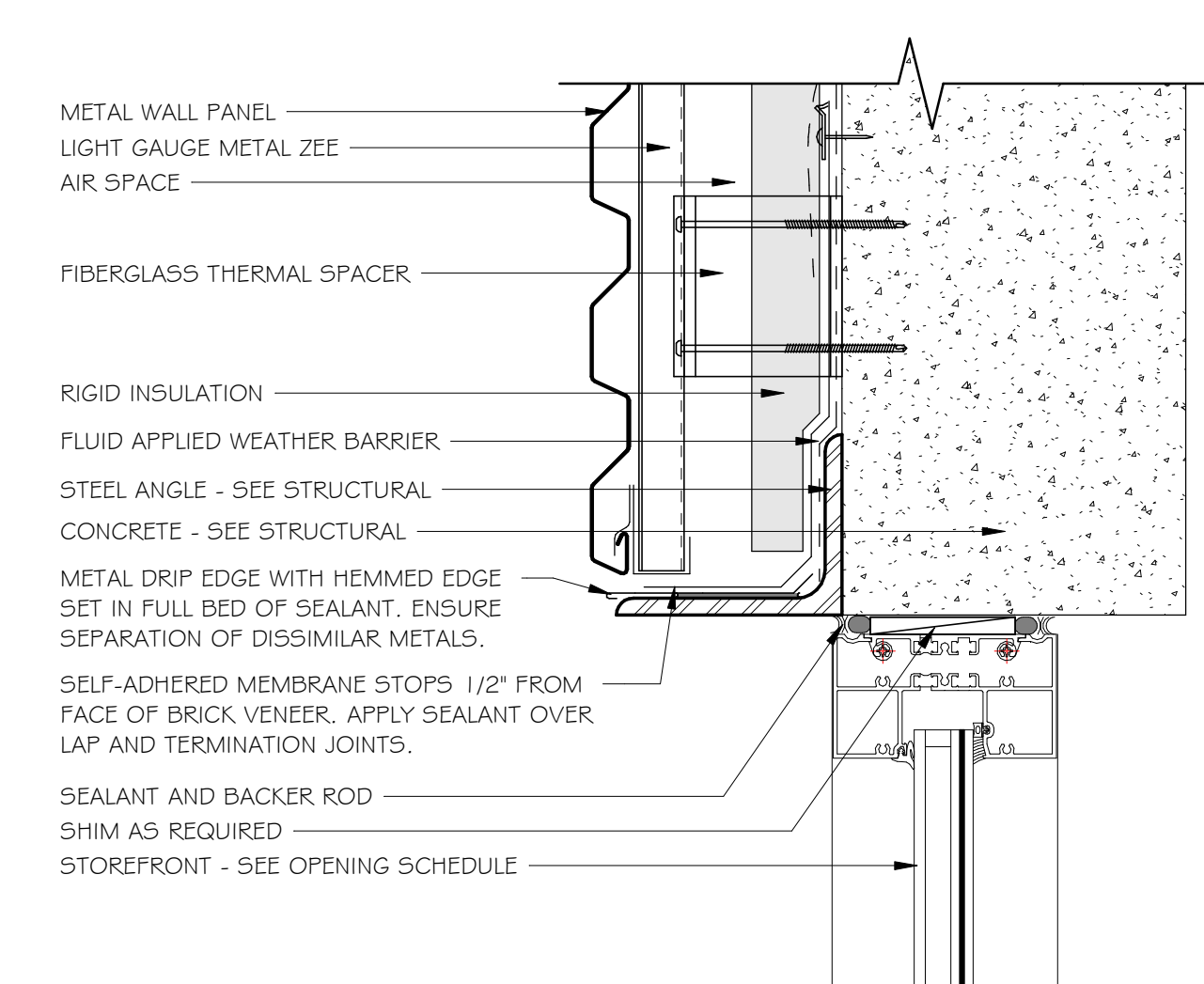
6 CURTAINWALL HEAD AT STRUCTURE  
3" = 1'-0"



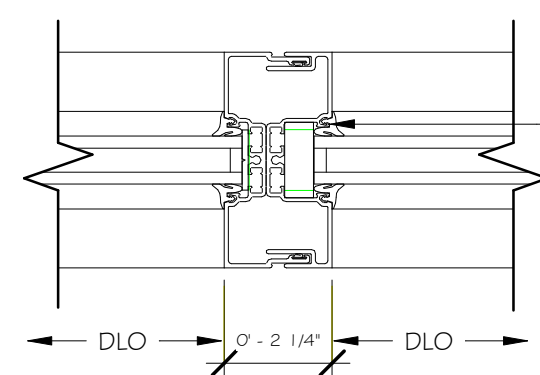
7 STOREFRONT JAMB AT EXTERIOR MASONRY WALL  
3" = 1'-0"



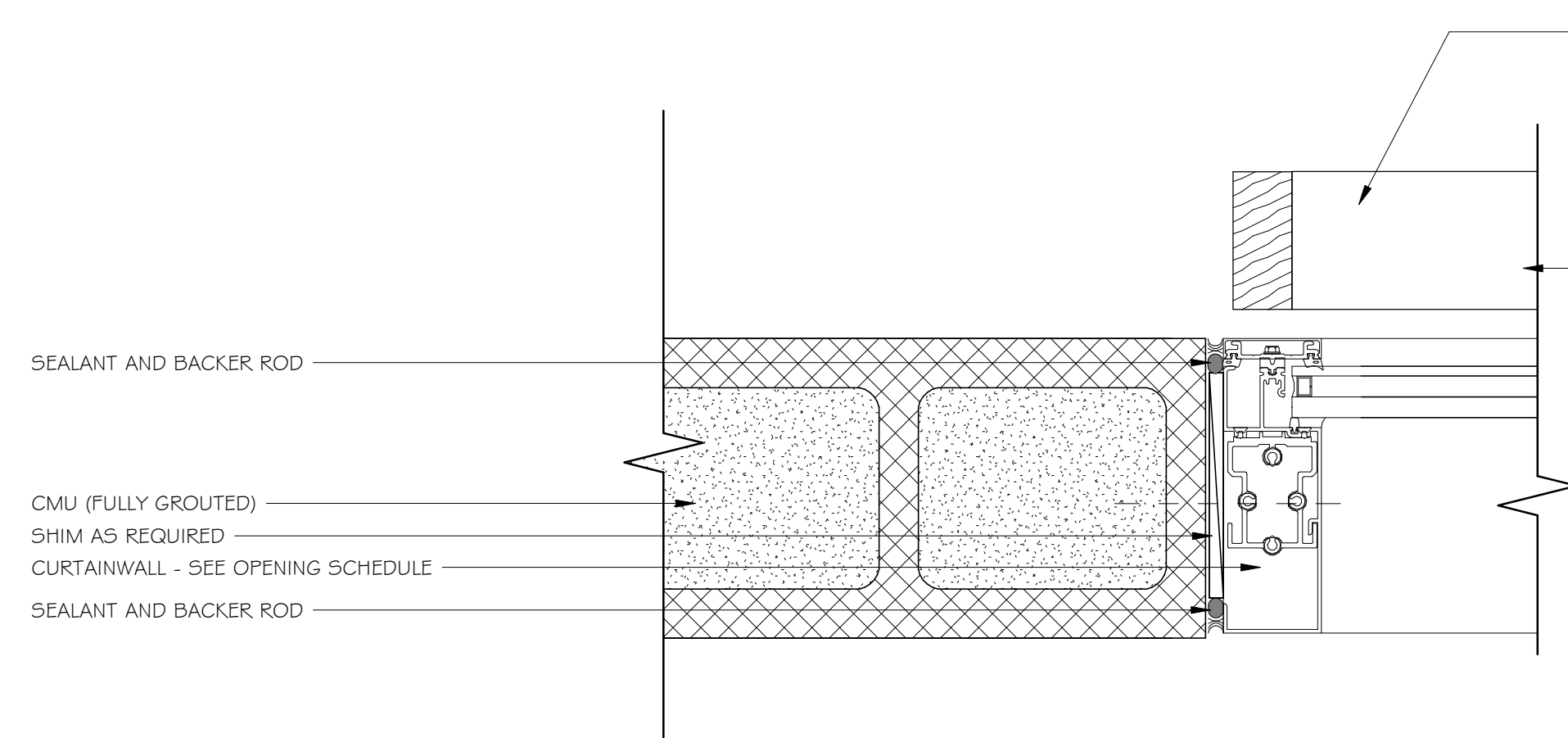
8 STOREFRONT JAMB AT METAL PANEL  
3" = 1'-0"



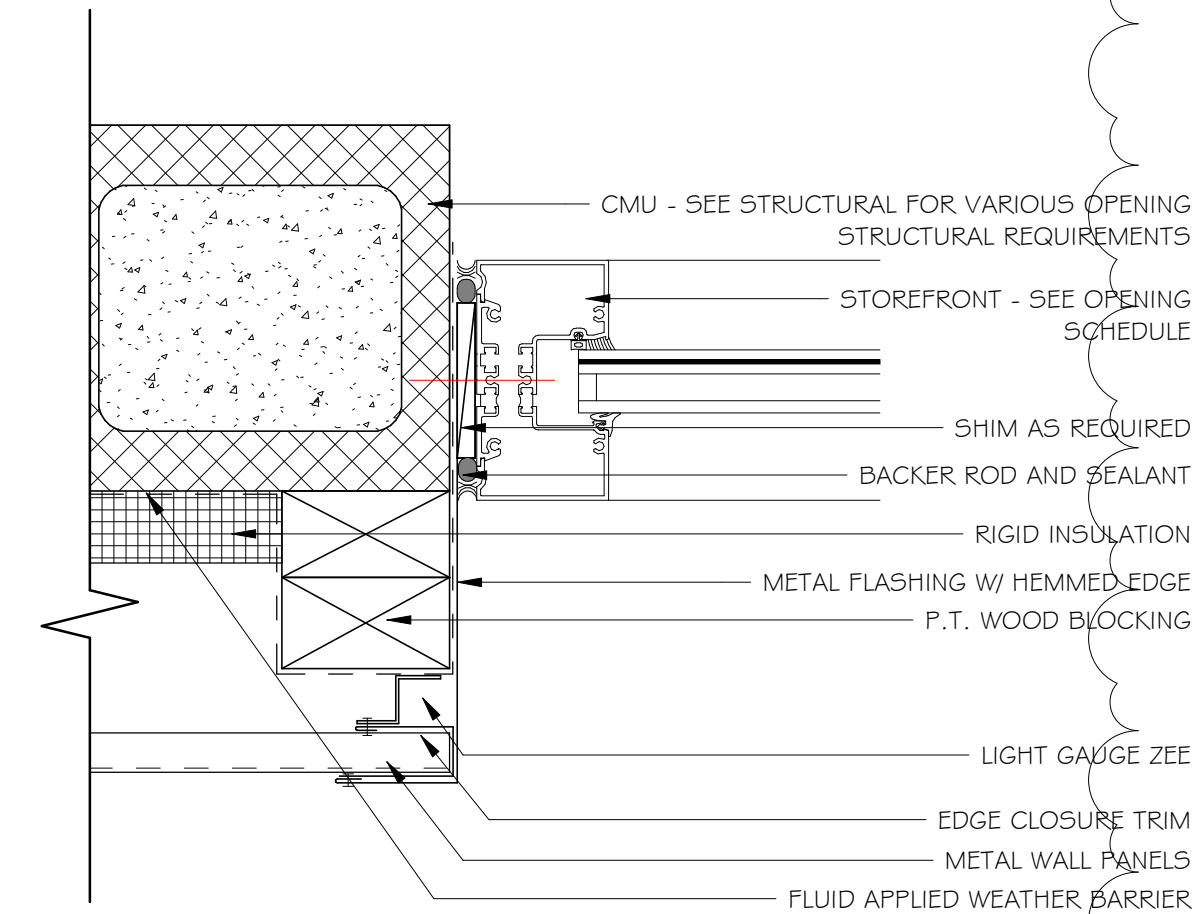
11 CLERESTORY HEAD AT METAL PANEL  
3" = 1'-0"



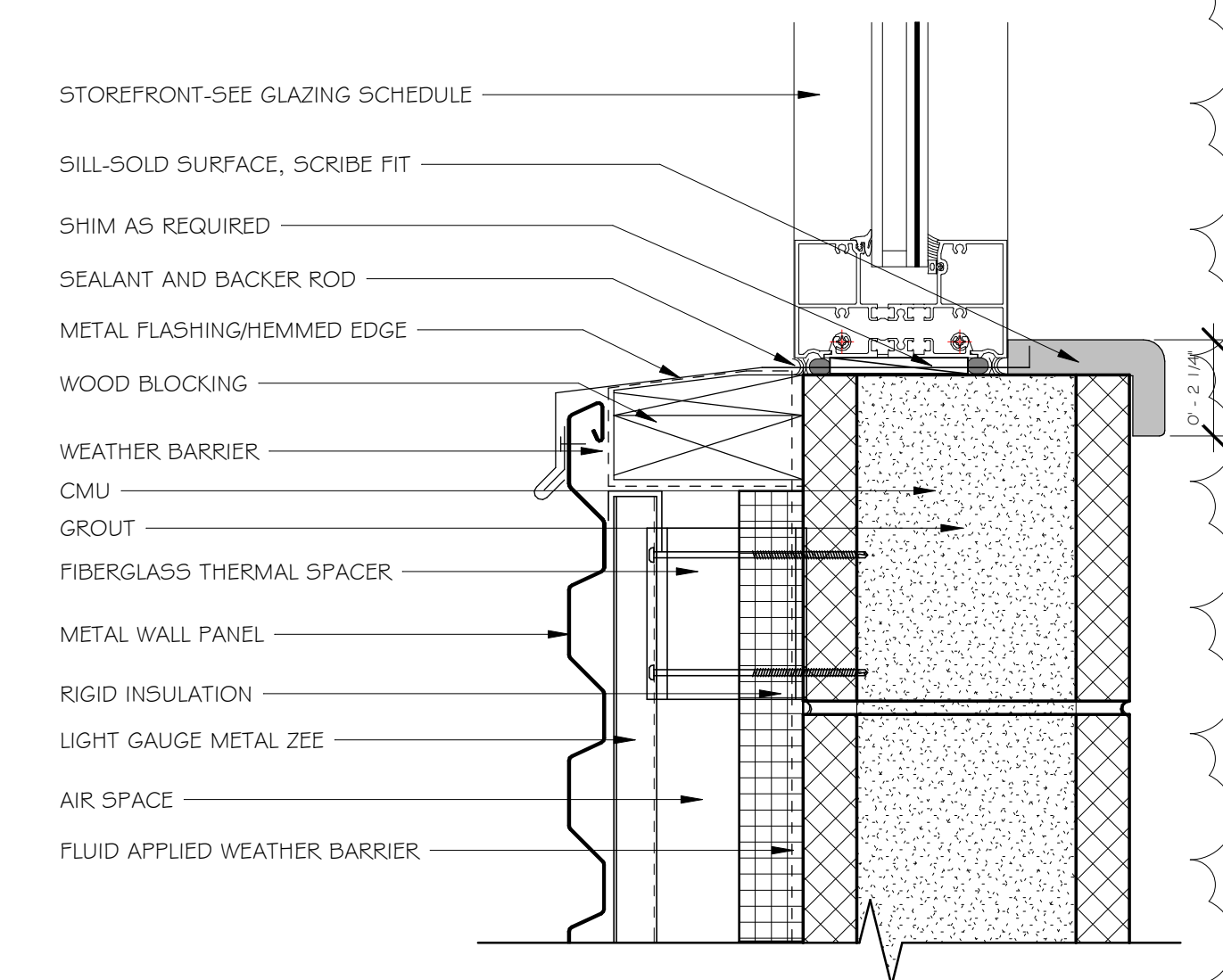
2 TYP CENTER STOREFRONT MULLION DETAIL  
3" = 1'-0"



10 CURTAINWALL AND STOREFRONT JAMBS AT VESTIBULE ENTRANCE  
3" = 1'-0"



9 CLERESTORY JAMB AT METAL PANEL  
3" = 1'-0"



12 CLERESTOR SILL AT METAL PANEL  
3" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
OPENING DETAILS

Sheet Number

RA3.6





Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

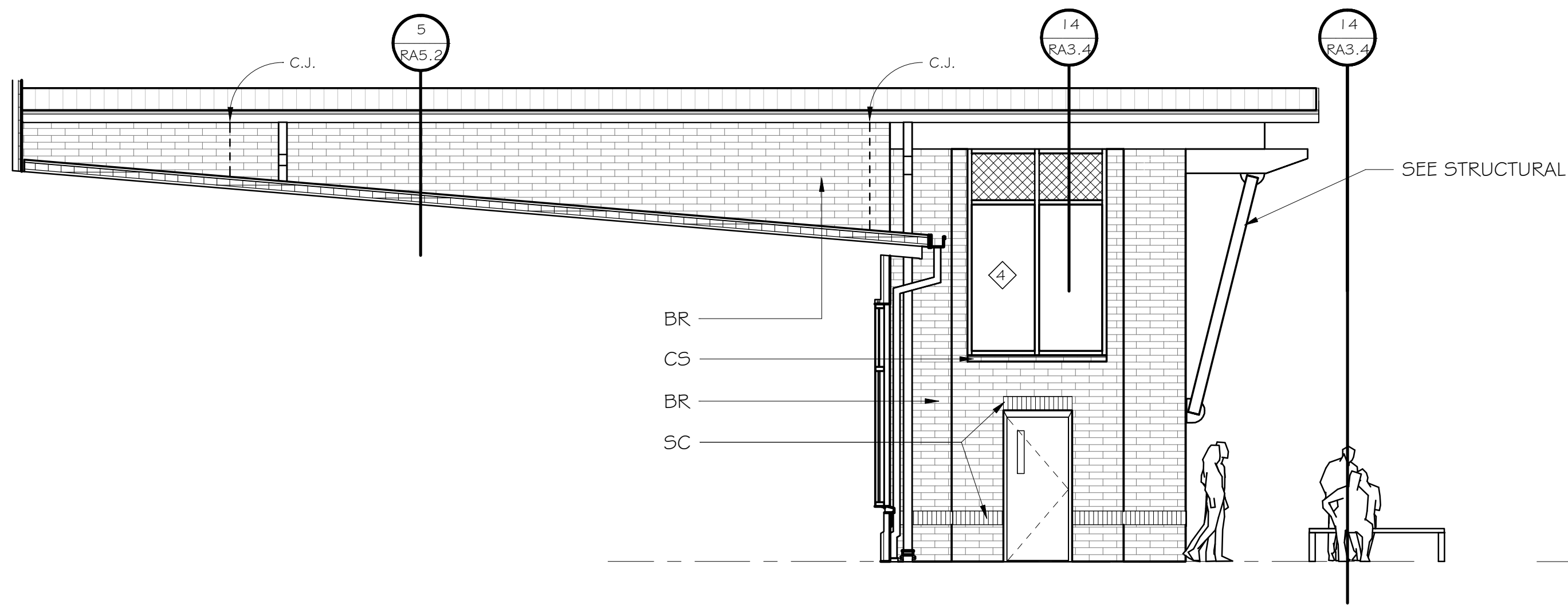
Project Title

HUNTSVILLE READINESS CENTER  
 5180 MOORE'S MILL ROAD  
 HUNTSVILLE AL, 35811

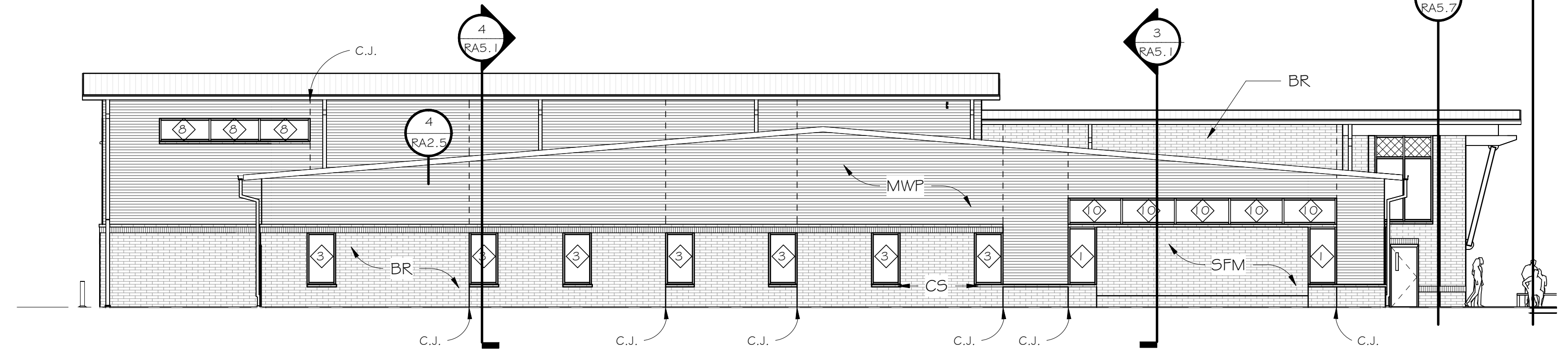
Sheet Title  
 ELEVATIONS -  
 READINESS CENTER

Sheet Number

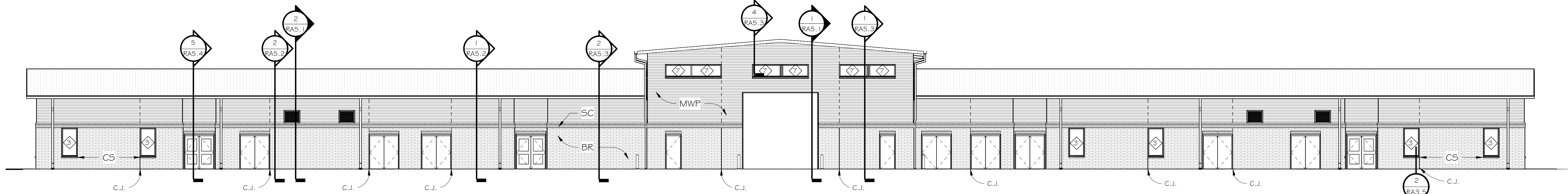
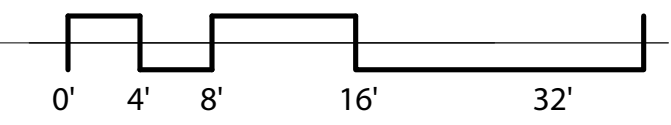
RA4.1



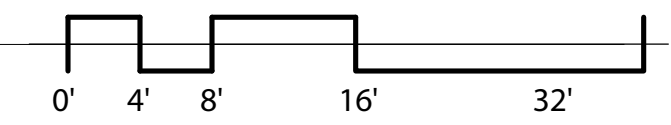
5 ENTRY VESTIBULE (NORTH) \*SOUTH VESTIBULE ENTRY TO MIRROR NORTH  
 RA4.1 3/16" = 1'-0"



1 READINESS CENTER SIDE ELEVATION (NORTH)  
 RA4.1 3/32" = 1'-0"

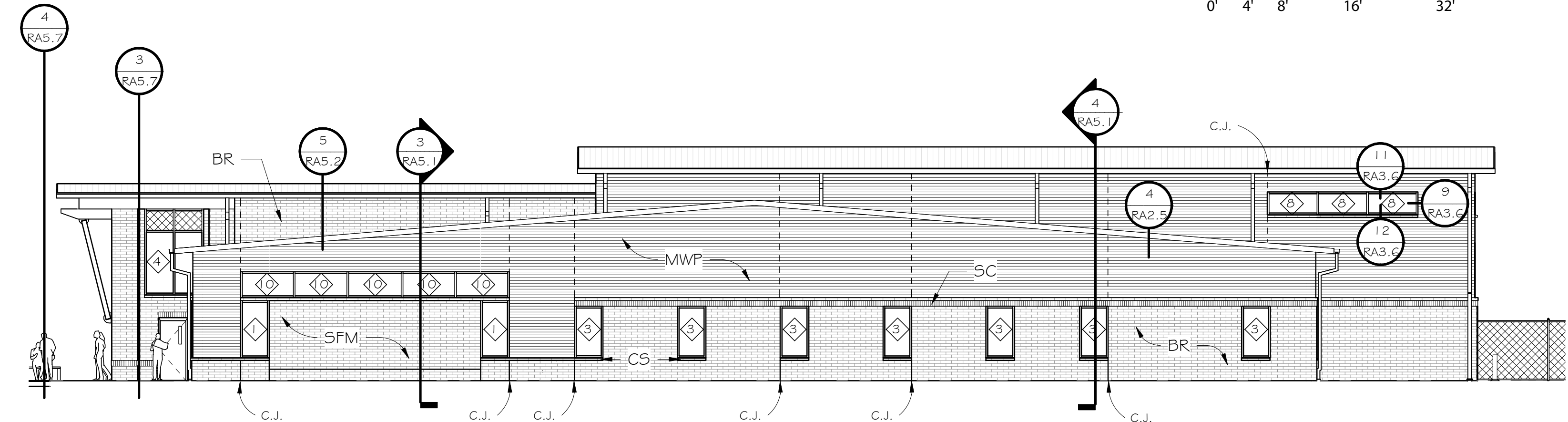
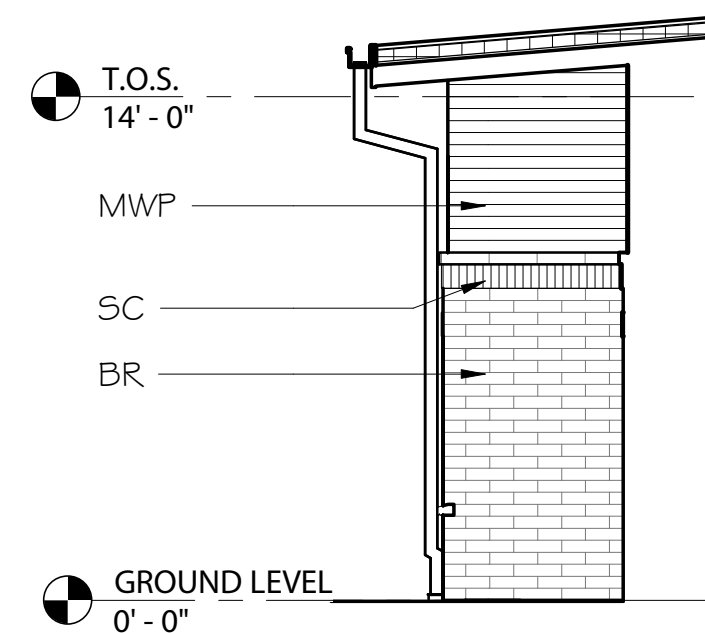
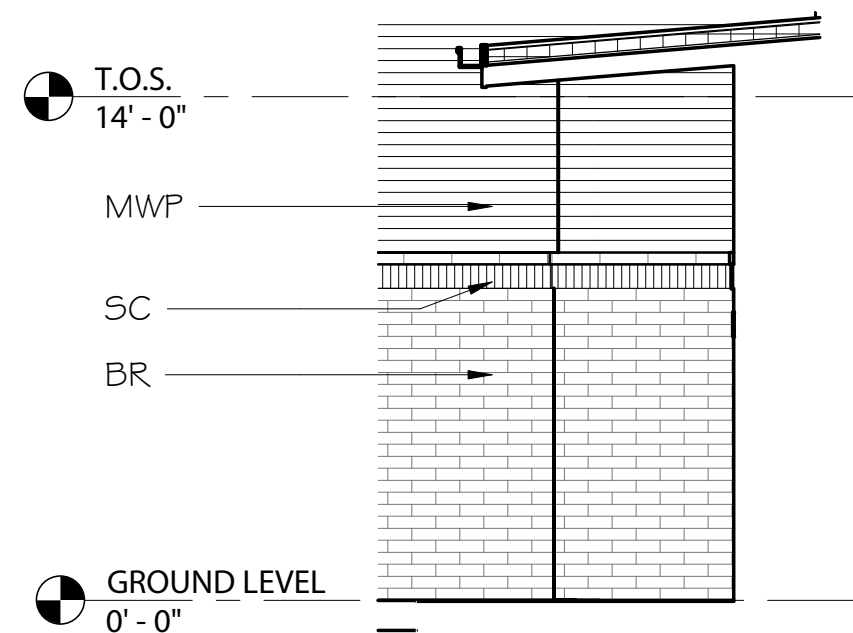


2 READINESS CENTER REAR ELEVATION (EAST)  
 RA4.1 3/32" = 1'-0"

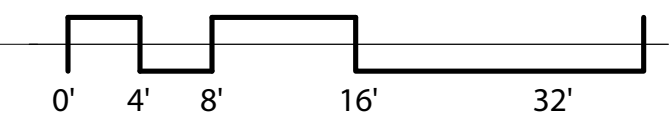


### EXTERIOR FINISH LEGEND:

- MWP - METAL WALL PANEL
- BR - BRICK - RUNNING BOND
- SC - BRICK - SOLDIER COURSE
- SFM - SPLIT FACE MASONRY
- CS - CAST STONE

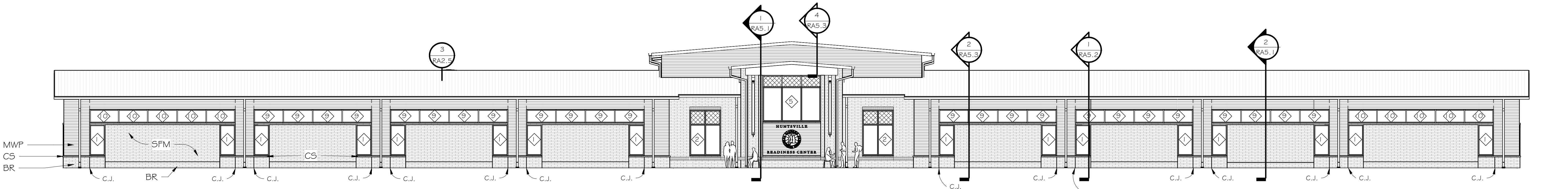


3 READINESS CENTER SIDE ELEVATION (SOUTH)  
 RA4.1 3/32" = 1'-0"

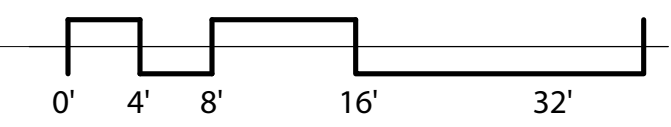


7 COVERED ENTRY TYPE B (NORTH)  
 RA4.1 3/16" = 1'-0"

6 COVERED ENTRY TYPE A (NORTH)  
 RA4.1 3/16" = 1'-0"



4 READINESS CENTER FRONT ELEVATION (WEST)  
 RA4.1 3/32" = 1'-0"





Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
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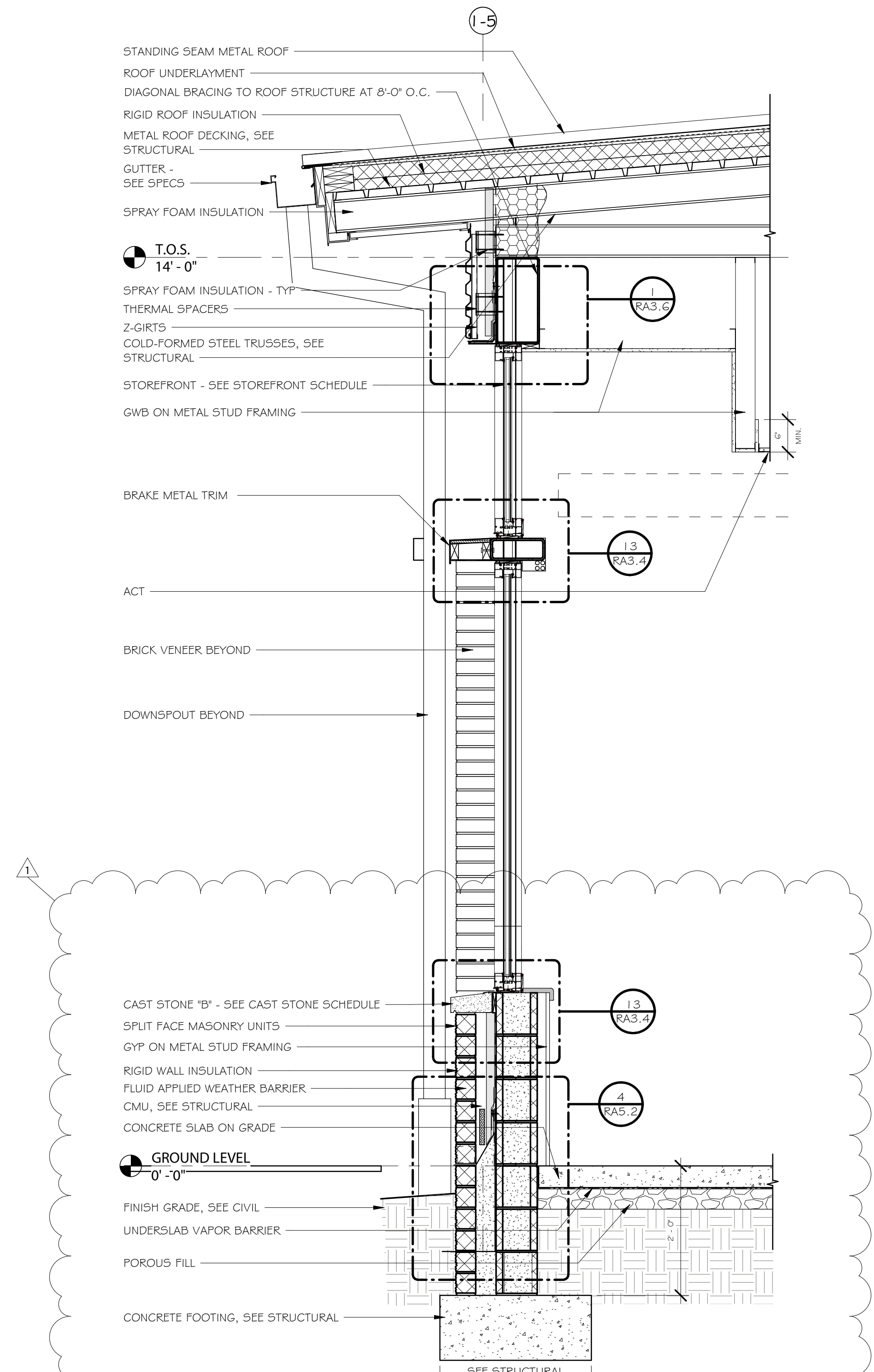
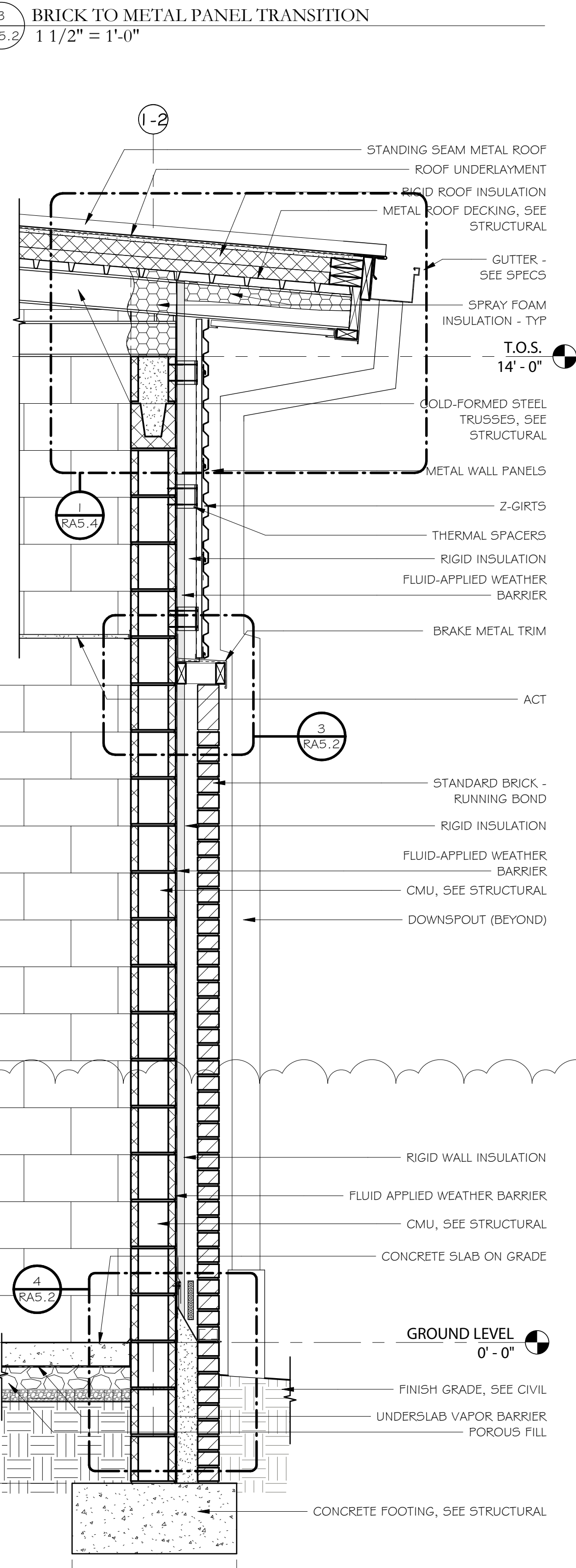
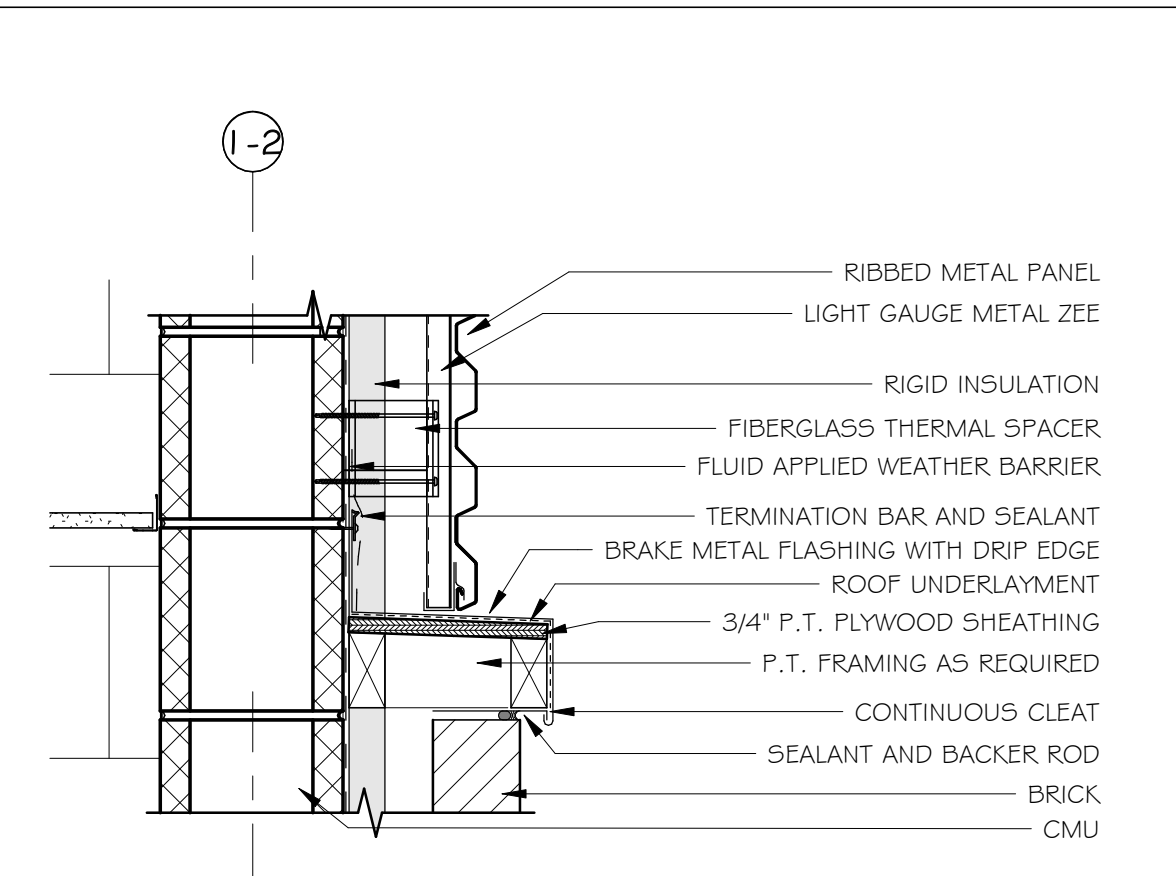
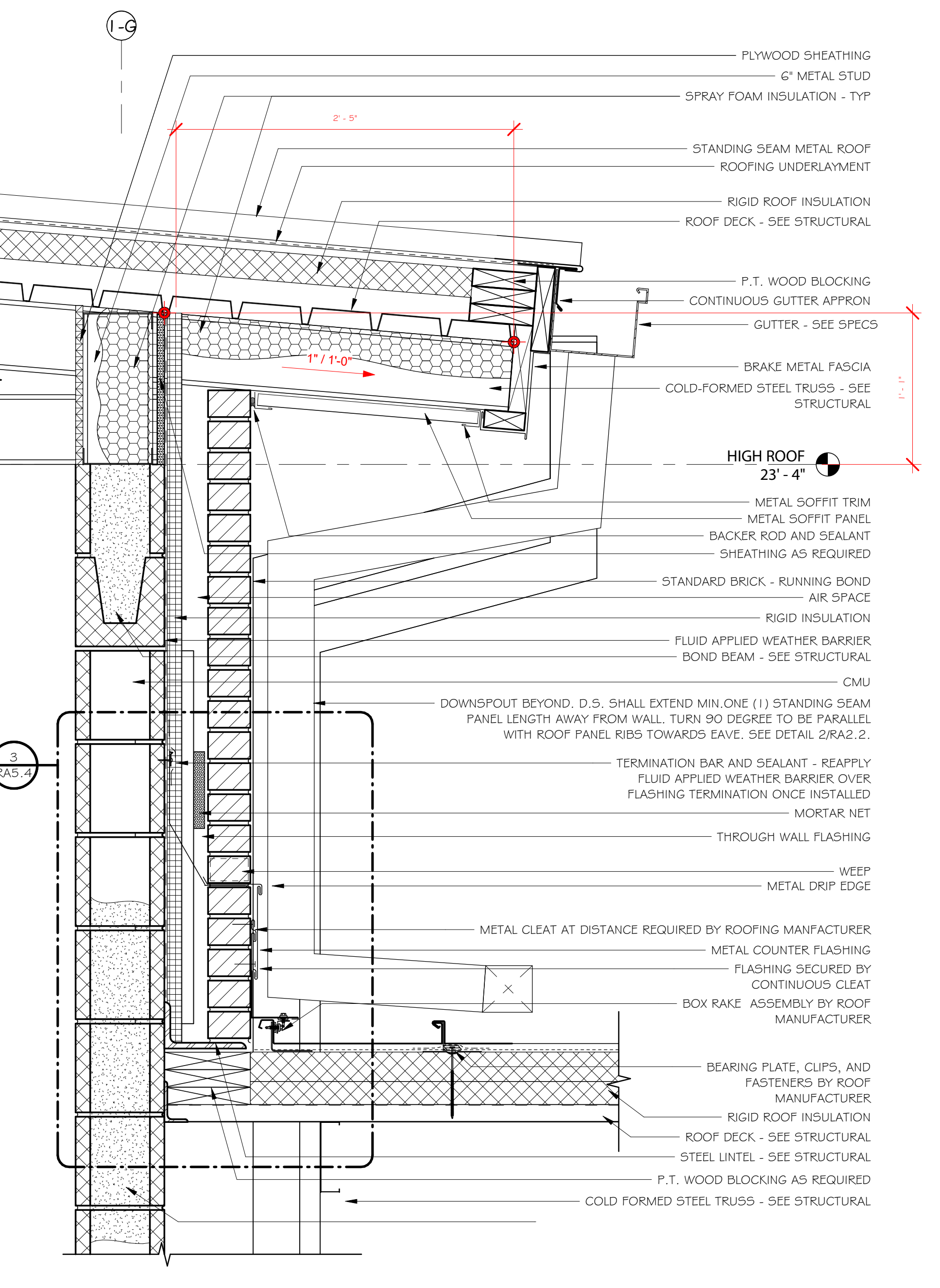
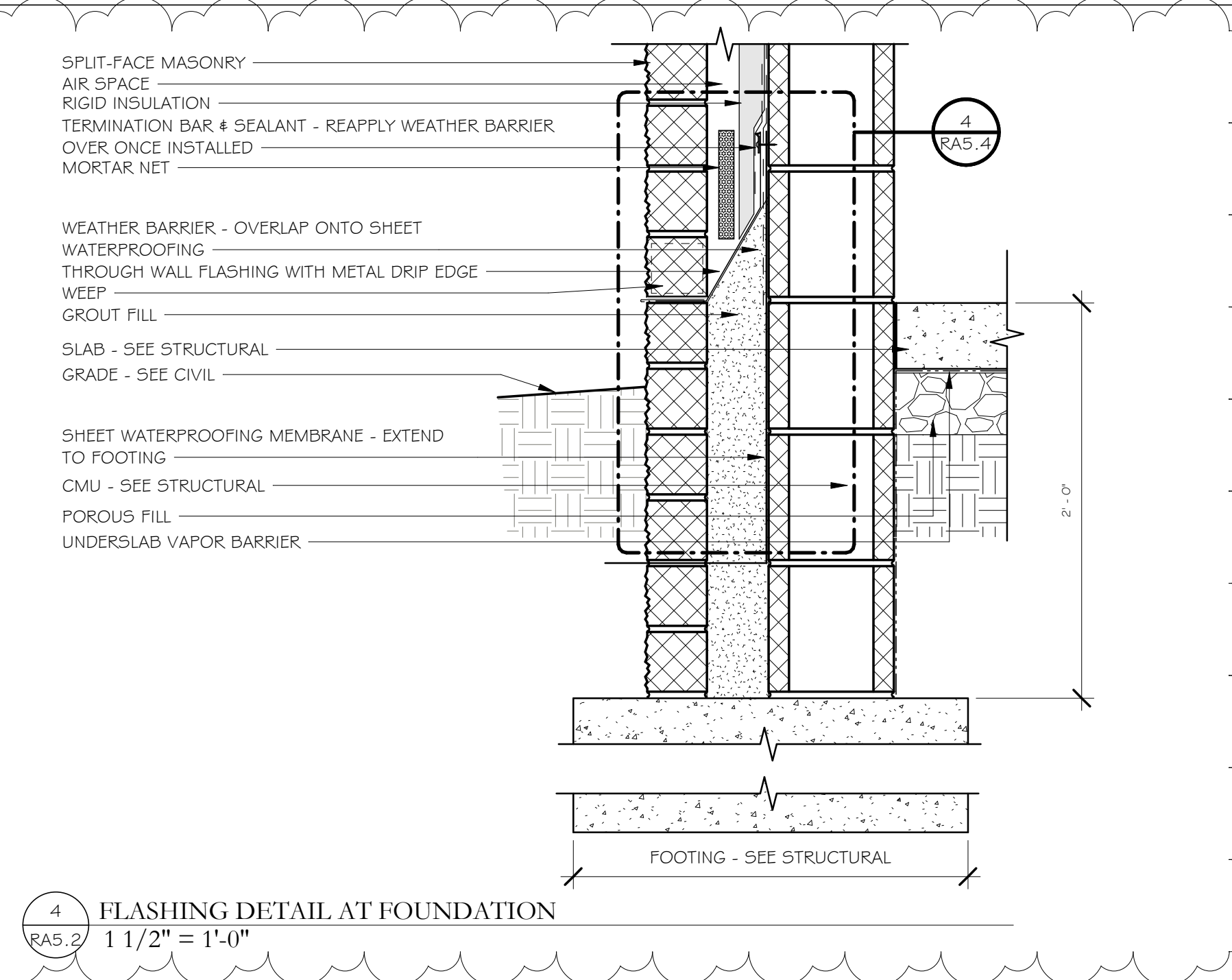
Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE, AL, 35811

Sheet Title  
WALL SECTIONS &  
DETAILS -  
READINESS  
CENTER

Sheet Number

RA5.2



1  
RAS.2  
WALL SECTION A  
3/4" = 1'-0"

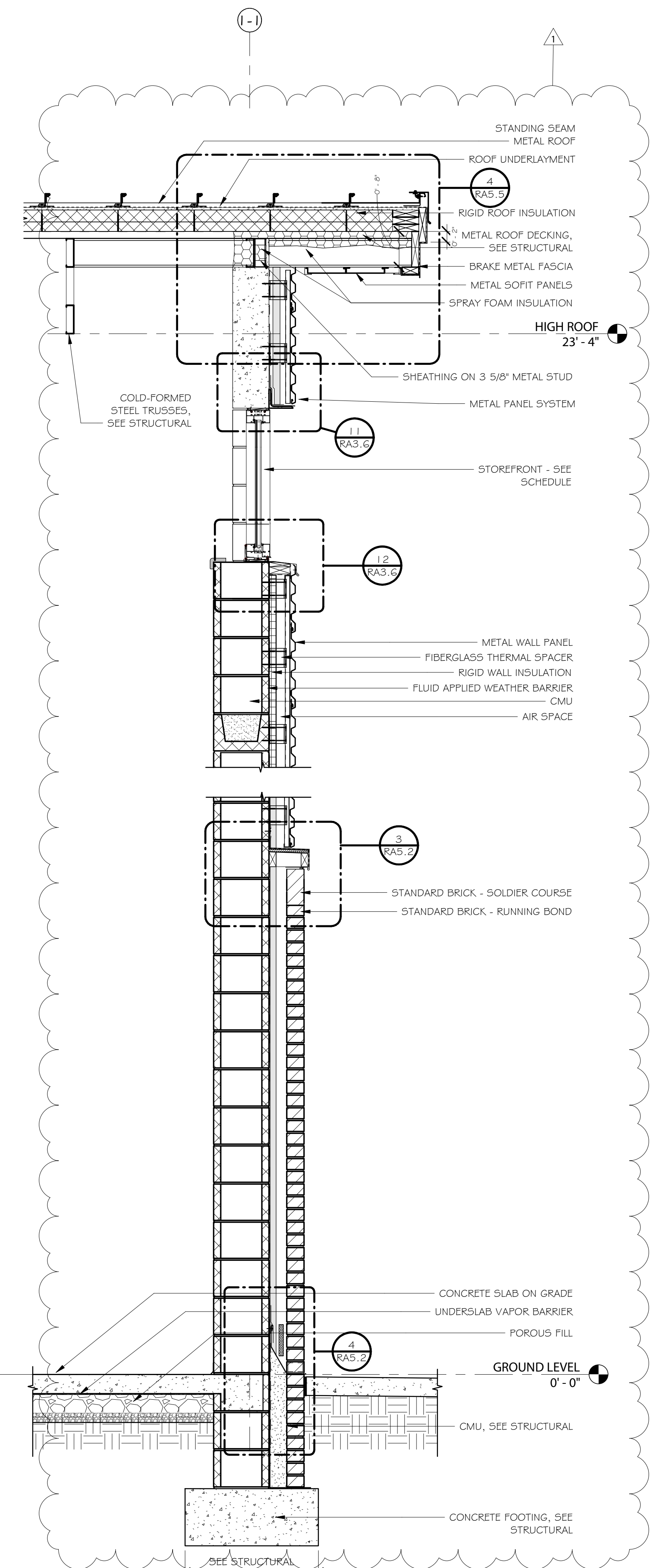
2  
RAS.2  
WALL SECTION B  
3/4" = 1'-0"

5  
RAS.2  
LOW ROOF TO HIGH ROOF DETAIL  
1 1/2" = 1'-0"

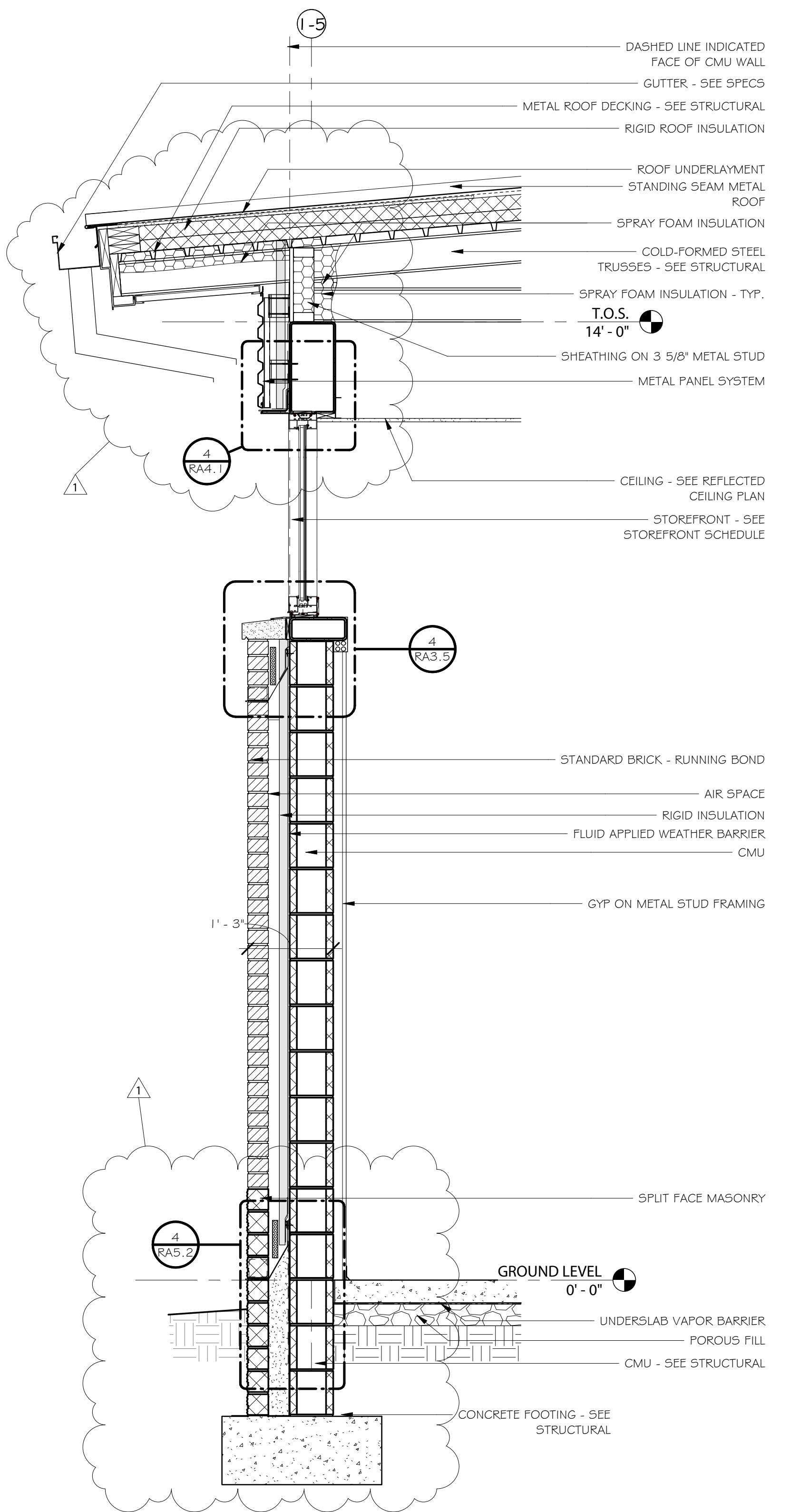
3  
RAS.2  
BRICK TO METAL PANEL TRANSITION  
1 1/2" = 1'-0"

4  
RAS.2  
FLASHING DETAIL AT FOUNDATION  
1 1/2" = 1'-0"





1 WALL SECTION D  
 3/4" = 1'-0"



2 WALL SECTION E  
 3/4" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

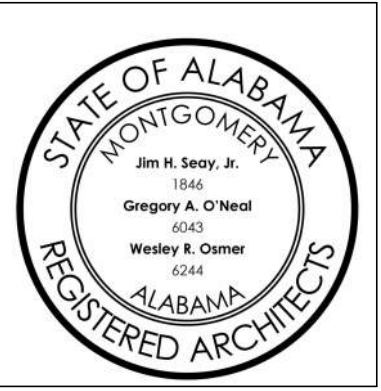
Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

**HUNTSVILLE READINESS CENTER**  
 5180 MOORE'S MILL ROAD  
 HUNTSVILLE AL, 35811

Sheet Title  
 WALL SECTIONS & DETAILS - READINESS CENTER

Sheet Number  
**RA5.3**





Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

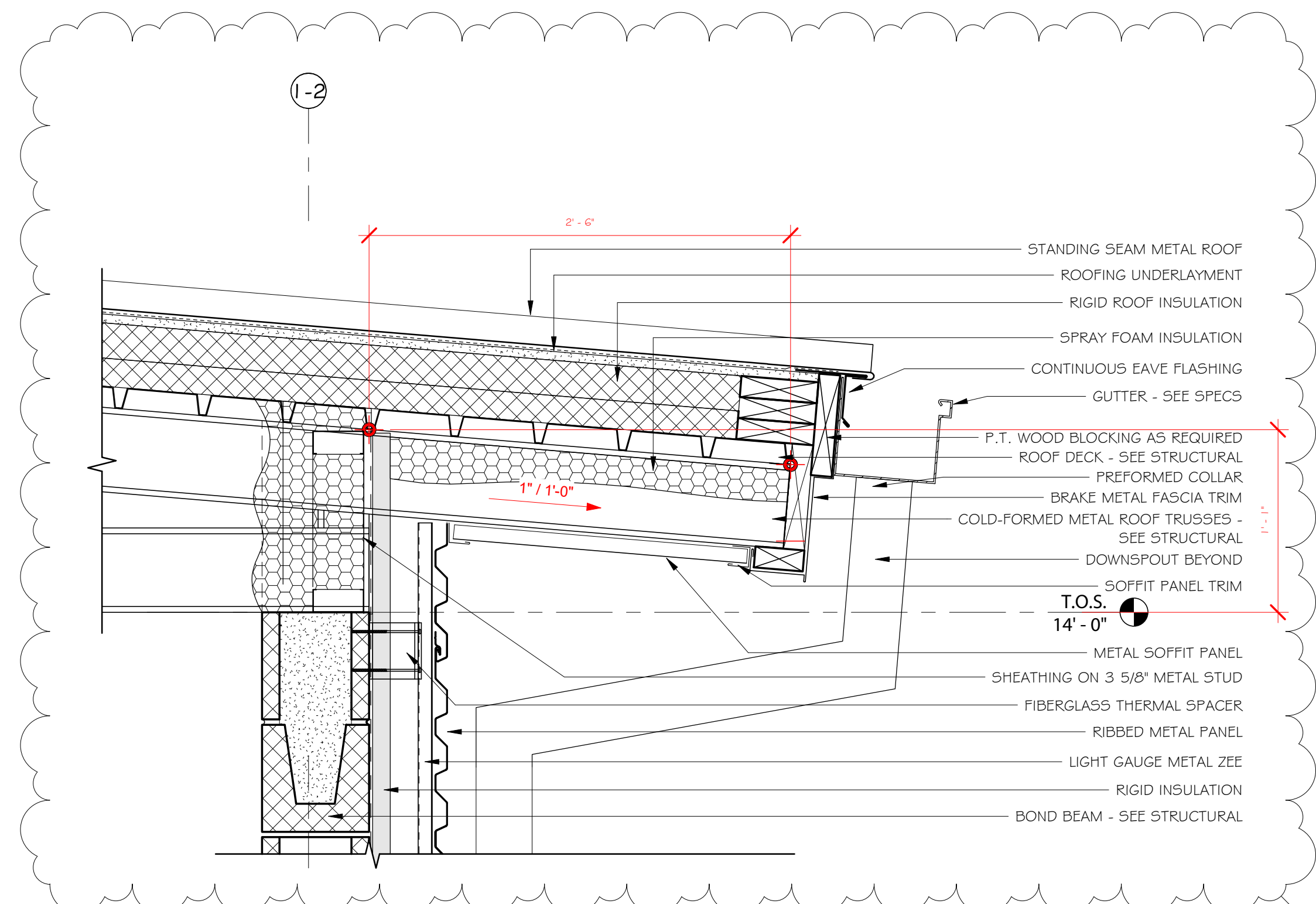
Project Title

**HUNTSVILLE READINESS CENTER**  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

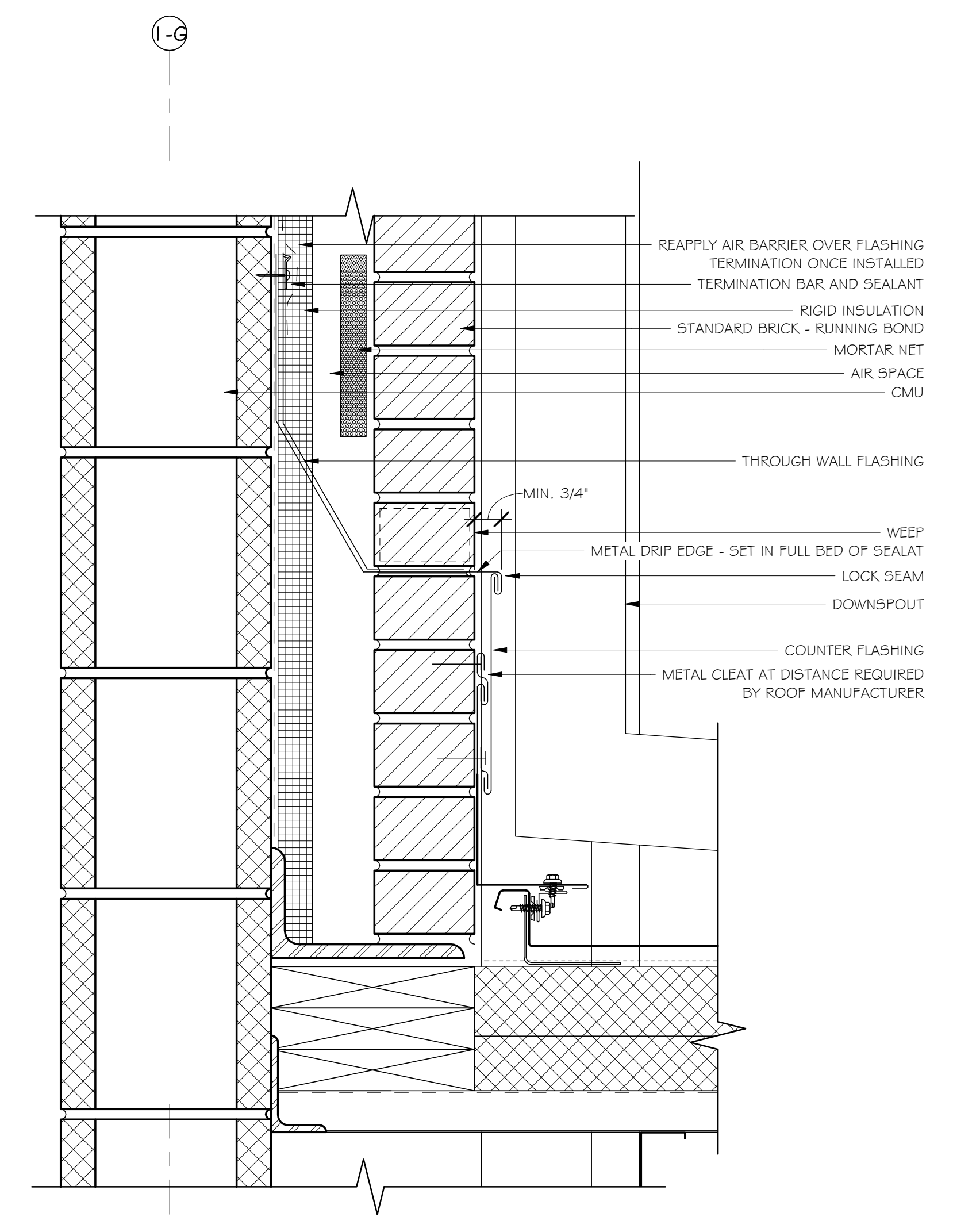
Sheet Title  
**WALL SECTIONS & DETAILS - READINESS CENTER**

Sheet Number

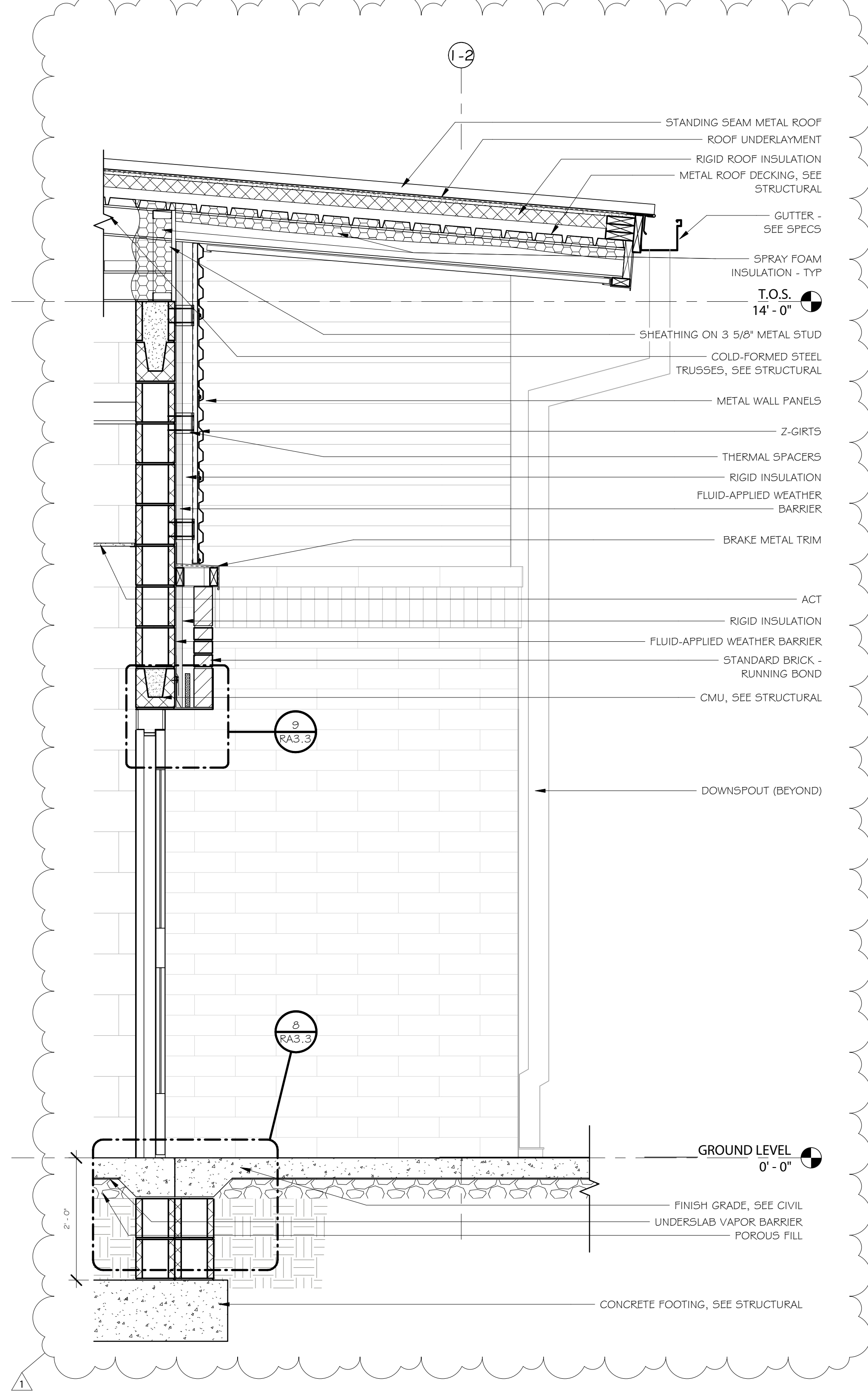
**RA5.4**



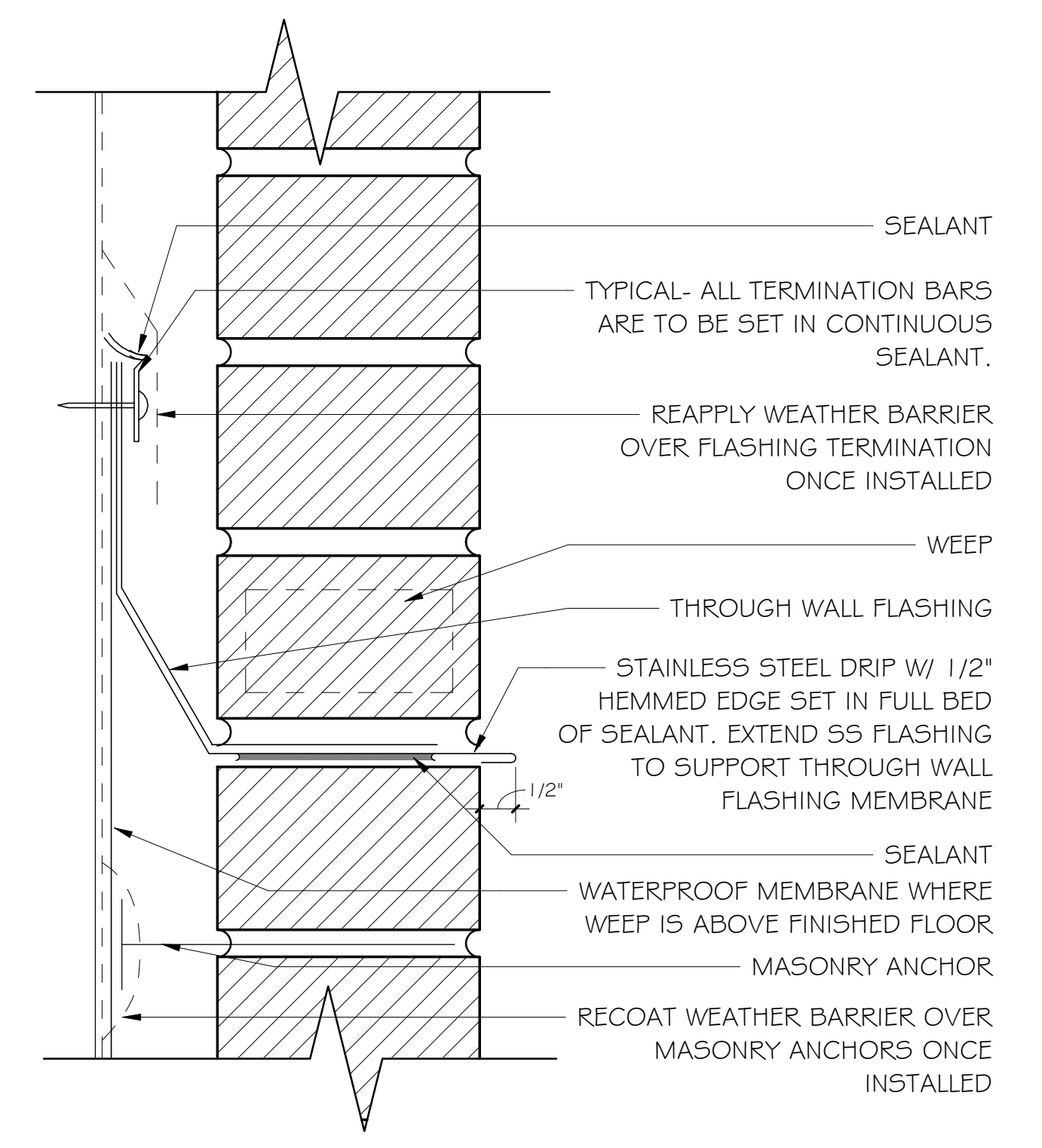
1 GUTTER AT STANDING SEAM ROOF  
1 1/2" = 1'-0"



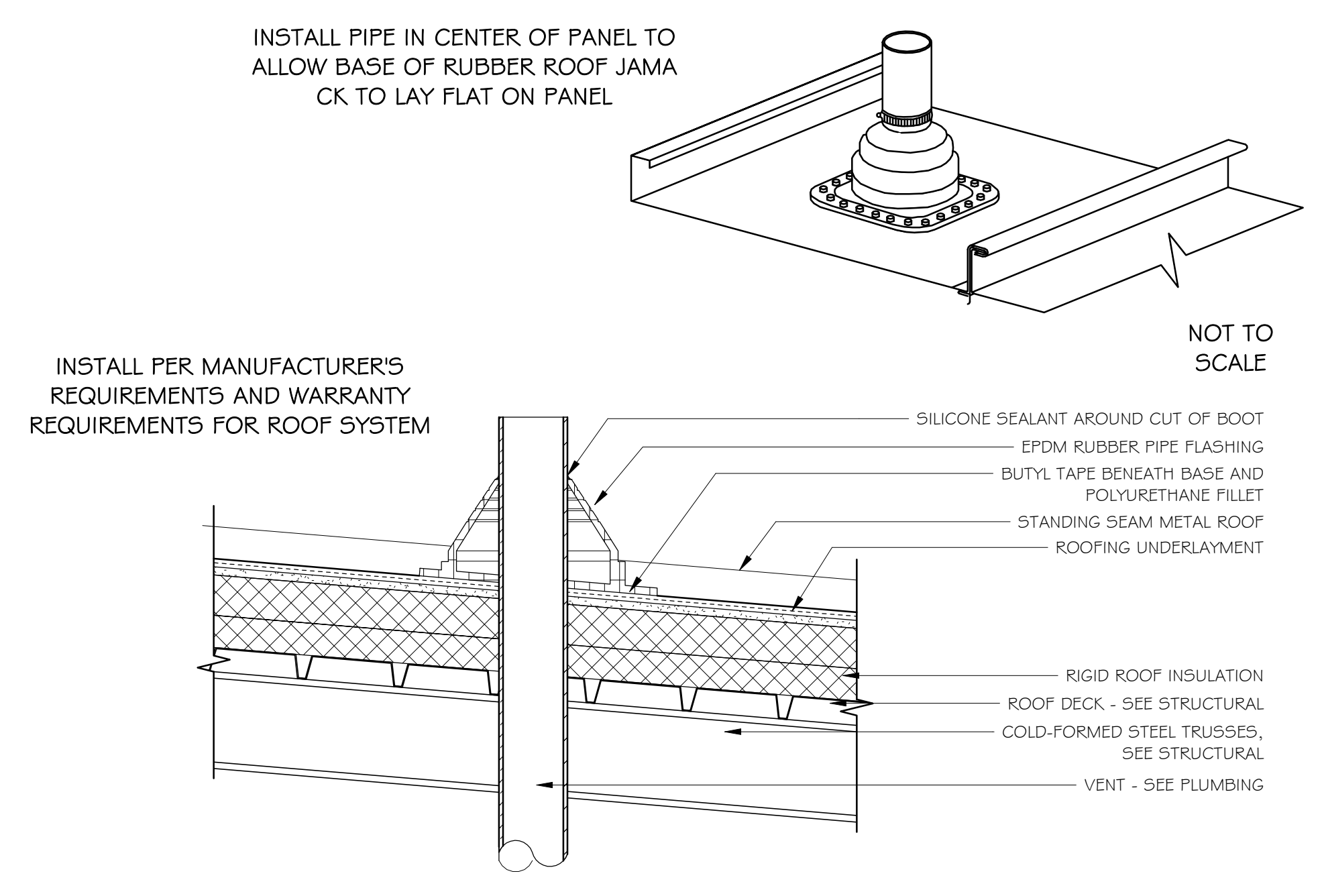
3 LOW ROOF TO BRICK TRANSITION  
3" = 1'-0"



5 WALL SECTION F  
3/4" = 1'-0"



4 TYPICAL FLASHING DETAIL  
6" = 1'-0"

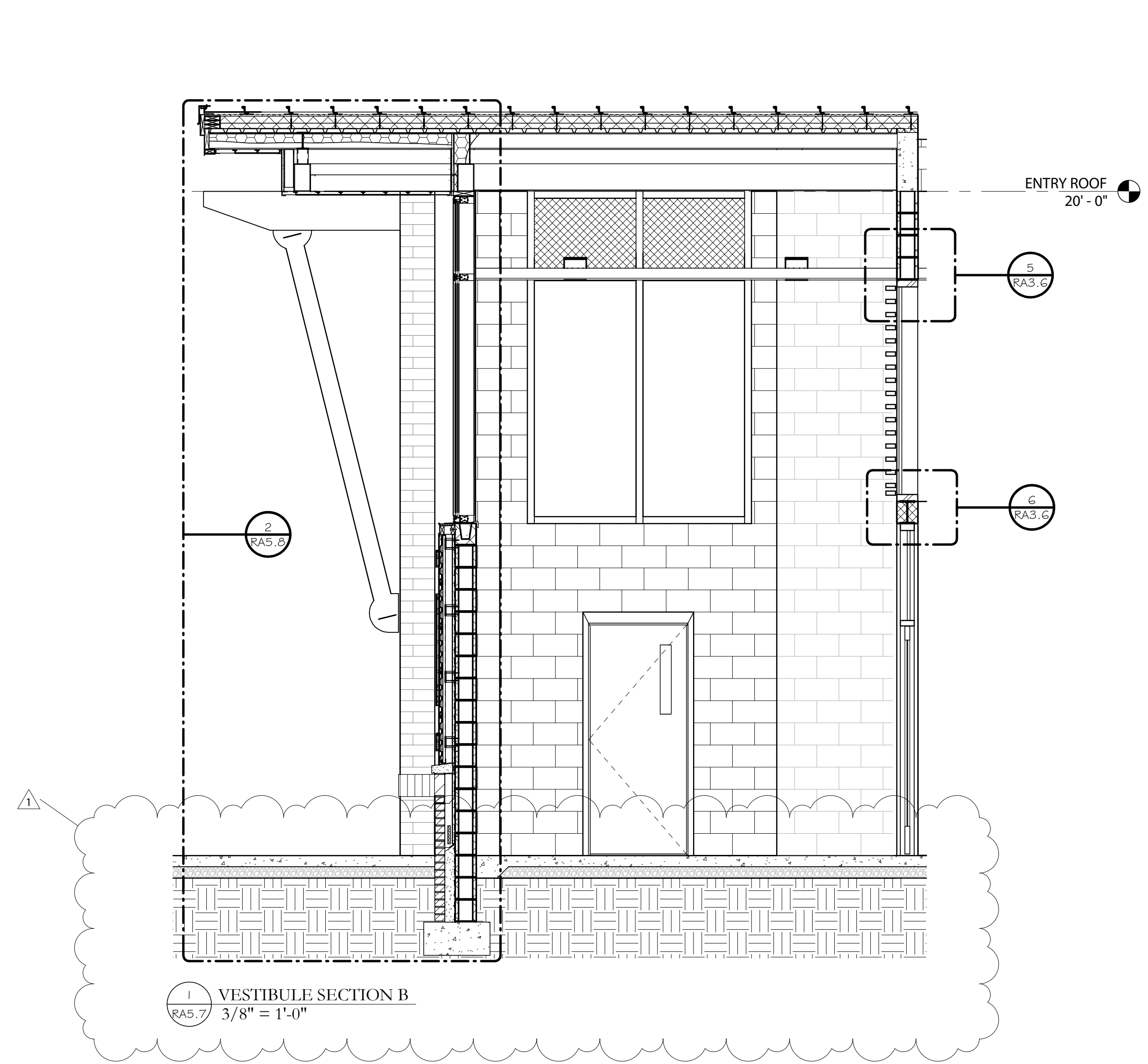


2 METAL ROOF VENT  
1 1/2" = 1'-0"





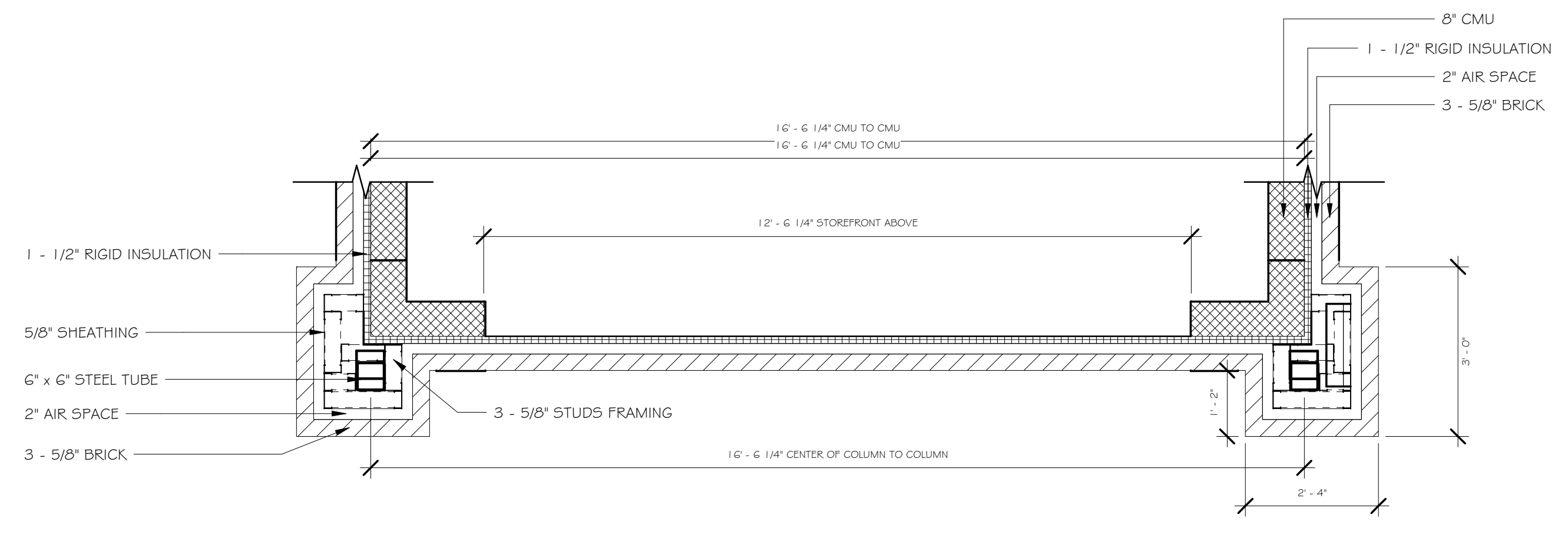




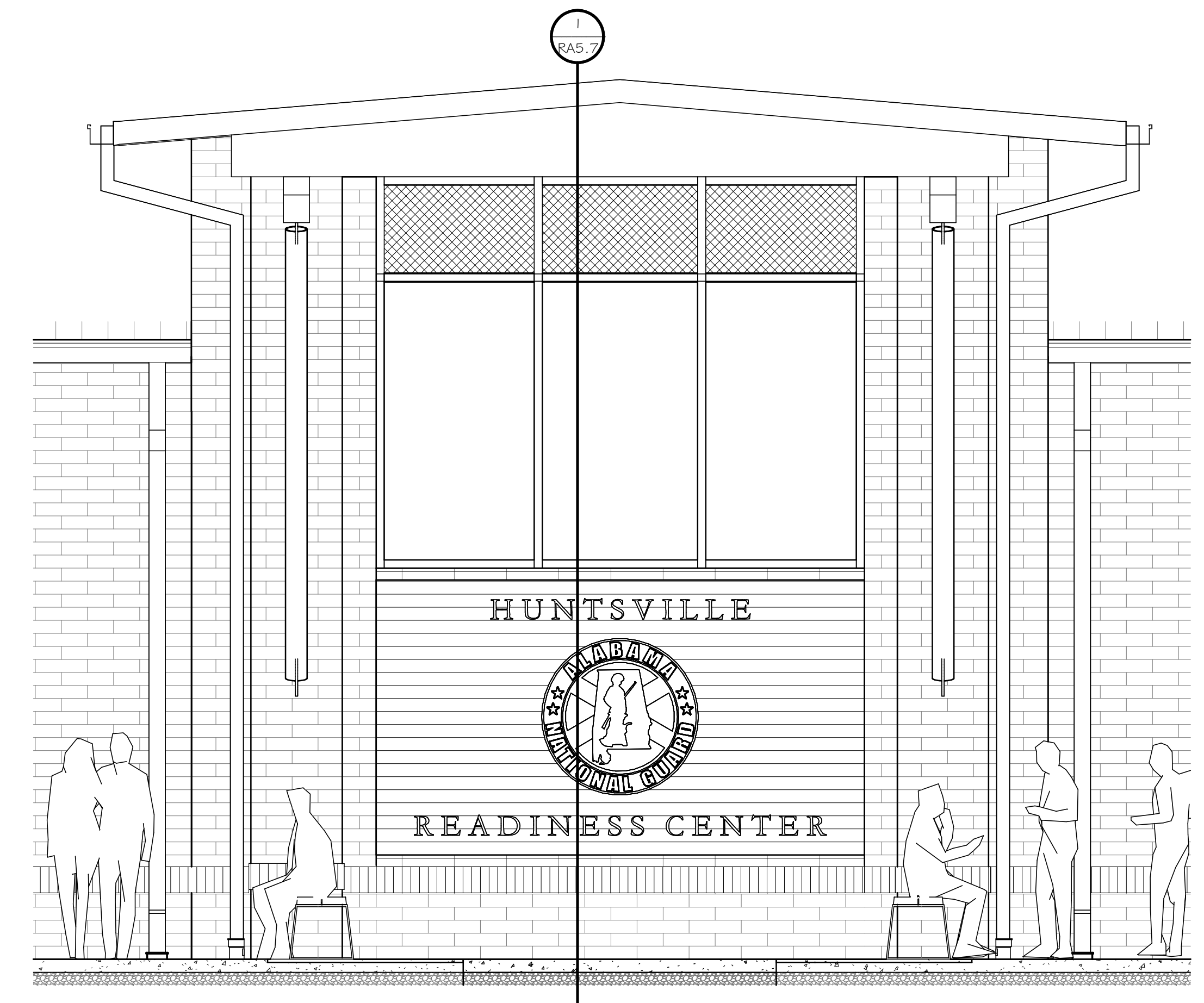
1 VESTIBULE SECTION B  
RAS.7  
3/8" = 1'-0"



3 VESTIBULE SECTION A  
RAS.7  
3/8" = 1'-0"



2 VESTIBULE DETAIL PLAN  
RAS.7  
1/2" = 1'-0"



4 VESTIBULE ELEVATION  
RAS.7  
3/8" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number: 21112  
AL ARNG IFB #: AC-25-B-0006-S  
Date: NOVEMBER 1, 2024  
Drawn By: TS, CK, DW, WR  
Checked By: CI

Project Title

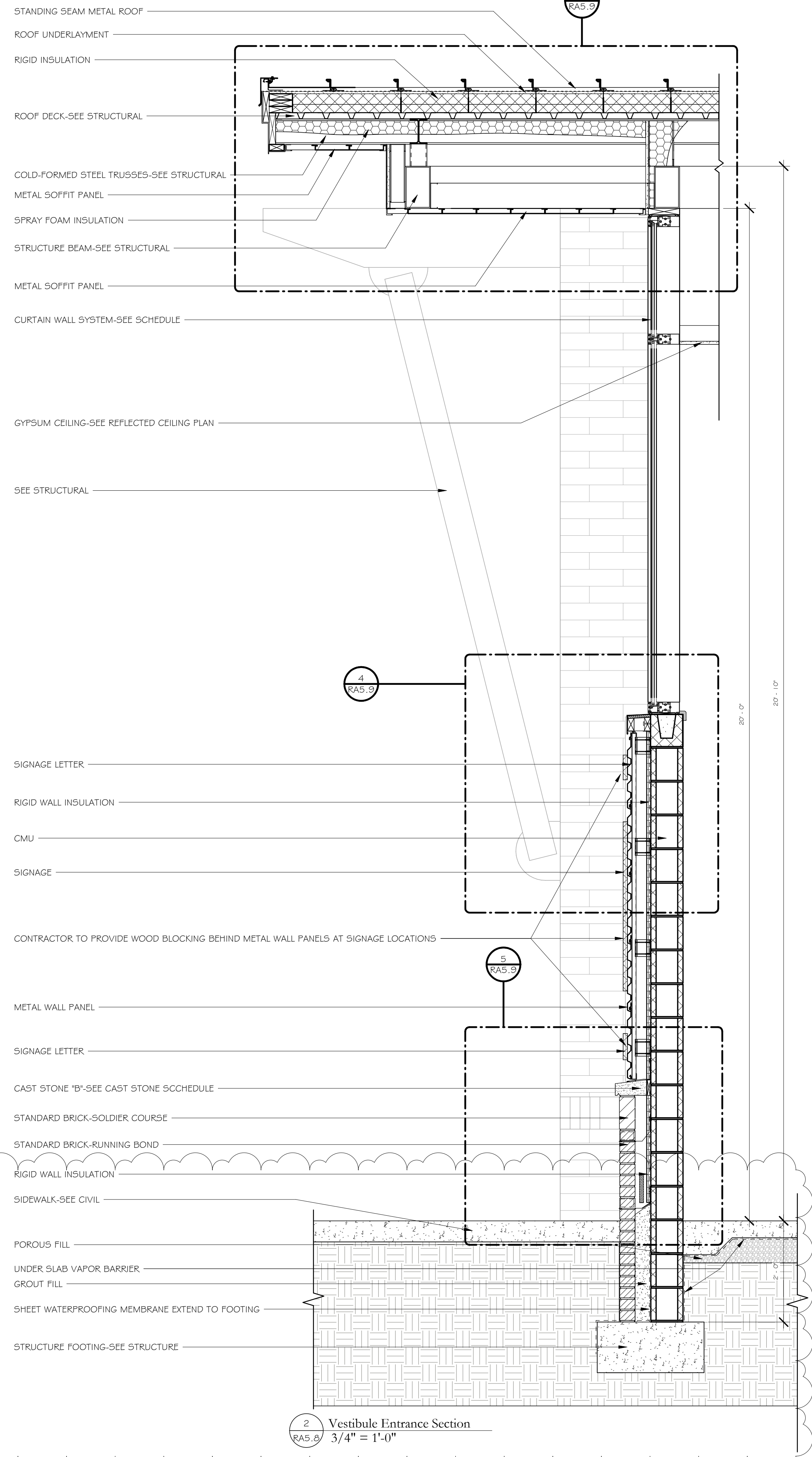
HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
VESTIBULE  
SECTIONS -  
READINESS  
CENTER

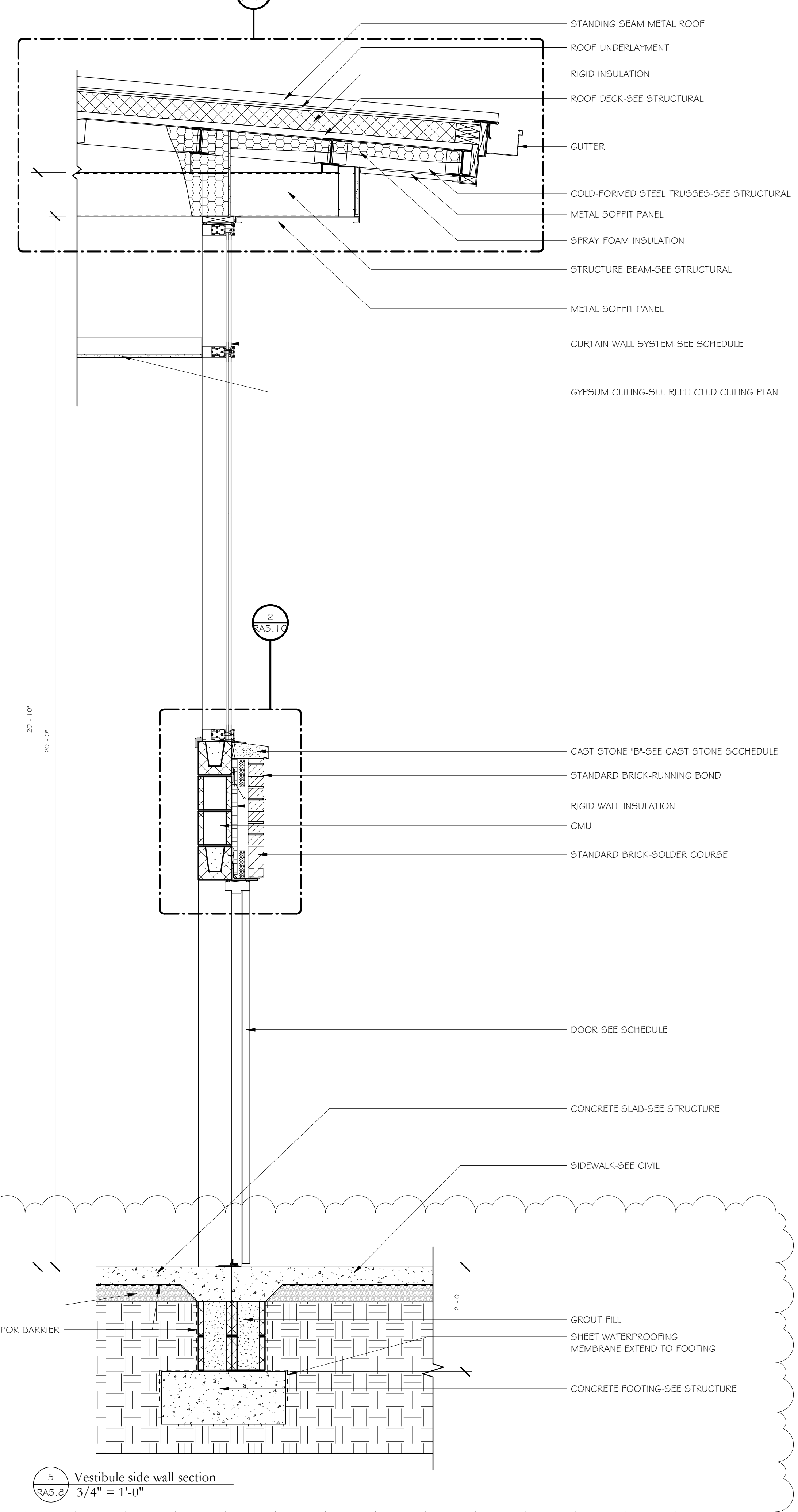
Sheet Number

RA5.7





2 Vestibule Entrance Section  
3/4" = 1'-0"



5 Vestibule side wall section  
3/4" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
ENLARGED  
VESTIBULE  
SECTIONS A -  
READINESS  
CENTER

Sheet Number

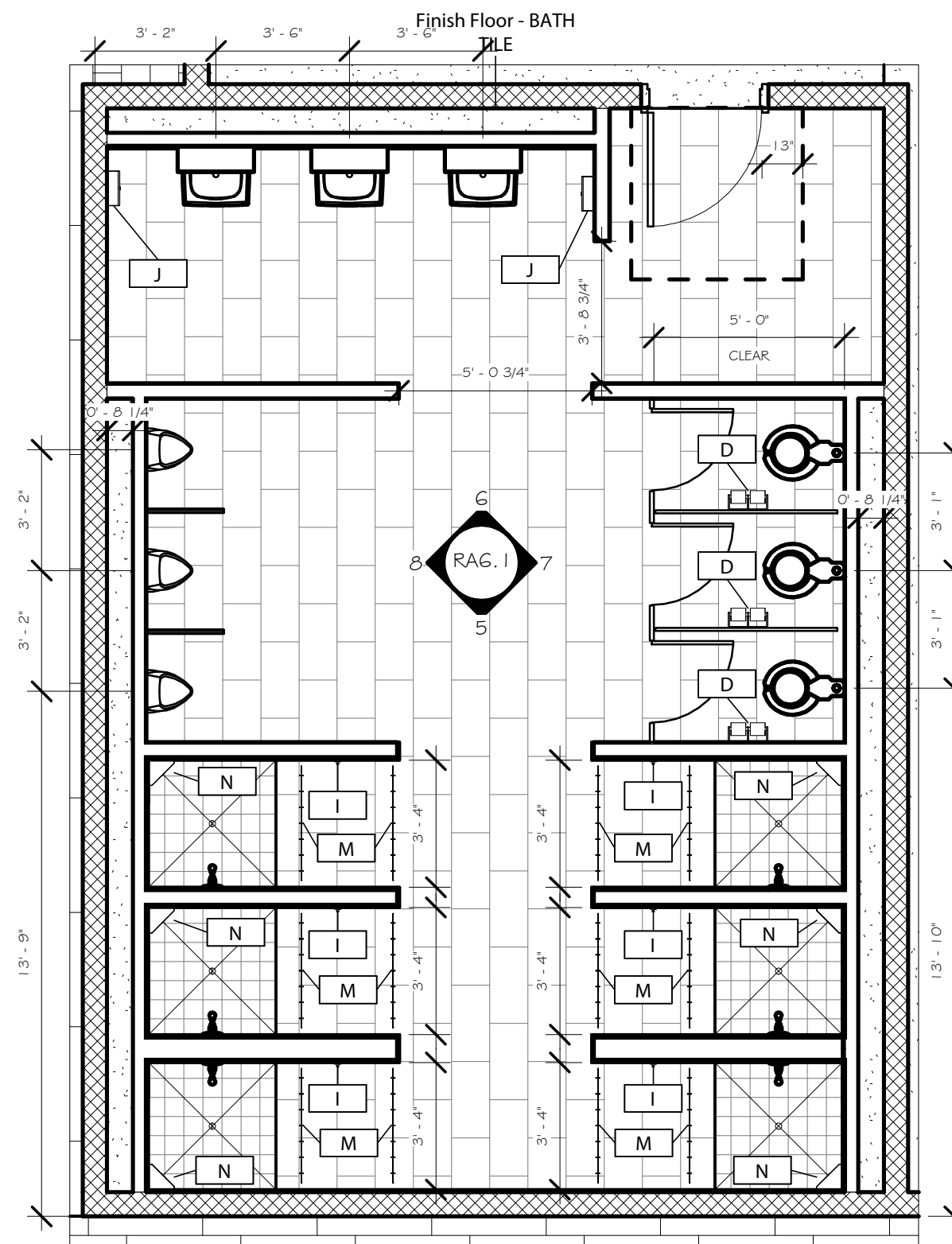
RA5.8



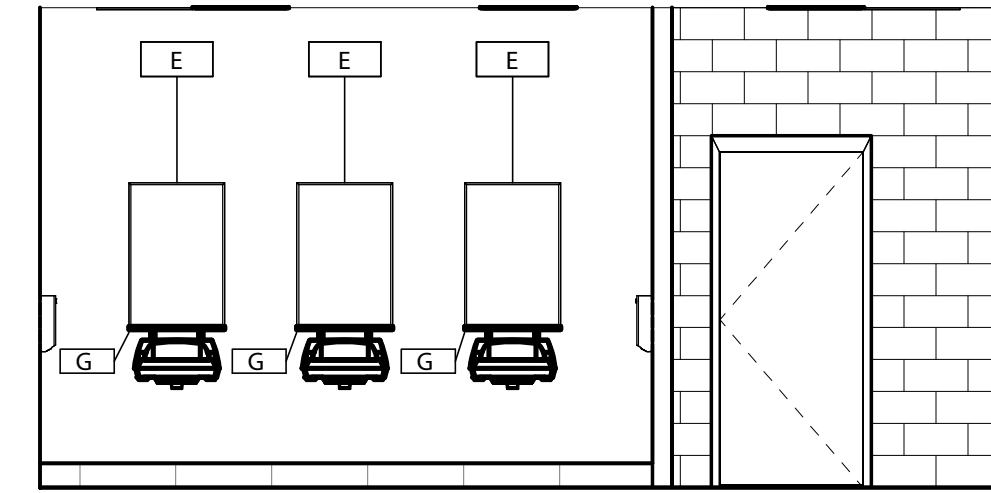


## ACCESSORY LEGEND

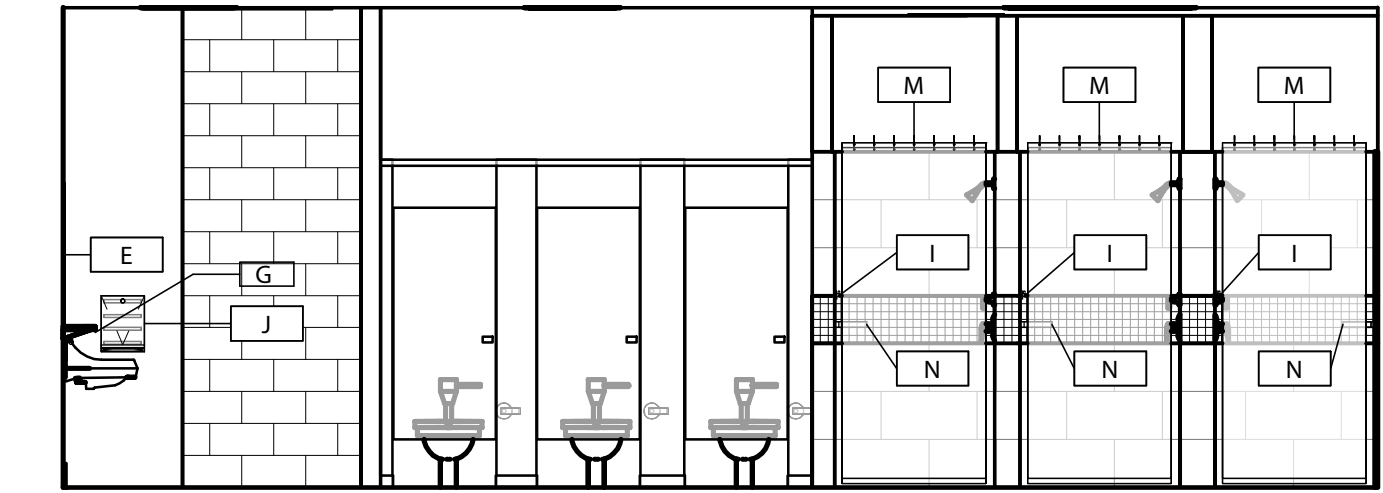
- A** 1/8" GRAB BAR
- B** 3/8" GRAB BAR
- C** 4/2" GRAB BAR
- D** TOILET PAPER HOLDER
- E** MIRROR - 24" X 36"
- G** STAINLESS STEEL SHELF
- H** SANITARY NAPKIN DISPOSAL
- I** DOUBLE ROBE HOOK
- J** SURFACE MOUNTED PAPER TOWEL DISPENSER
- M** SHOWER CURTAIN ROD
- N** SOLID SURFACE SOAP DISH HOLDER



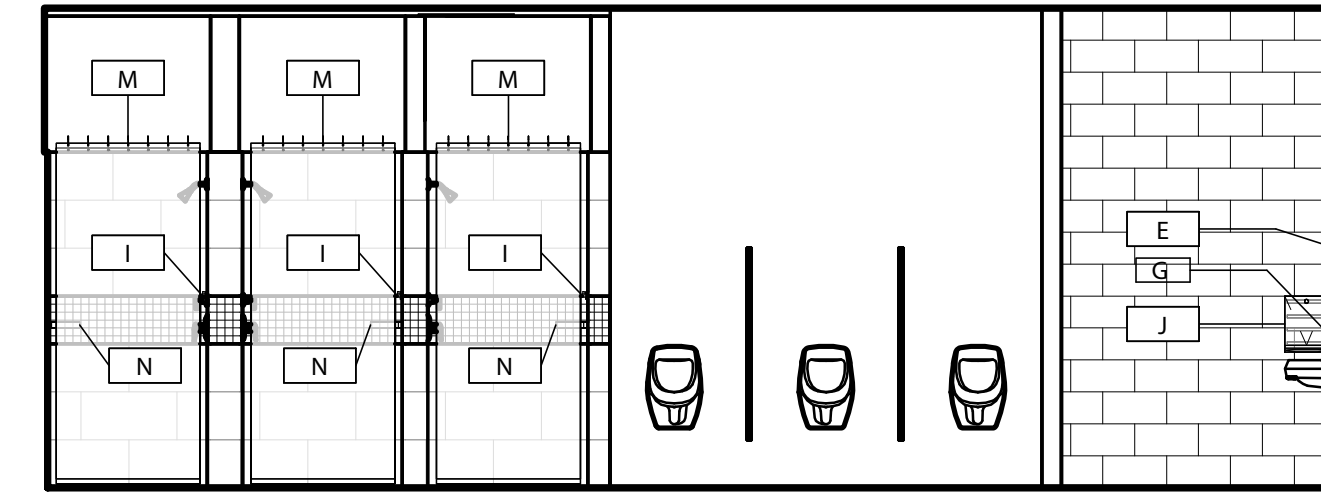
**1** ENLARGED MEN'S RESTROOM - 137  
RAG.1 1/4" = 1'-0"



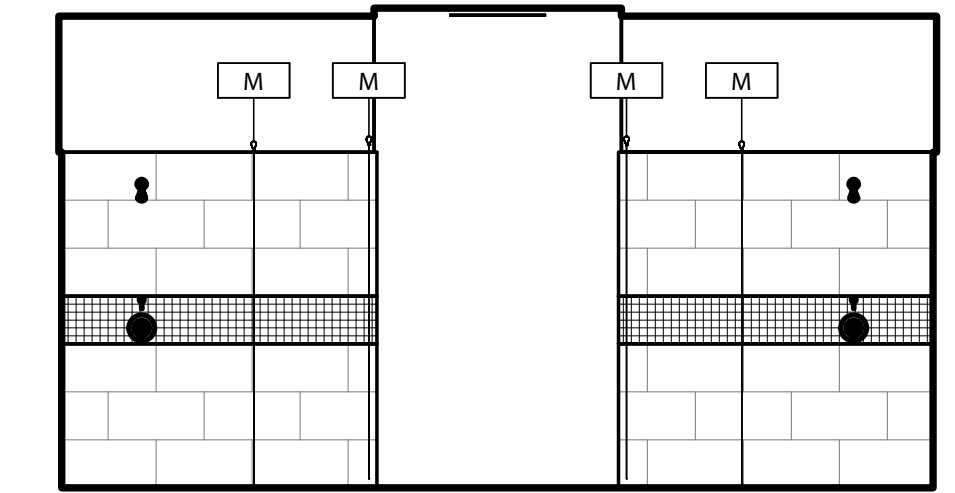
**6** MEN'S RESTROOM 137 - NORTH ELEVATION  
RAG.1 1/4" = 1'-0"



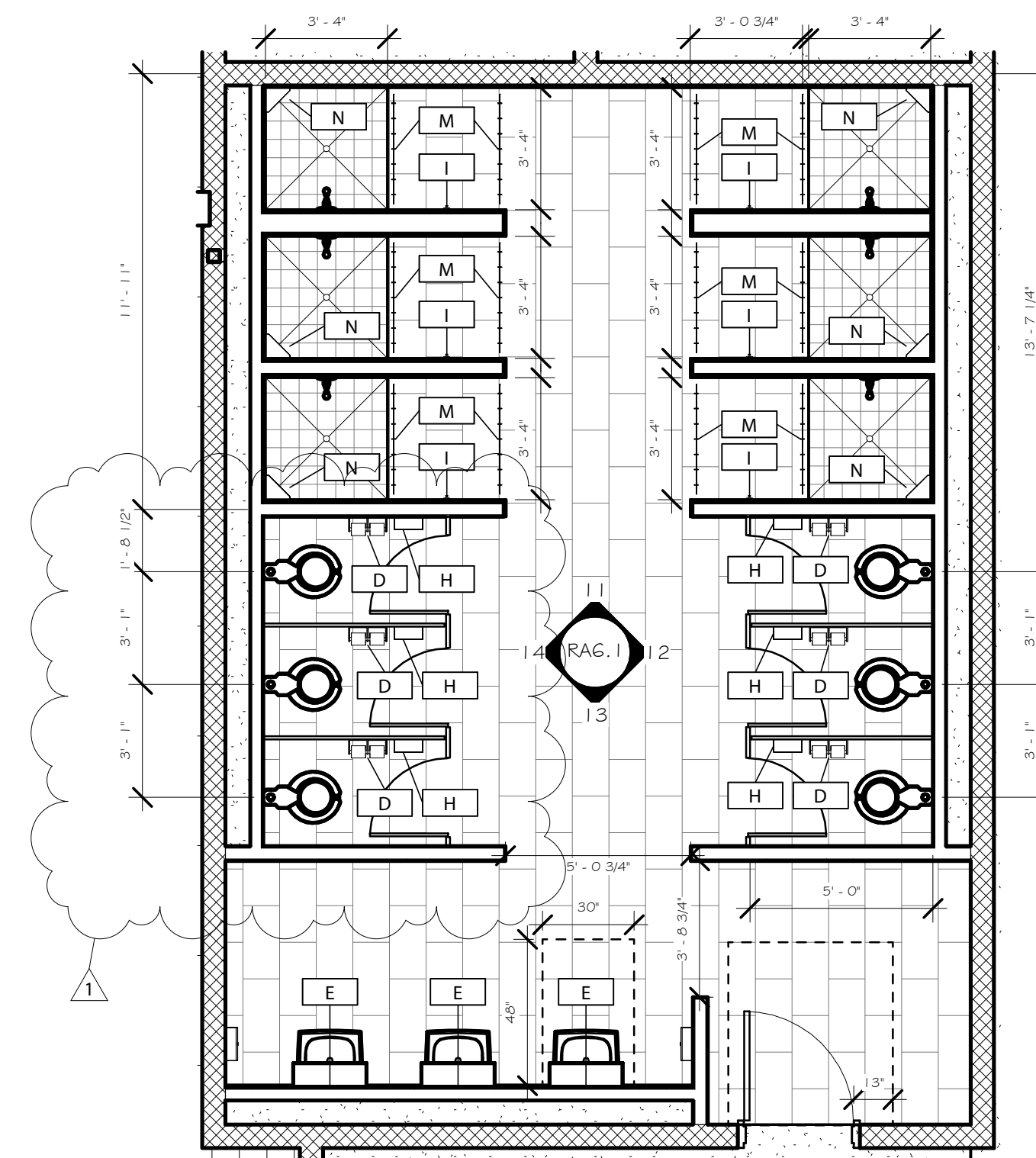
**7** MEN'S RESTROOM 137 - EAST ELEVATION  
RAG.1 1/4" = 1'-0"



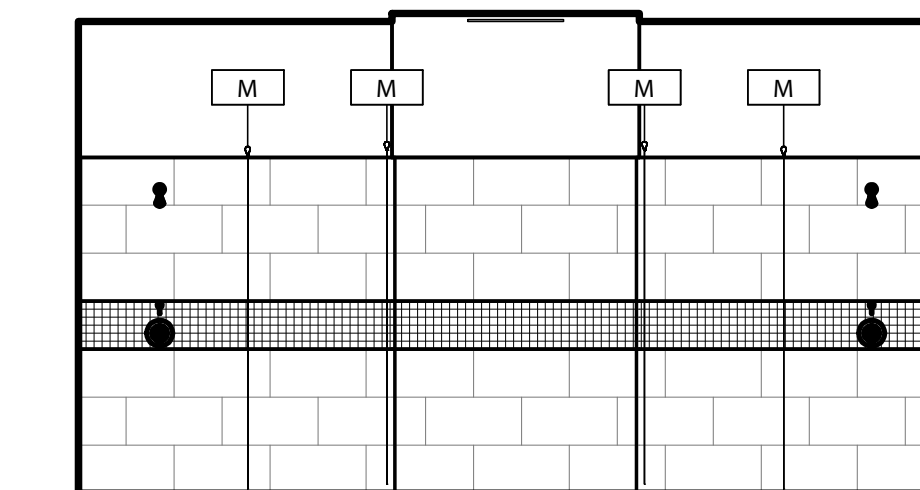
**8** MEN'S RESTROOM 137 - WEST ELEVATION  
RAG.1 1/4" = 1'-0"



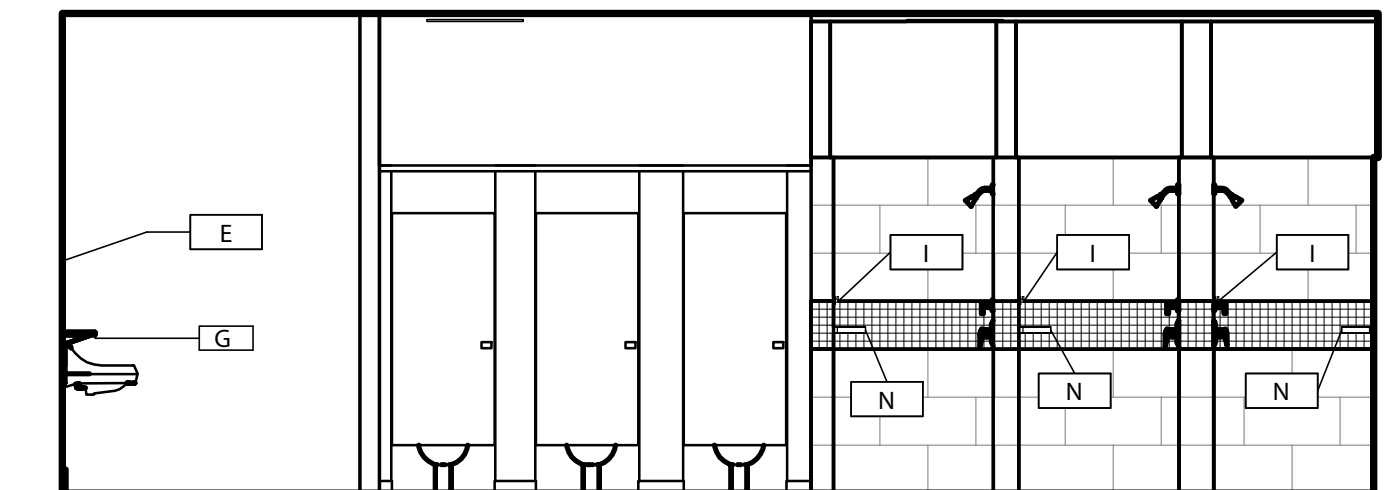
**5** MEN'S RESTROOM 137 - SOUTH ELEVATION  
RAG.1 1/4" = 1'-0"



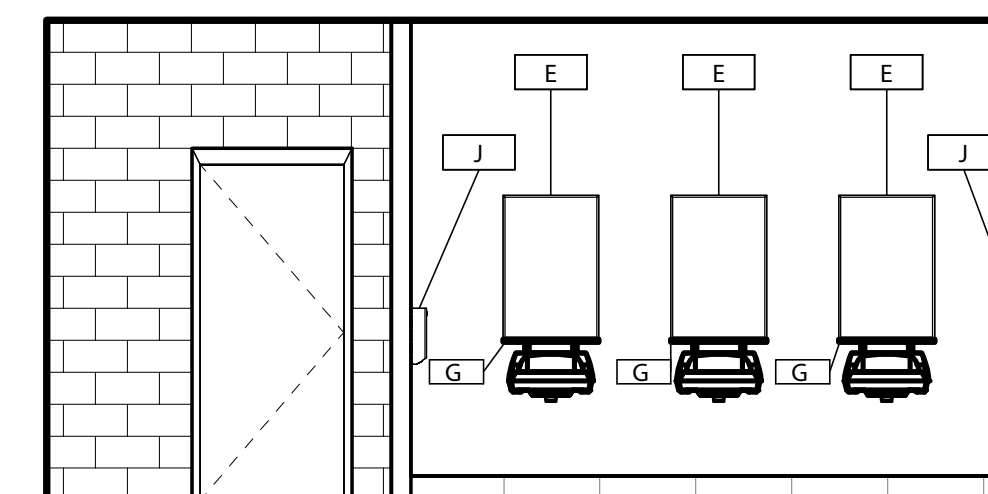
**3** ENLARGED WOMEN'S RESTROOM - 135  
RAG.1 1/4" = 1'-0"



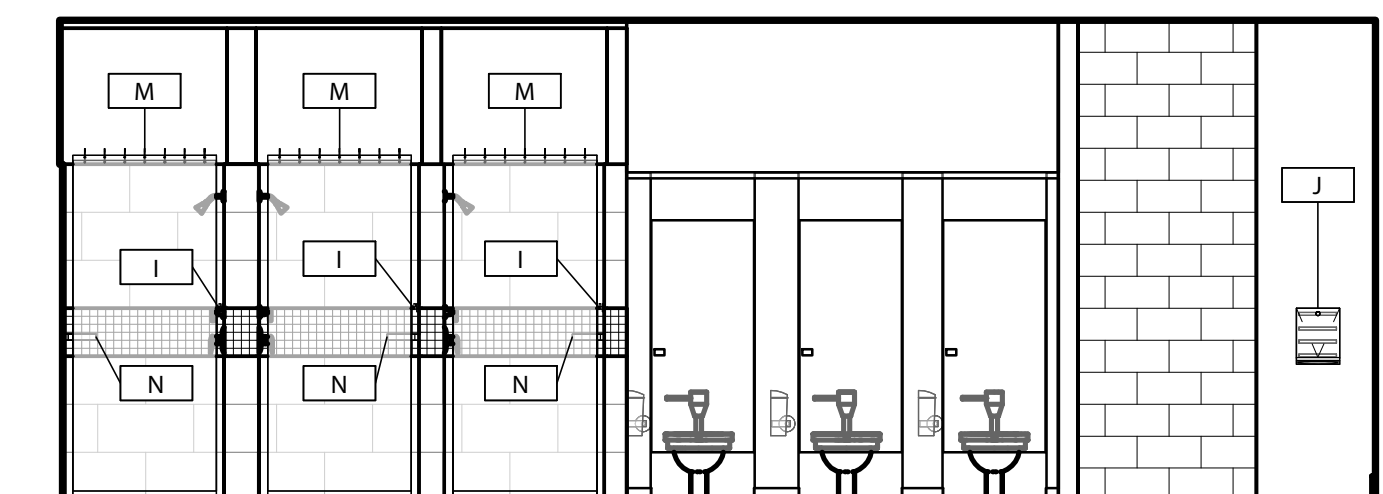
**11** WOMEN'S RESTROOM 135 - NORTH ELEVATION  
RAG.1 1/4" = 1'-0"



**14** WOMEN'S RESTROOM 135 - WEST ELEVATION  
RAG.1 1/4" = 1'-0"



**13** WOMEN'S RESTROOM 135 - SOUTH ELEVATION  
RAG.1 1/4" = 1'-0"



**12** WOMEN'S RESTROOM 135 - EAST ELEVATION  
RAG.1 1/4" = 1'-0"

## GENERAL RESTROOM NOTES

1. REFER TO SPECIFICATION SECTION 10 2800 - TOILET, BATH, AND LAUNDRY ACCESSORIES
2. PROVIDE CONCEALED WOOD BLOCKING FOR FASTENING LAVATORIES, TOILET PARTITIONS, TRIM, URINAL SCREENS, AND TOILET ACCESSORIES, FASTEN AS PER MANUFACTURER'S INSTRUCTION WITH STAINLESS STEEL FASTENERS.
3. VERIFY ALL MOUNTING HEIGHTS AND CLEARANCES COMPLY WITH THE AMERICAN DISABILITIES ACT (ADA)
4. APPLY WATER PROOF MEMBRANE TO SUBSTRATE PRIOR TO THE INSTALLATION OF TILING.
5. REFER TO FINISHED SPECIFICATION FOR SHOWER MOUNTED SHELVES.
6. SHOWER CLEAR DIMENSIONS SHALL BE 36" X 36" FROM THE OUTSIDE FACE OF TILE.
7. ADA UNDERSINK INSULATION KIT SHALL BE PROVIDED AT ALL SINKS WITH EXPOSED PIPING. - SEE PLUMBING.
8. NOTE: TILE MOCK-UPS SHALL INCLUDE THE COMPLETE INSTALLATION OF TILE IN (1) ONE SHOWER STALL AS INDICATED ON 1/RAG.1
9. VERIFY THAT ALL URINAL WALL PARTITIONS ARE SECURED TO THE WALL WITH CONTINUOUS STEEL BRACKETS ON EACH SIDE.

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

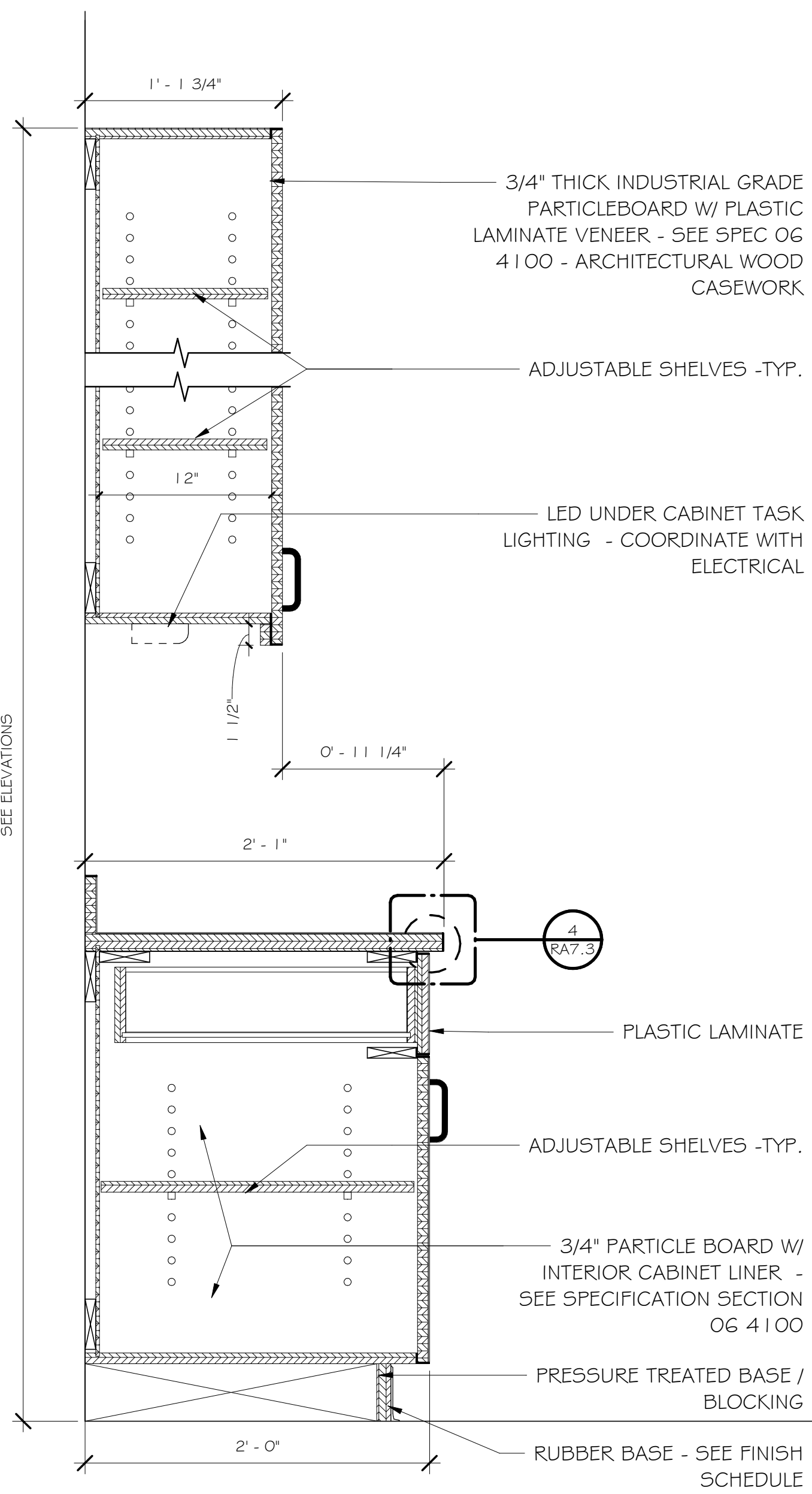
Sheet Title  
ENLARGED  
RESTROOM PLANS  
& ELEVATIONS -  
READINESS  
CENTER

Sheet Number

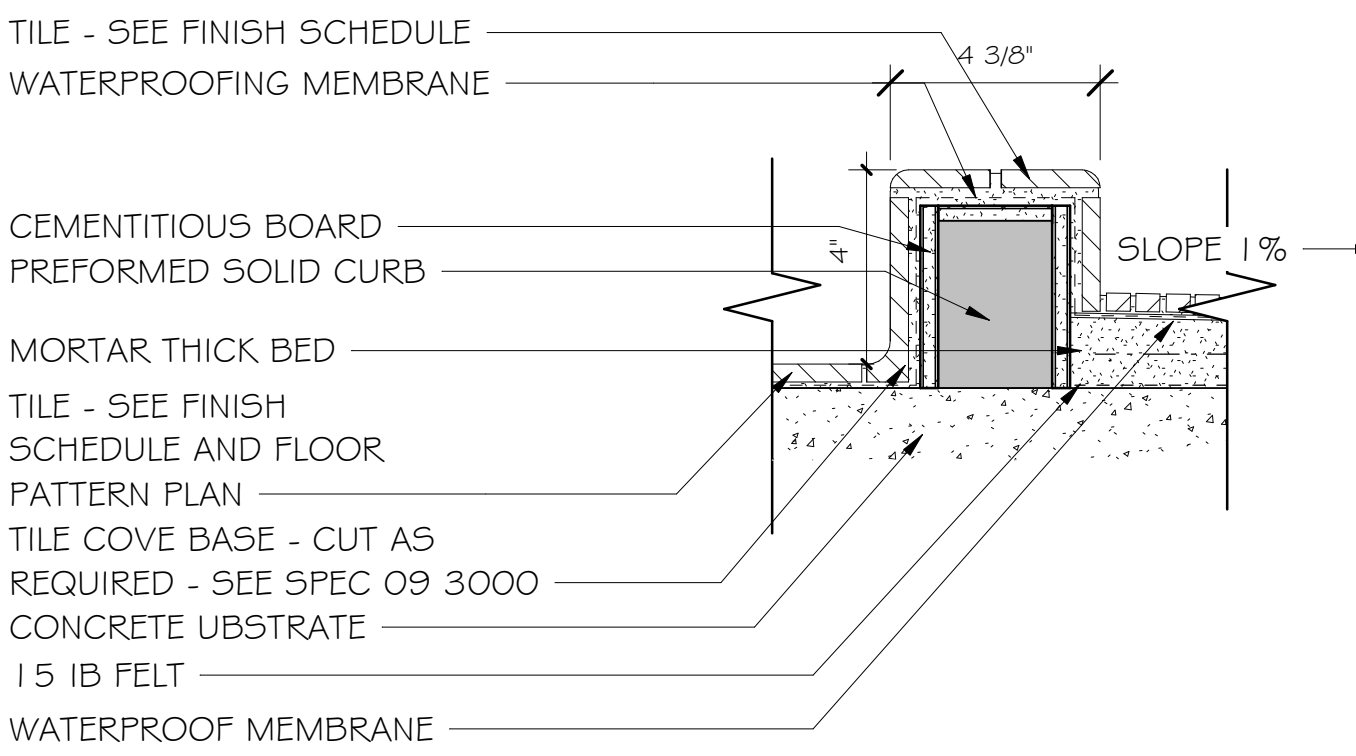
RA6.1



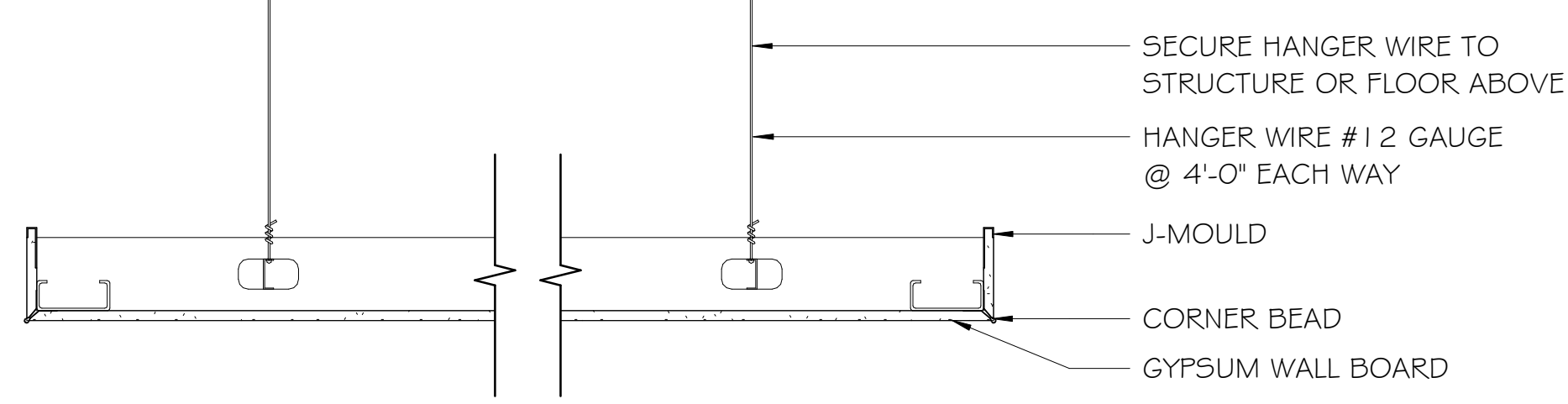




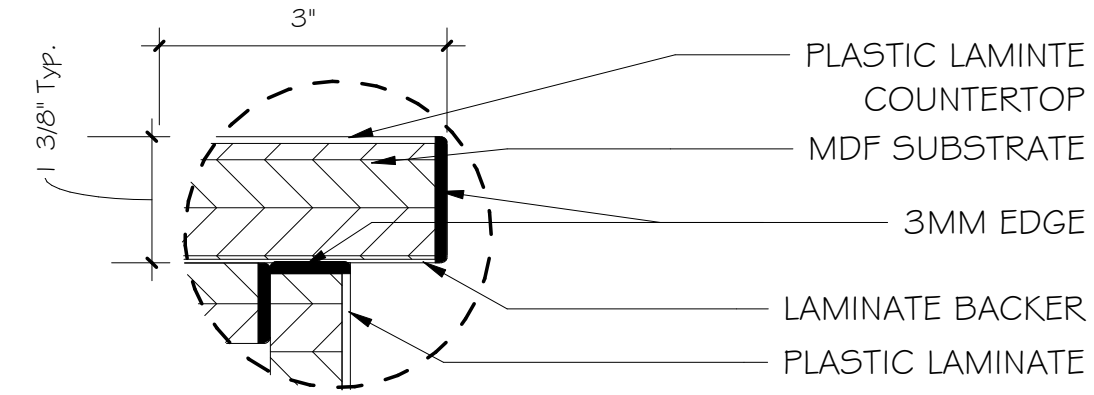
**3** BREAK ROOM CASEWORK SECTION DETAIL  
RA7.3 1 1/2" = 1'-0"



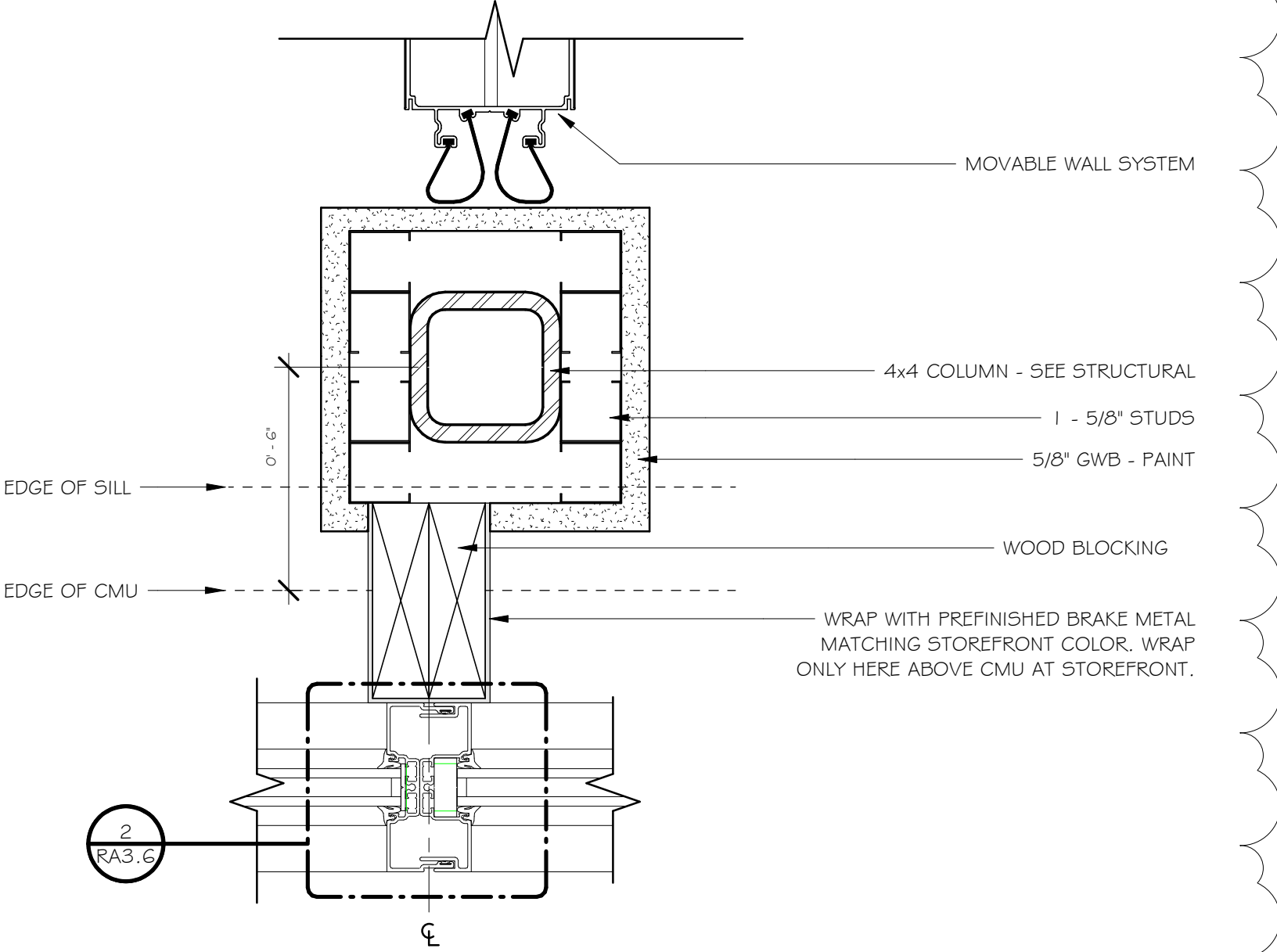
**7** SHOWER CURB (TILE)  
RA7.3 3" = 1'-0"



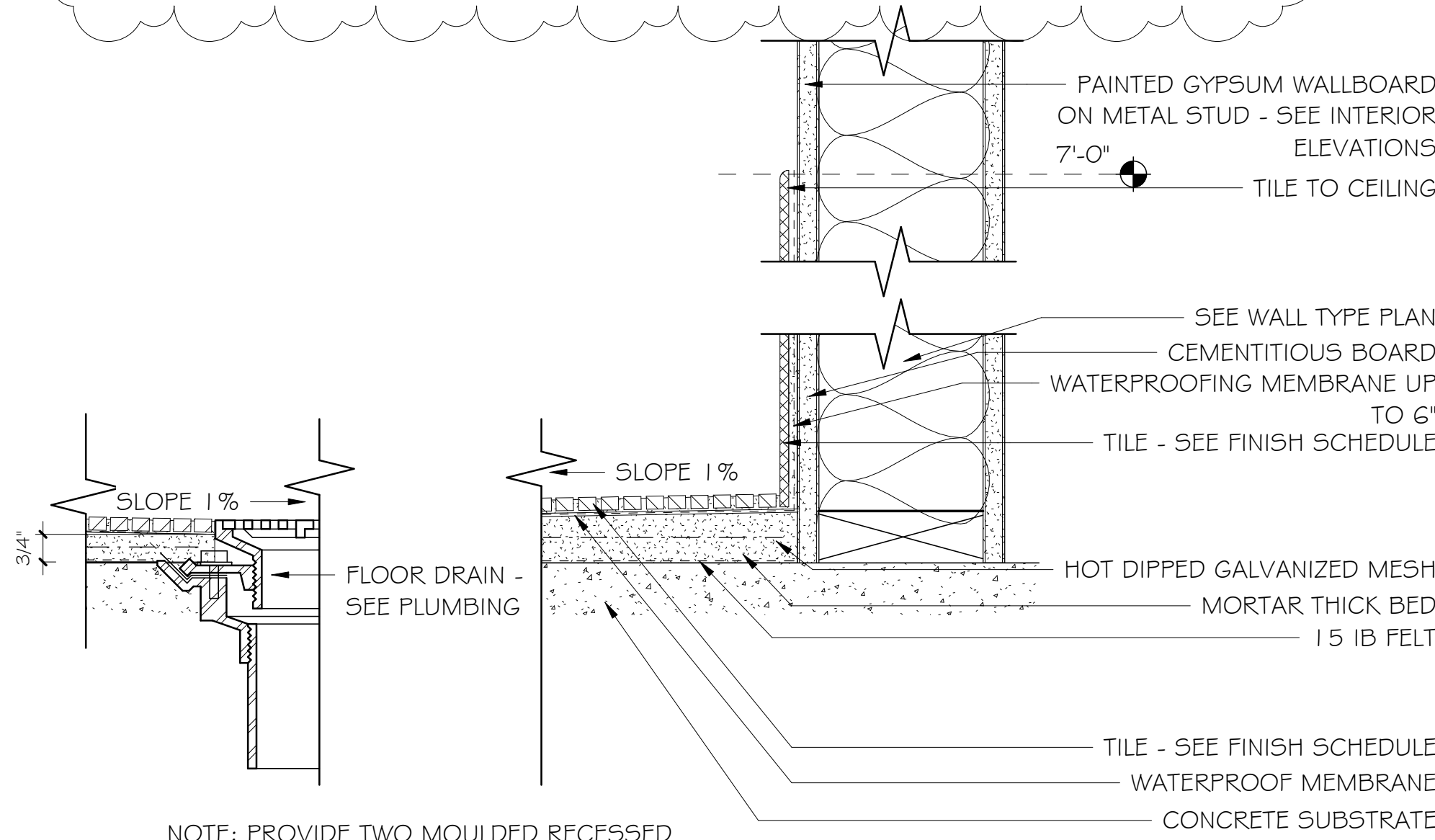
**5** CEILING PANEL DETAIL  
RA7.3 1 1/2" = 1'-0"



**4** CASEWORK PLASTIC LAMINATE COUNTER TOP EDGE  
RA7.3 6" = 1'-0"

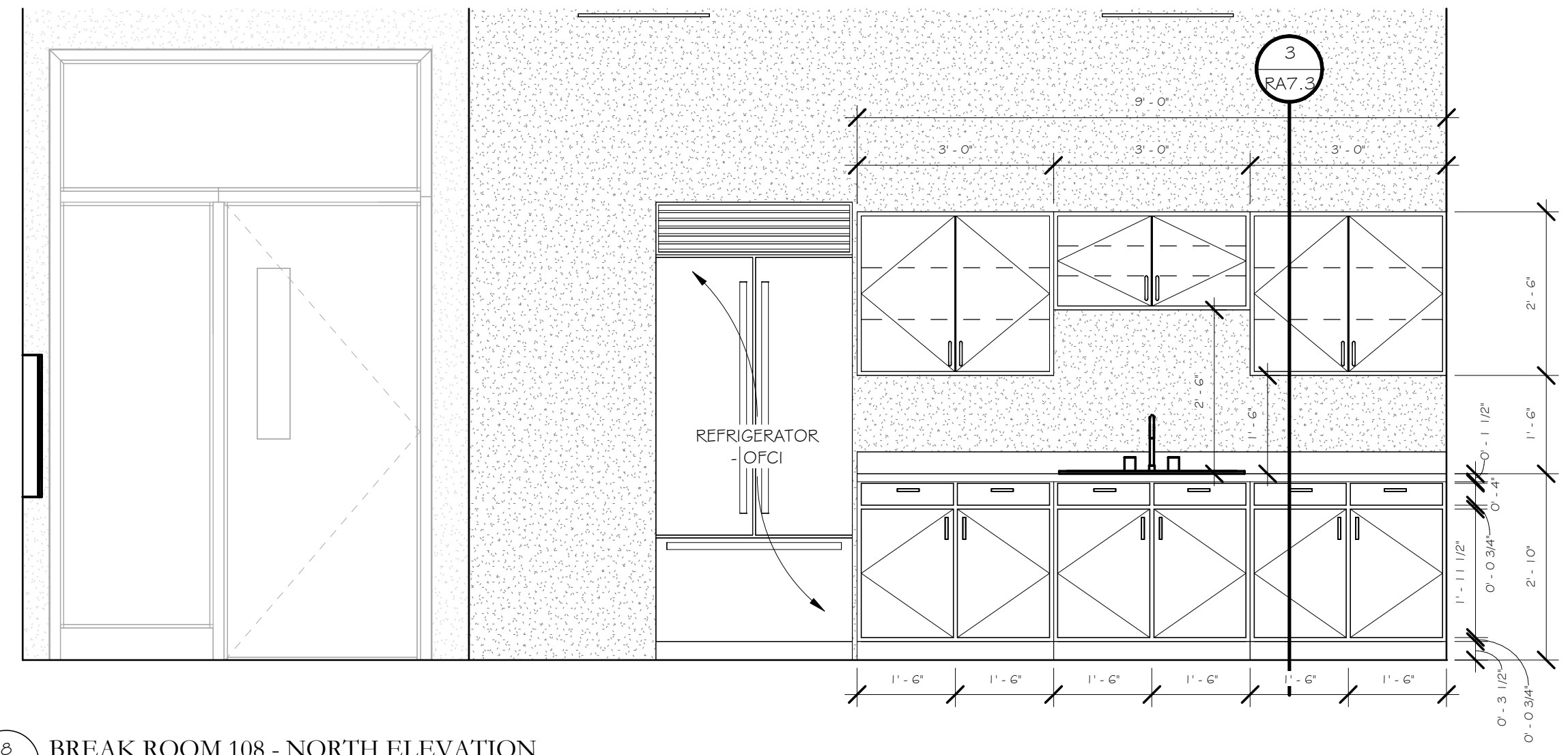


**2** MOVABLE WALL JAMB AT STOREFRONT  
RA7.3 3" = 1'-0"

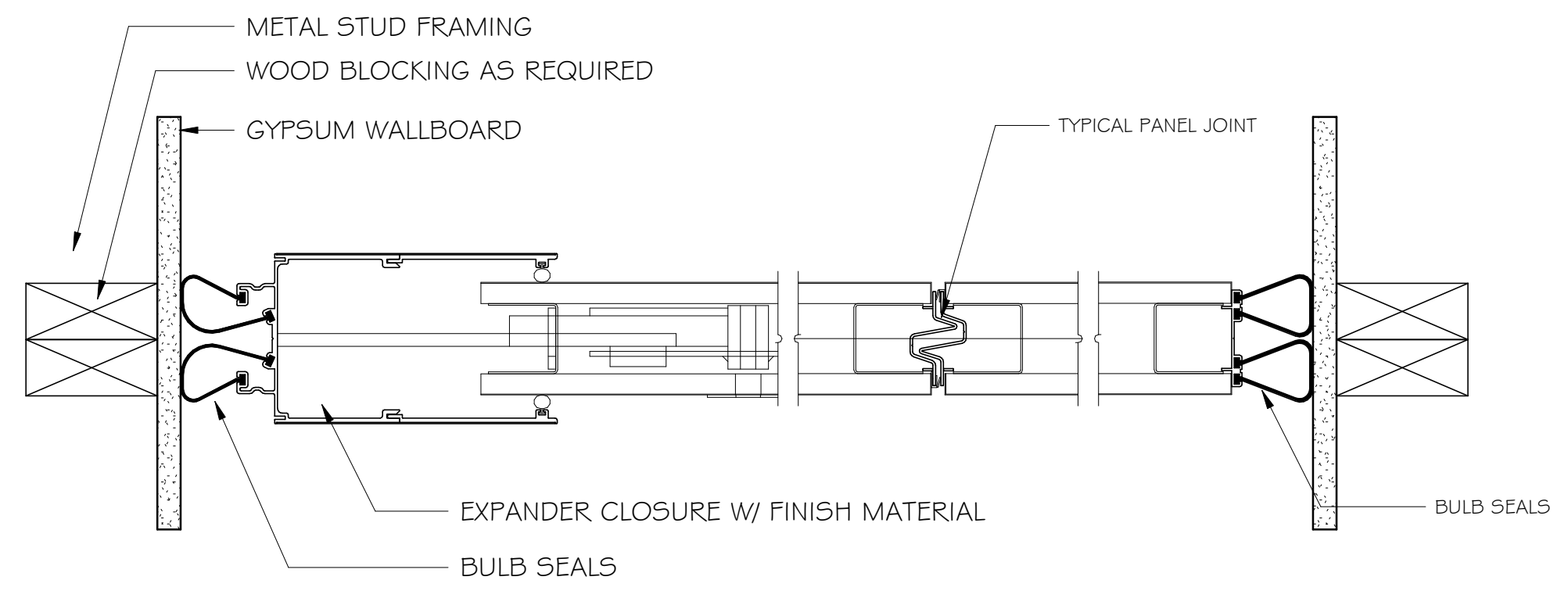


**6** MOVABLE WALL JAMB AT STOREFRONT  
RA7.3 3" = 1'-0"

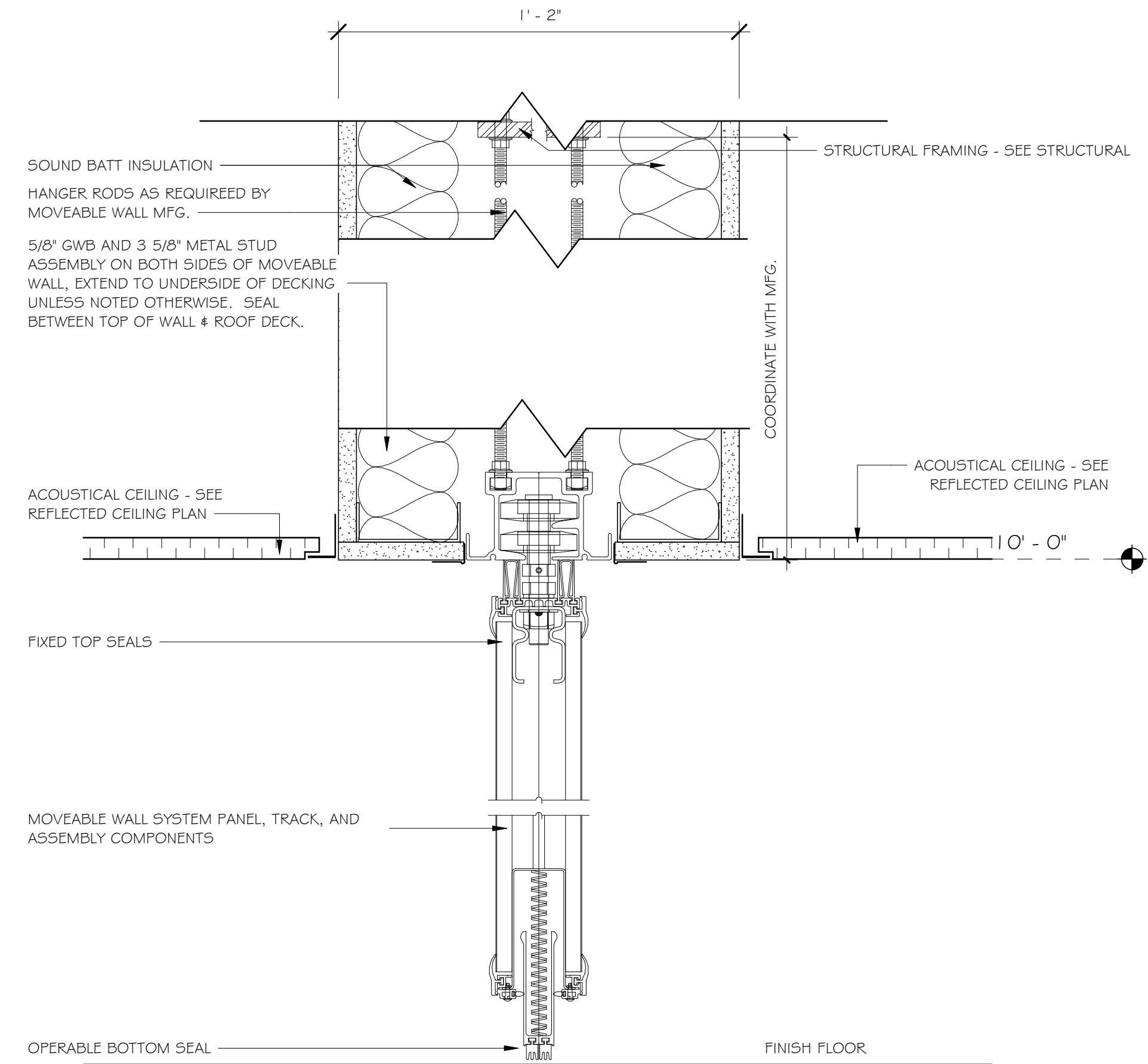
NOTE: PROVIDE TWO MOULDED RECESSED SOAP AND SHAMPOO HOLDER PER SHOWER AS DIRECTED BY ARCHITECT.



**8** BREAK ROOM 108 - NORTH ELEVATION  
RA7.3 1/2" = 1'-0"



**2** MOVABLE WALL JAMB - READINESS CENTER  
RA7.3 3" = 1'-0"



**1** MOVEABLE WALL SYSTEM HEAD/SILL DETAIL - READINESS CENTER  
RA7.3 3" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
Checked By	CI

Project Title

**HUNTSVILLE READINESS CENTER**  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

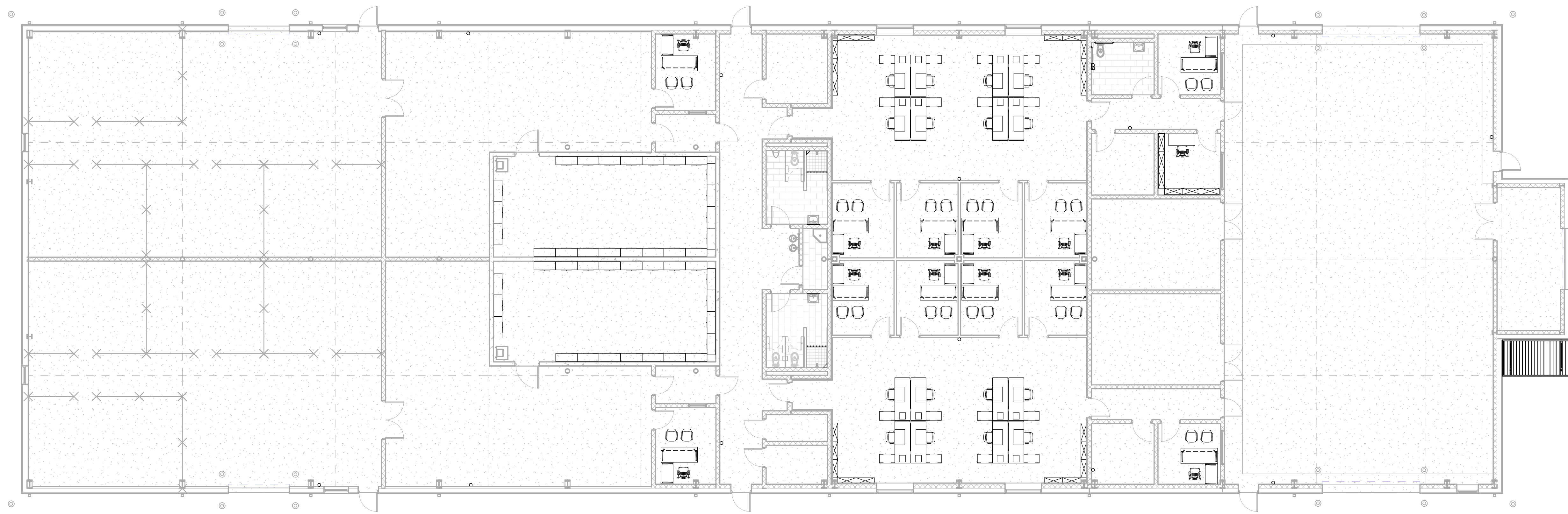
Sheet Title  
INTERIOR ELEVATIONS AND DETAILS - READINESS CENTER

Sheet Number

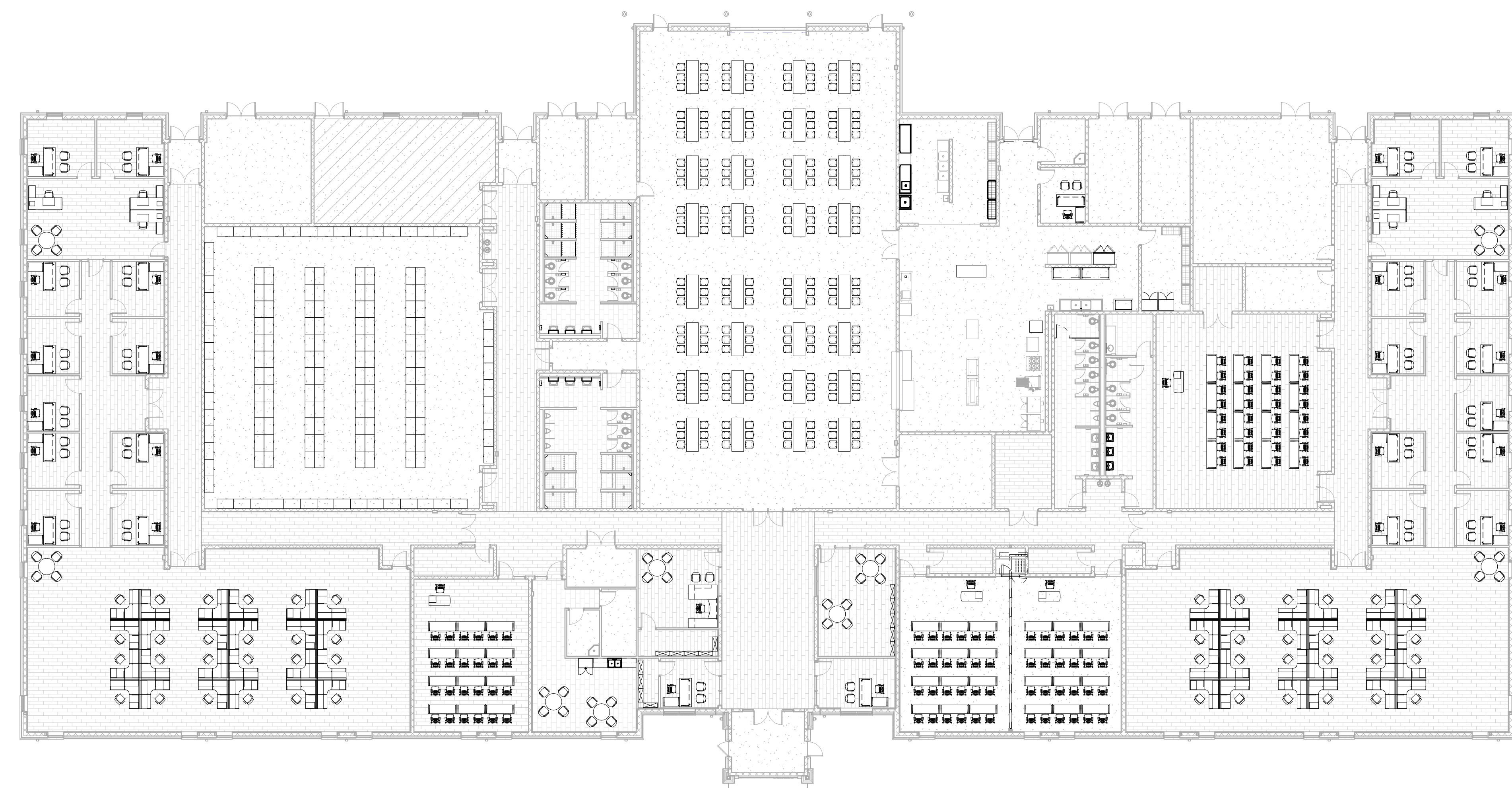
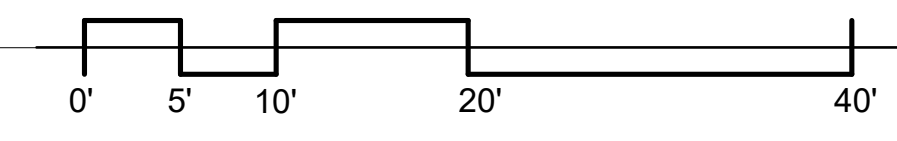
**RA7.3**



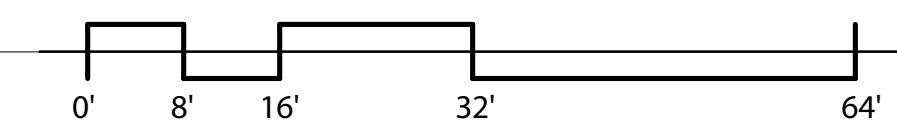




2  
RA10.1  
CONCEPTUAL FF&E PLAN "UNIT SUPPLY / GPTB"  
1" = 10'-0"



1  
RA10.1  
CONCEPTUAL FF&E PLAN "READINESS CENTER"  
1/16" = 1'-0"



NOTE: FURNITURE LAYOUTS SHOWN FOR COORDINATION PURPOSES ONLY - NOT IN CONTRACT

Rev.	Description	Date
1	Addendum #1	11.25.24

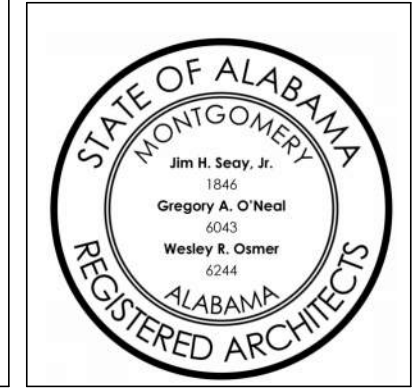
Job Number: 21112  
AL ARNG IFB #: AC-25-B-0006-S  
Date: NOVEMBER 1, 2024  
Drawn By: TS, CK, DW, WR  
Checked By: CI

Project Title

HUNTSVILLE READINESS CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
CONCEPTUAL FF&E PLANS

Sheet Number  
RA10.1





### GENERAL NOTES

- ① DOWN SPOUT
- ② BOLLARD - SEE CIVIL DETAIL. EXACT LOCATION OF BOLLARDS TO BE DETERMINED IN THE FIELD. COORDINATE LOCATION WITH ARCHITECT AND PLUMBING SUBCONTRACTOR.

### WALL TYPE

- XXXXXX CMU
- GYP / MTL STUD / GYP
- XXXXXX GYP / MTL STUD / CMU
- XXXXXX EXTERIOR WALL ASSEMBLY
- CONCRETE WALL

NOTE: SEE WALL TYPE PLAN FOR DETAILED WALL TYPES.

### REFERENCE LEGEND

- OBJECT OVERHEAD
- xx → SPECIFIC NOTE TAG
- ROOM NAME [101] 150 SF ROOM TAG
- FEX FIRE EXTINGUISHER BRACKET
- ↑ ↓ EMERGENCY EXIT SIGNAGE
- EWC ELECTRIC WATER COOLER - SEE PLUMBING
- FEC FIRE EXTINGUISHER CABINET
- INDICATES "ABI"
- R.O. ROUGH OPENING
- ⊙ BOLLARD
- SEE T2.0 FOR ADDITIONAL LEGEND SYMBOLS

Rev.	Description	Date
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Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
Drawn By	TS, CK, DW, WR
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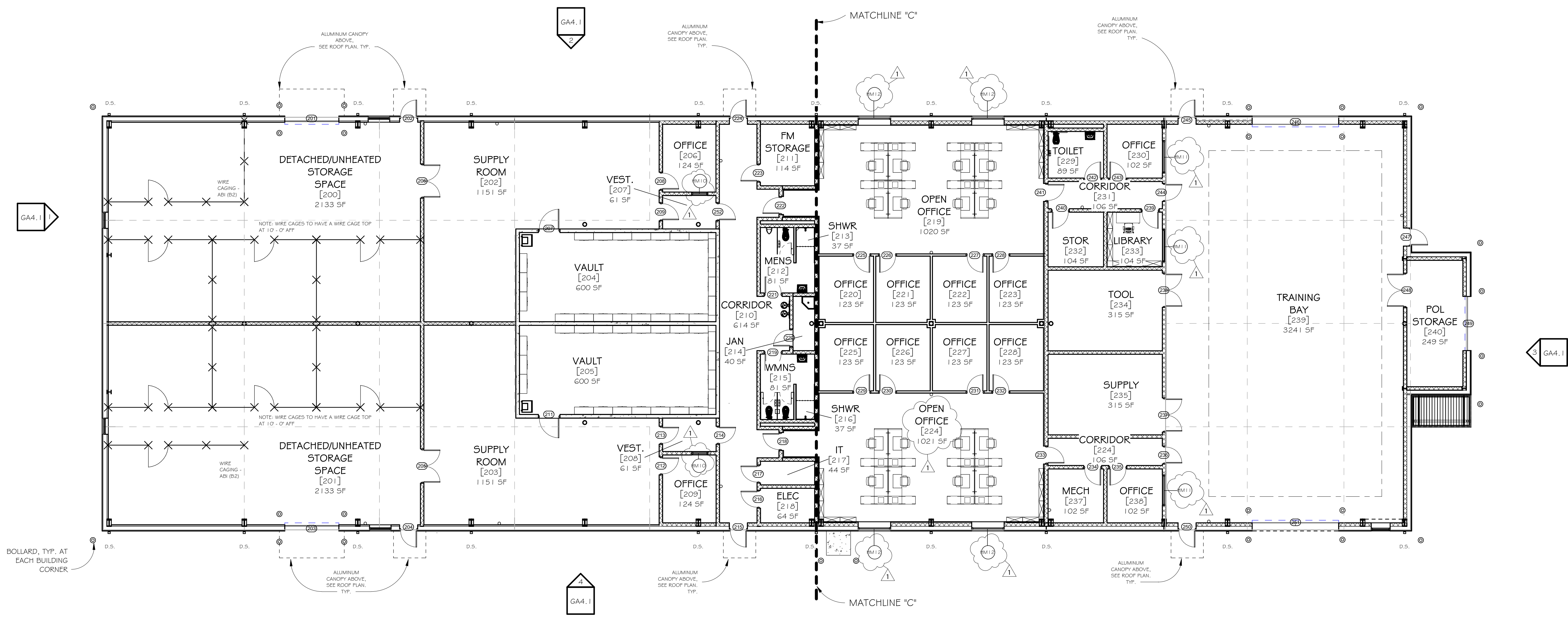
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HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

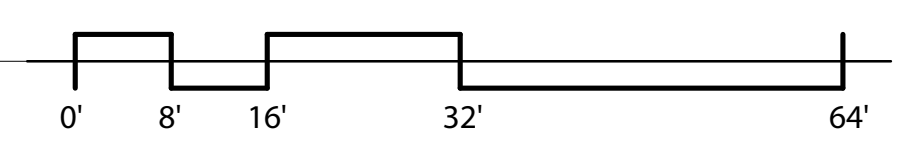
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REFERENCE  
FLOOR PLAN -  
UNIT SUPPLY /  
GPTB

Sheet Number

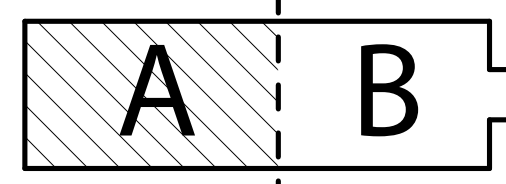
GA2.0



1 REFERENCE FLOOR PLAN - UNIT SUPPLY / GPTB  
GA2.0 1" = 10'-0"







KEY PLAN GPTB A  
1" = 100'-0"

### GPTB FLOOR PLAN LEGEND:

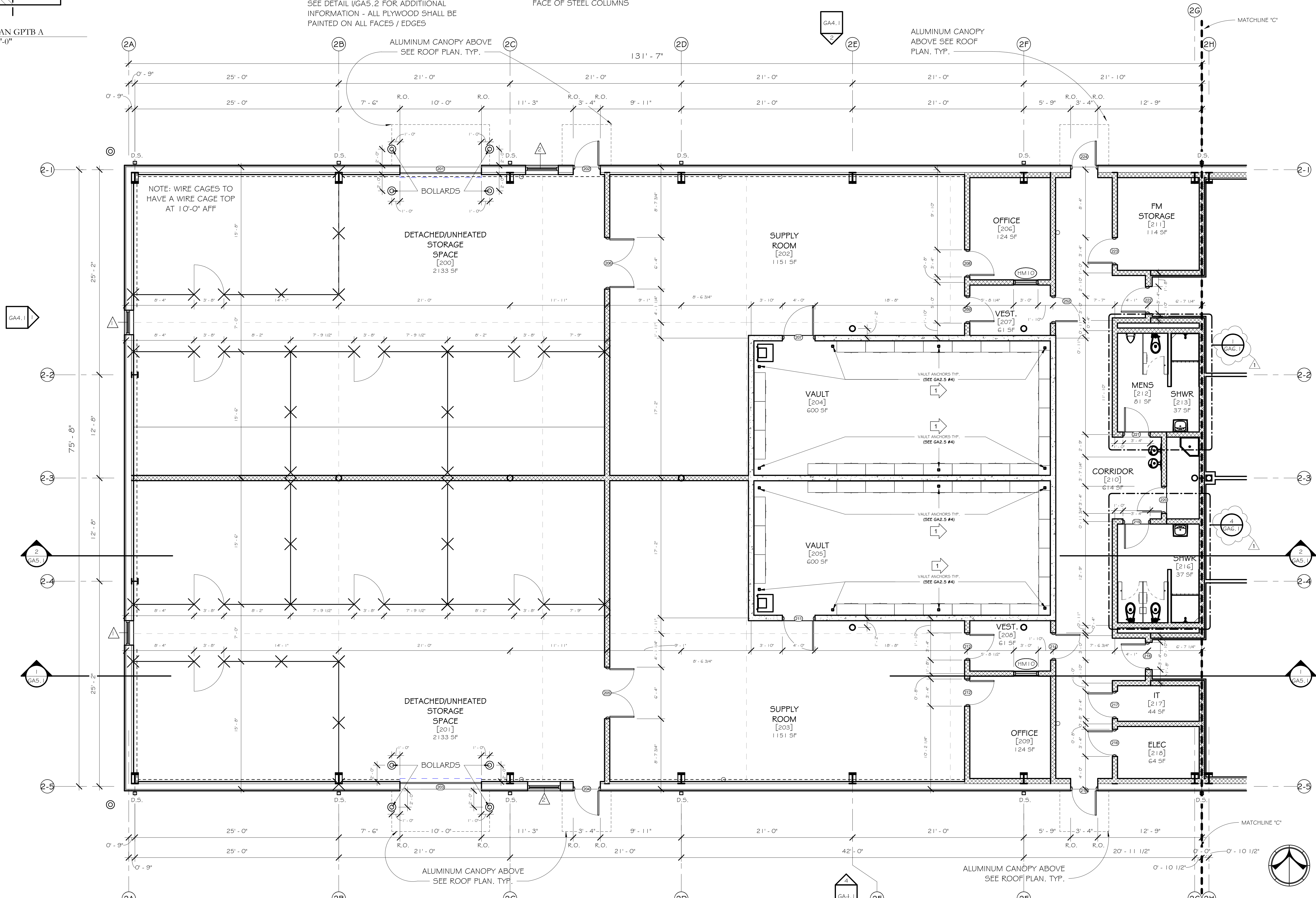
DASH LINE INDICATES EXTENTS OF INTERIOR PLYWOOD WALL SHEATHING. SEE DETAIL V/A5.2 FOR ADDITIONAL INFORMATION - ALL PLYWOOD SHALL BE PAINTED ON ALL FACES / EDGES

### DIMENSION NOTES:

1. INTERIOR CMU WALLS ARE DIMENSIONED FROM CENTERLINE OF CMU TO OUTSIDE FACE OF STEEL COLUMNS

### SPECIFIC NOTES:

1. A TIE DOWN ANCHOR SHALL BE PROVIDED AT EACH CORNER OF EACH VAULT IN LOCATIONS INDICATED ON DRAWINGS. REFER TO STRUCTURAL. COORDINATE IN FIELD WITH ARCHITECT AND OWNER.



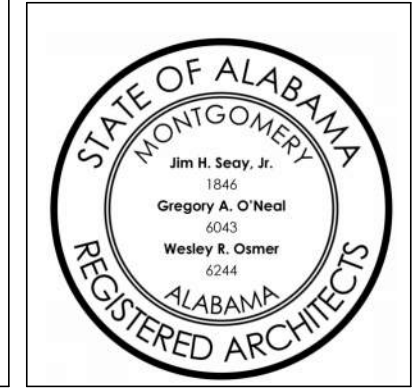
Rev.	Description	Date
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Job Number: 21112  
AL ARNG I/FB #: AC-25-B-0006-S  
Date: NOVEMBER 1, 2024  
Drawn By: TS, CK, DW, WR  
Checked By: CI

Project Title:  
**HUNTSVILLE READINESS CENTER**  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title:  
ENLARGED FLOOR PLAN "ZONE A" - UNIT SUPPLY / GPTB

Sheet Number:  
**GA2.1**

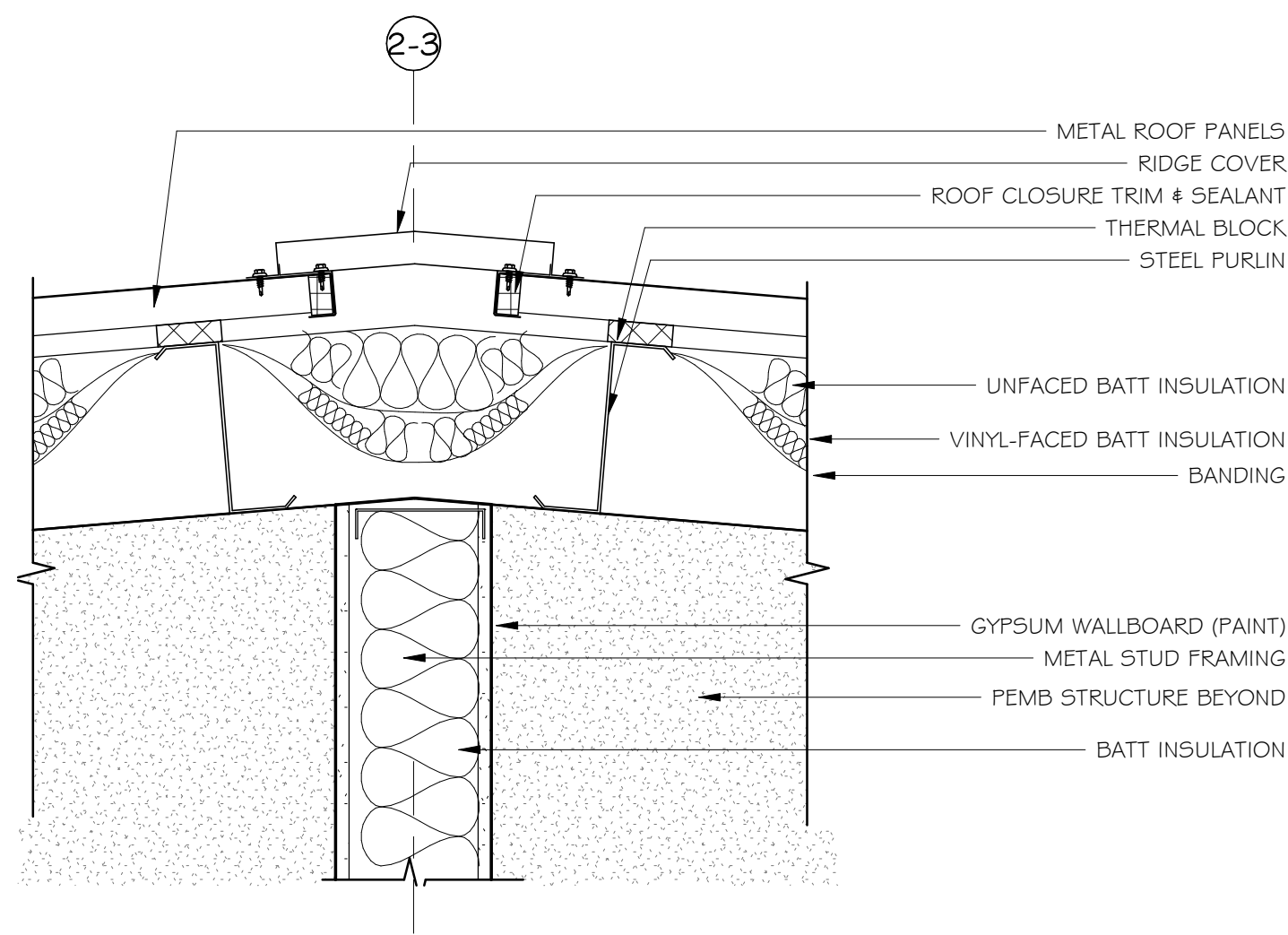


1 GPTB ENLARGED FLOOR PLAN "ZONE A"  
3/16" = 1'-0"

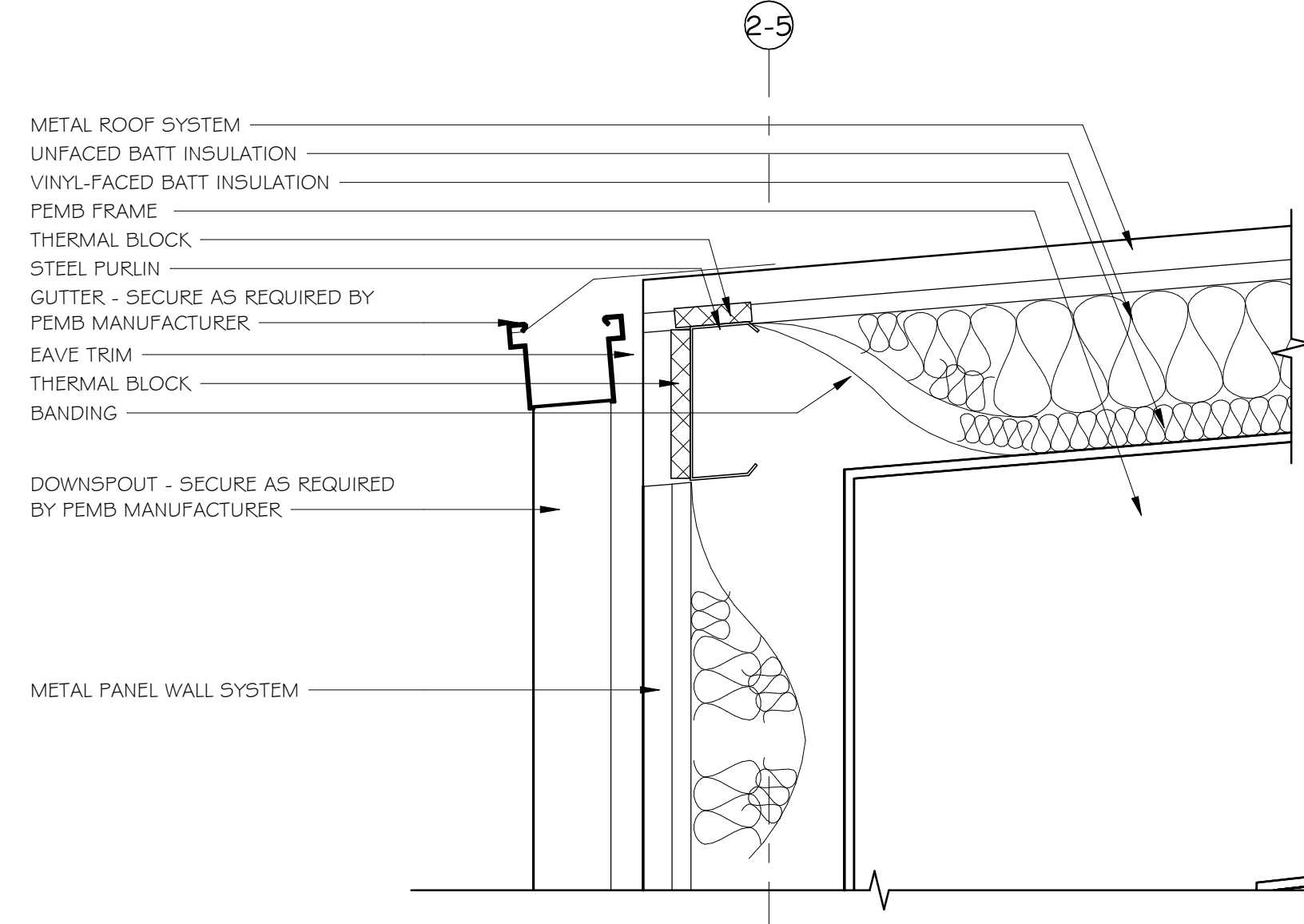




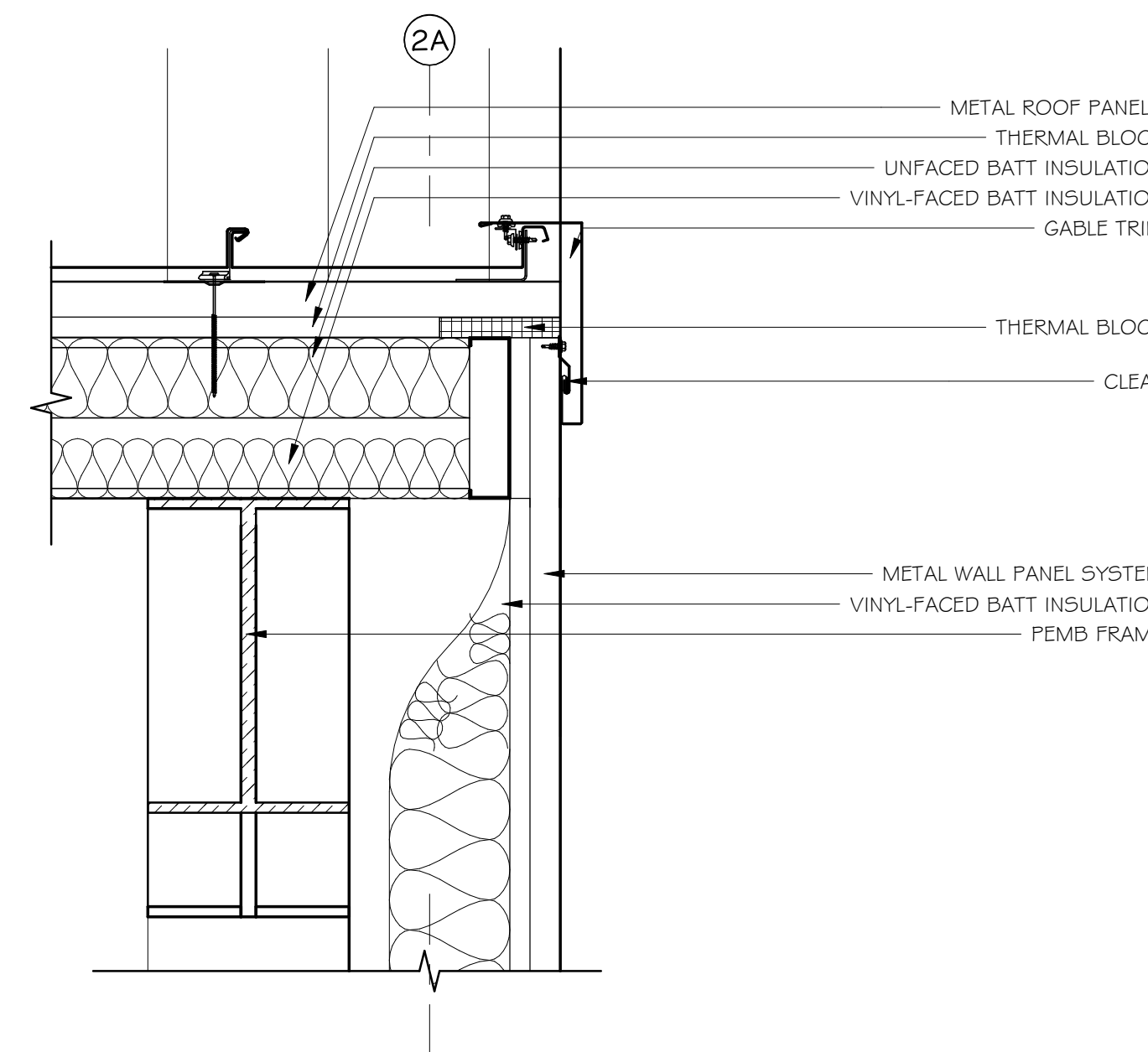




1 GPTB RIDGE DETAIL  
1 1/2" = 1'-0"



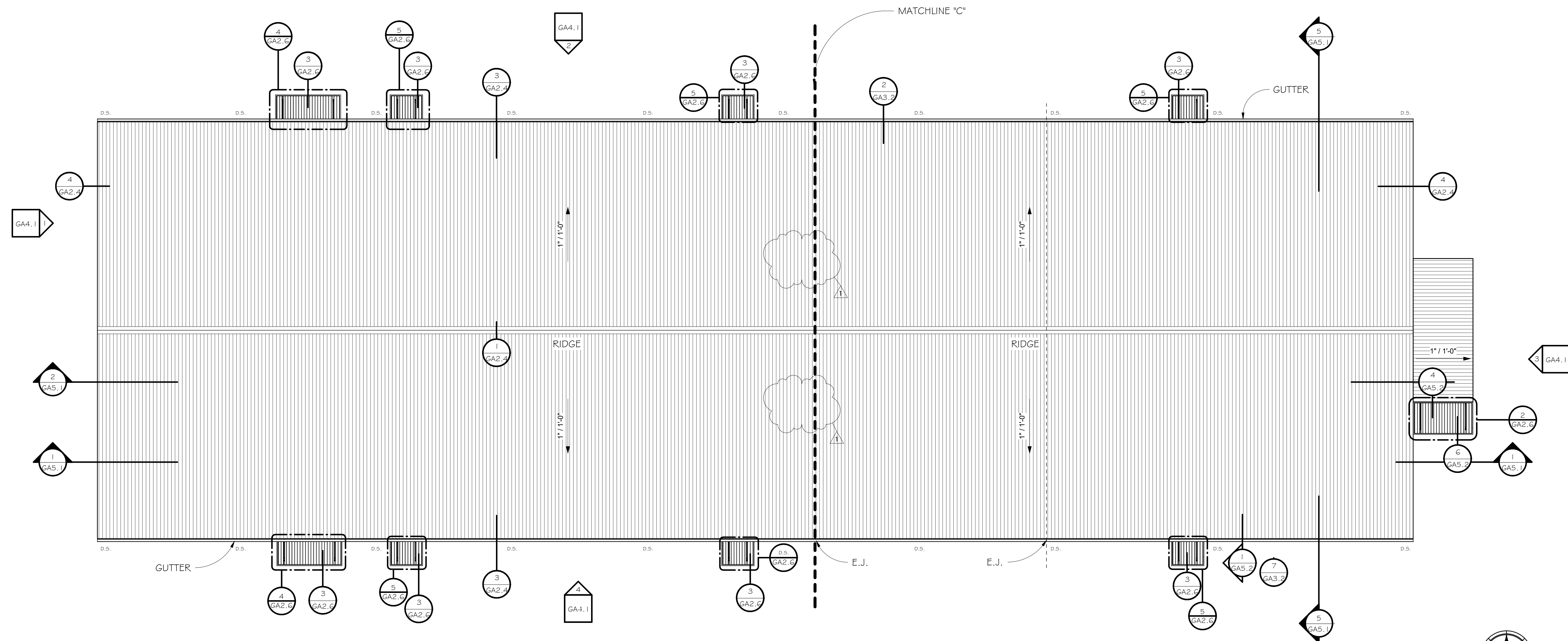
3 GPTB GUTTER DETAIL  
1 1/2" = 1'-0"



4 GPTB GABLE END TRIM  
1 1/2" = 1'-0"

**GENERAL NOTES:**

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND PROVIDING GUTTER AND DOWNSPOUT CALCULATIONS WITH SHOP DRAWINGS. SUBMIT TO ARCHITECT FOR APPROVAL. GUTTER AND DOWNSPOUT LOCATIONS SHOWN IN THE ROOF PLAN WERE DETERMINED FROM PRELIMINARY ANALYSIS AND CALCULATIONS DERIVED USING THE 7TH EDITION OF SMACNA'S ARCHITECTURAL SHEET METAL MANUAL.
- PRELIMINARY ASSESSMENT OF GUTTER AND DOWNSPOUT CALCULATIONS CONDUCTED BY THE ARCHITECT SUGGEST A MINIMUM 6"X6" GUTTER CROSS SECTION AND A MINIMUM 3.75"X4.75" DOWNSPOUT CROSS SECTION BASED ON THE NUMBER OF DOWNSPOUTS INDICATED ON THE ROOF PLAN. CONTRACTOR SHALL VERIFY CALCULATIONS PER THE ABOVE REQUIREMENTS.
- REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL FOR ADDITIONAL INFORMATION RELATED TO ROOF PENETRATIONS.
- SEE DETAIL G/RA5.5 FOR TYPICAL DOWNSPOUT BOOT DETAILS.



2 REFERENCE ROOF PLAN - UTILITY SUPPLY / GPTB  
1" = 10'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
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Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
ROOF PLAN - UNIT  
SUPPLY / GPTB

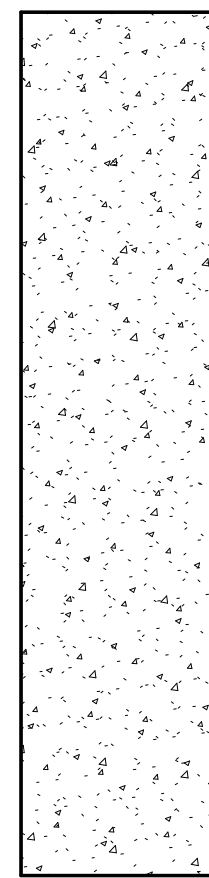
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GA2.4





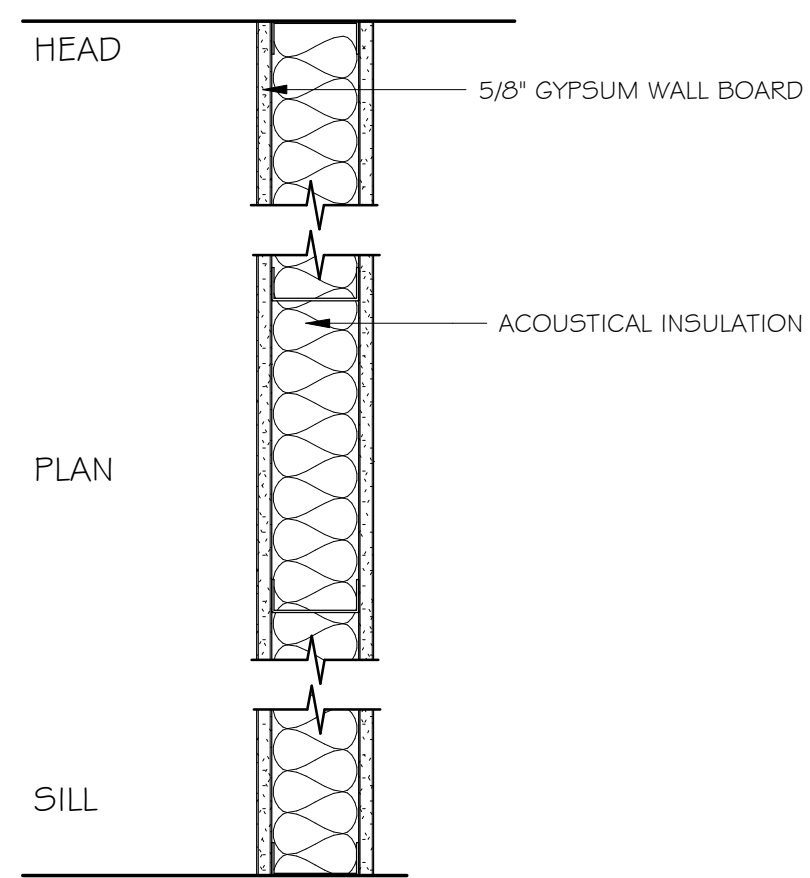
TYPE D



TYPE	STUD THICKNESS	PARTITION THICKNESS
D1	1 5/8"	3 1/2"
D2	2 1/2"	4 3/8"
D3	3 5/8"	5 1/2"
D4	4"	5 7/8"
D5	6"	7 7/8"
D6	8"	9 7/8"

\*\*NOTE: IF WALL IS SCHEDULED TO RECEIVE TILE, PROVIDE CONCRETE BOARD AND WATERPROOFING PER SPEC SECTION 09 3000 FOR TILE INSTALLATION. REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS AND SECTIONS, AND GYPSUM BOARD ASSEMBLY SPECIFICATIONS FOR TYPES AND OTHER SUBSTRATE/FURRING REQUIREMENTS\*\*

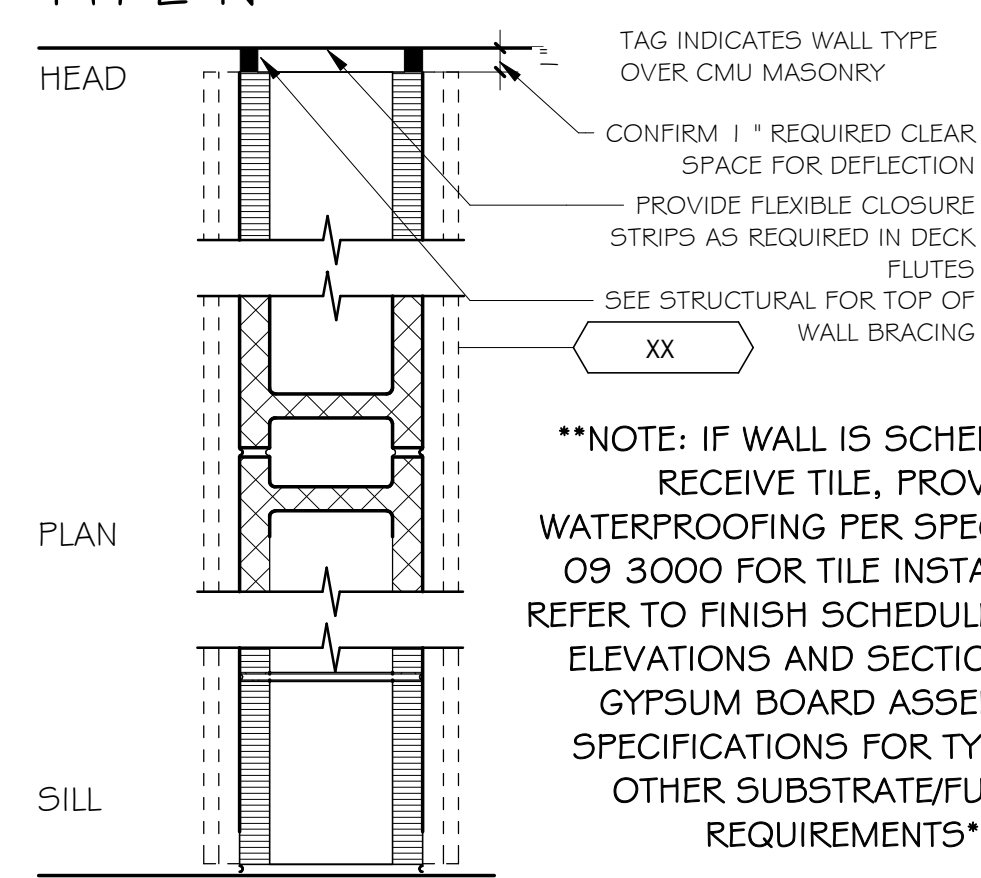
TYPE C



TYPE	STUD THICKNESS	PARTITION THICKNESS
C1	3 5/8"	4 7/8"
C2	6"	7 1/4"

\*\*NOTE: IF WALL IS SCHEDULED TO RECEIVE TILE, PROVIDE CONCRETE BOARD AND WATERPROOFING PER SPEC SECTION 09 3000 FOR TILE INSTALLATION. REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS AND SECTIONS, AND GYPSUM BOARD ASSEMBLY SPECIFICATIONS FOR TYPES AND OTHER SUBSTRATE/FURRING REQUIREMENTS\*\*

TYPE N



TYPE	THICKNESS
N	7 5/8"

\*\*NOTE: IF WALL IS SCHEDULED TO RECEIVE TILE, PROVIDE CONCRETE BOARD AND WATERPROOFING PER SPEC SECTION 09 3000 FOR TILE INSTALLATION. REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS AND SECTIONS, AND GYPSUM BOARD ASSEMBLY SPECIFICATIONS FOR TYPES AND OTHER SUBSTRATE/FURRING REQUIREMENTS\*\*

\*\*\*NOTE: REFER TO STRUCTURAL FOR ADDITIONAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO LOAD BEARING REQUIREMENTS AND BRACING.\*\*\*

LEGEND

- ELECTRIC WATER COOLER - SEE PLUMBING
- FIRE EXTINGUISHER CABINET
- C.J. MASONRY CONTROL JOINT

GENERAL WORK NOTES

- THIS DRAWING SHOWS THE LOCATION OF CONTROL JOINTS IN MASONRY WALLS FOR CONVENIENCE ONLY. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY REQUIRED SPACING OF CONTROL JOINTS AND ADJUST AS NECESSARY FOR PROPER MASONRY COURSING.
- CONTROL JOINTS SHALL BE LOCATED IN ACCORDANCE WITH THE INTERNATIONAL MASONRY INSTITUTE'S RECOMMENDATIONS. FOR NON-FIRE RATED NON-LOAD BEARING WALLS, TERMINATE TOP OF WALL JUST ABOVE ADJACENT CEILING. PROVIDE DIAGONAL BRACING TO STRUCTURE ABOVE, REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION.
- ALL UNTAGGED INTERIOR WALLS ARE CONSIDERED N8

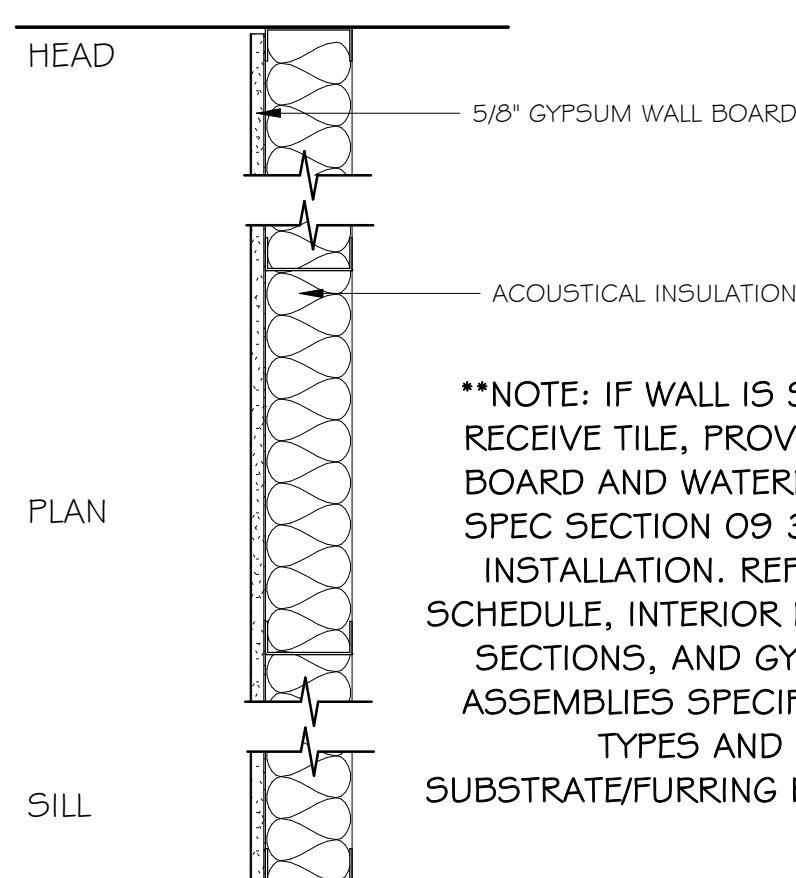
SPECIFIC WORK NOTES

- PROVIDE CHAINLINK BARRIER AT HEIGHT INDICATED ON INTERIOR ELEVATIONS

4 PARTITION TYPE D GPTB  
1 1/2" = 1'-0"

GA2.5

TYPE A

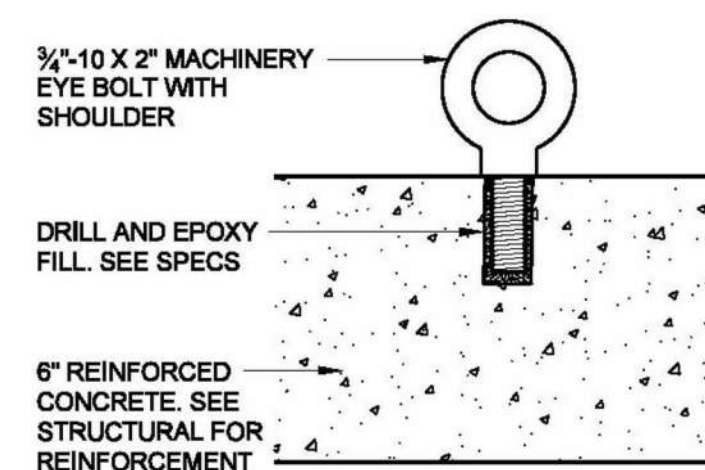


TYPE	STUD THICKNESS	PARTITION THICKNESS
A0	1/2"	1 1/8"
A0.5	7/8"	1 1/2"
A1	1 5/8"	2 1/4"
A2	2 1/2"	3 1/8"
A3	3 5/8"	4 1/4"
A4	4"	4 5/8"
A5	6"	6 5/8"
A6	8"	8 5/8"

\*\*NOTE: IF WALL IS SCHEDULED TO RECEIVE TILE, PROVIDE CONCRETE BOARD AND WATERPROOFING PER SPEC SECTION 09 3000 FOR TILE INSTALLATION. REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS AND SECTIONS, AND GYPSUM BOARD ASSEMBLY SPECIFICATIONS FOR TYPES AND OTHER SUBSTRATE/FURRING REQUIREMENTS\*\*

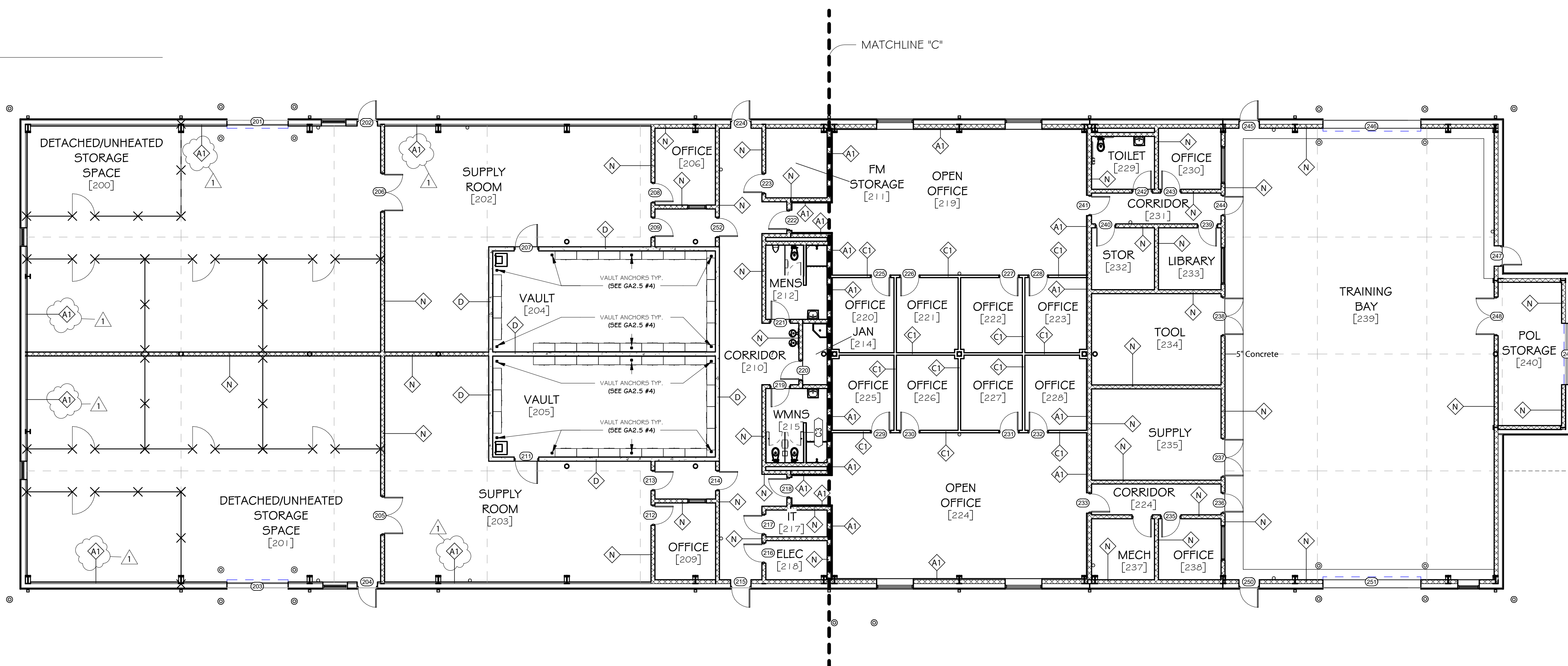
5 PARTITION TYPE (A) GPTB  
1 1/2" = 1'-0"

GA2.5



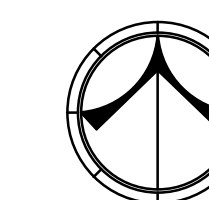
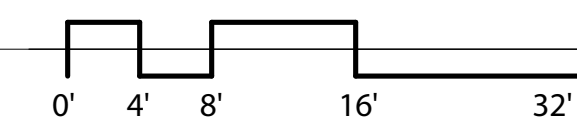
4 VAULT FLOOR ANCHOR  
3" = 1'-0"

GA2.5



1 WALL TYPE PLAN - UNIT SUPPLY / GPTB  
3/32" = 1'-0"

GA2.5



Rev.	Description	Date
1	Addendum #1	11.25.24

Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
Date	NOVEMBER 1, 2024
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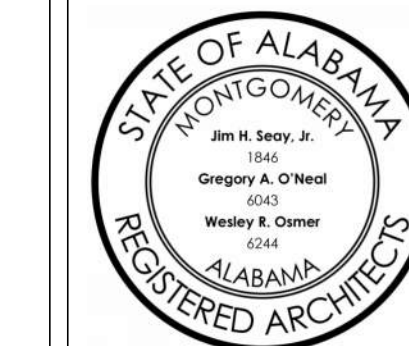
Project Title

HUNTSVILLE READINESS CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
WALL TYPE PLAN - UNIT SUPPLY / GPTB

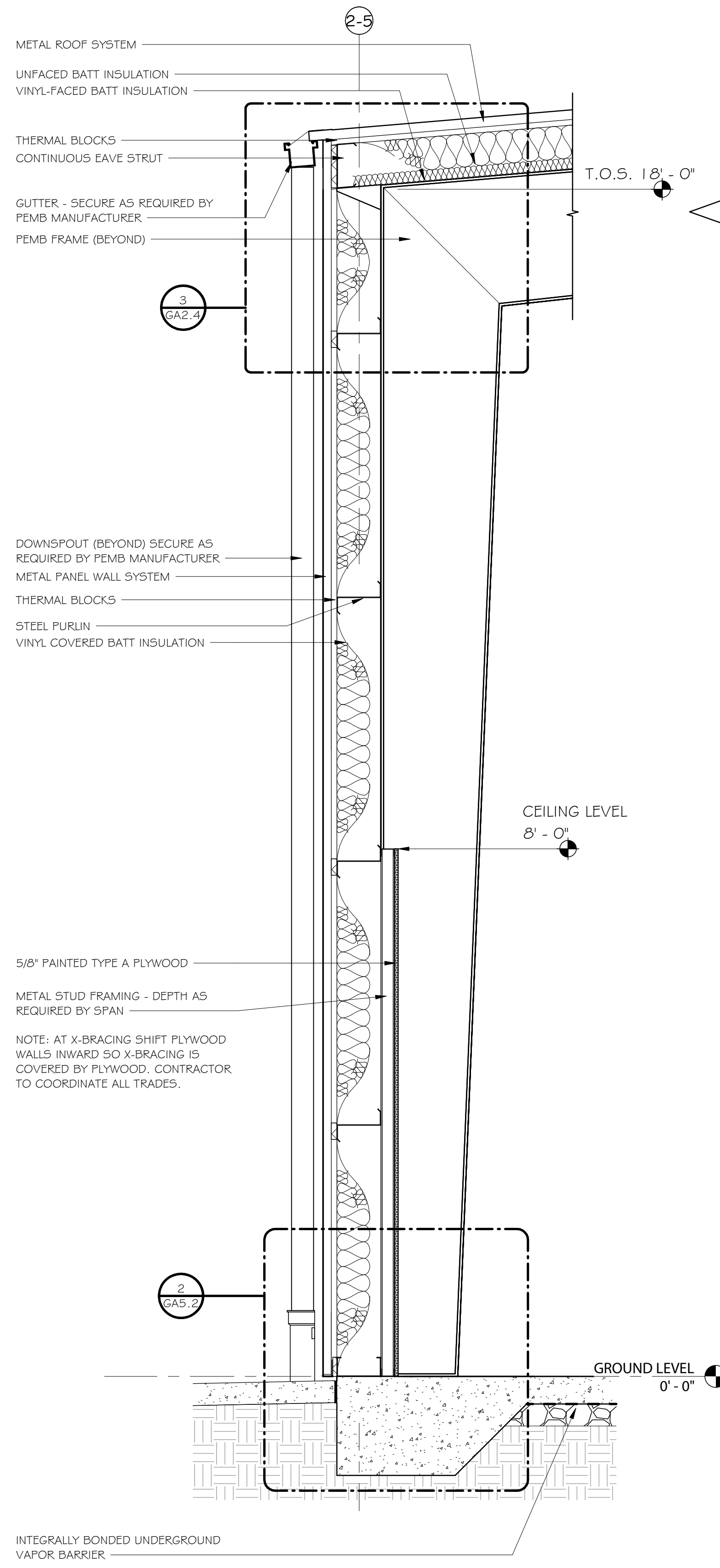
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GA2.5

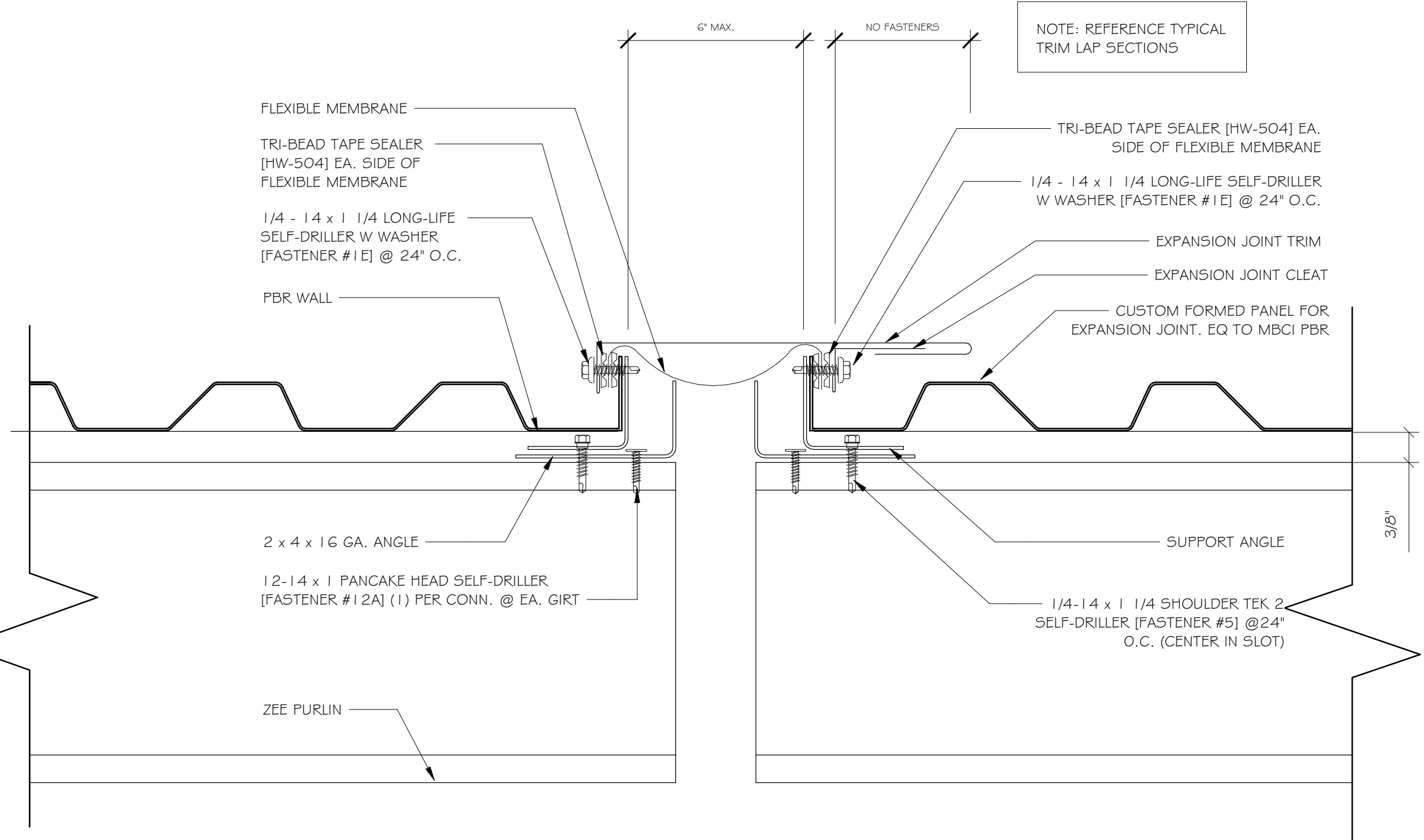




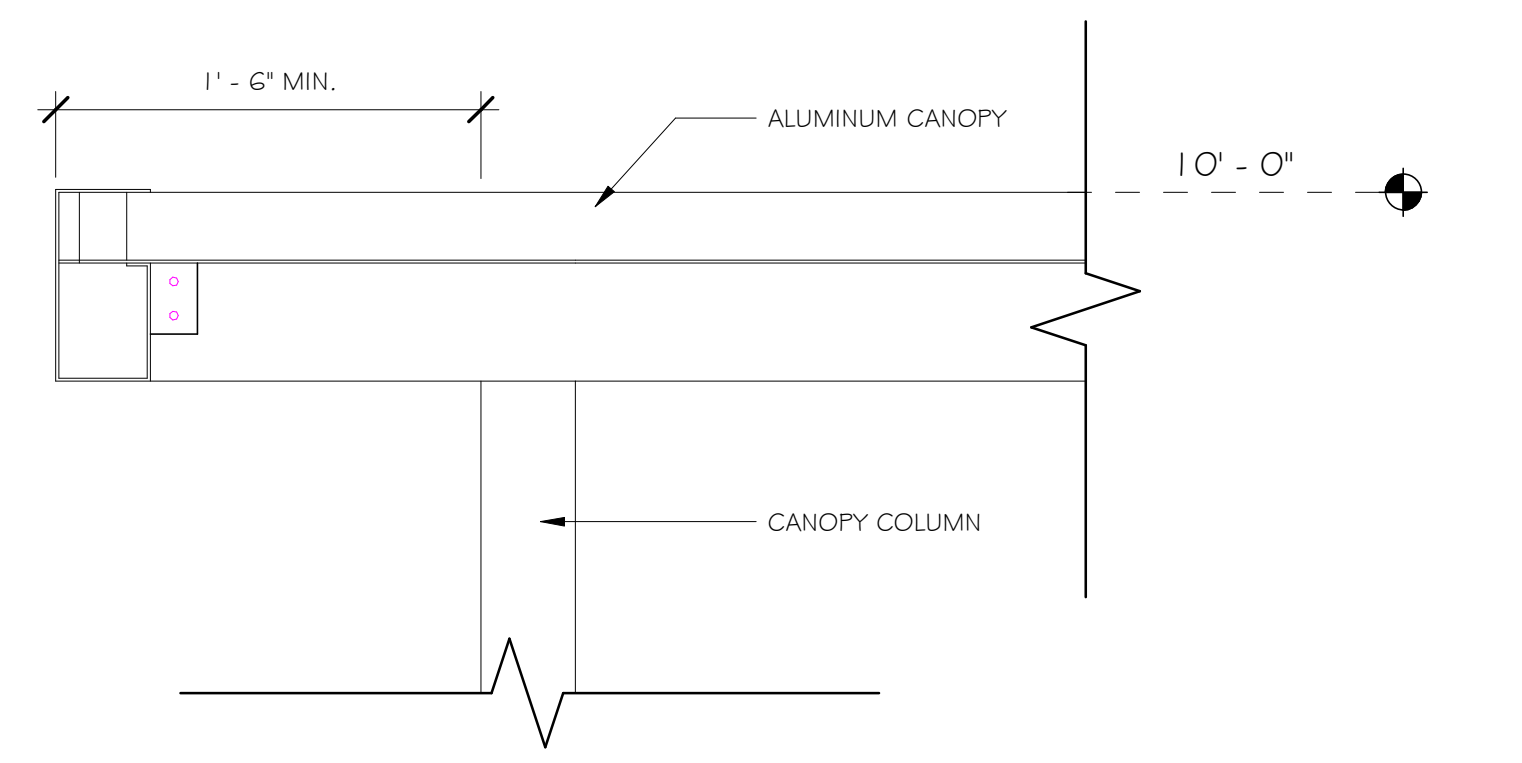




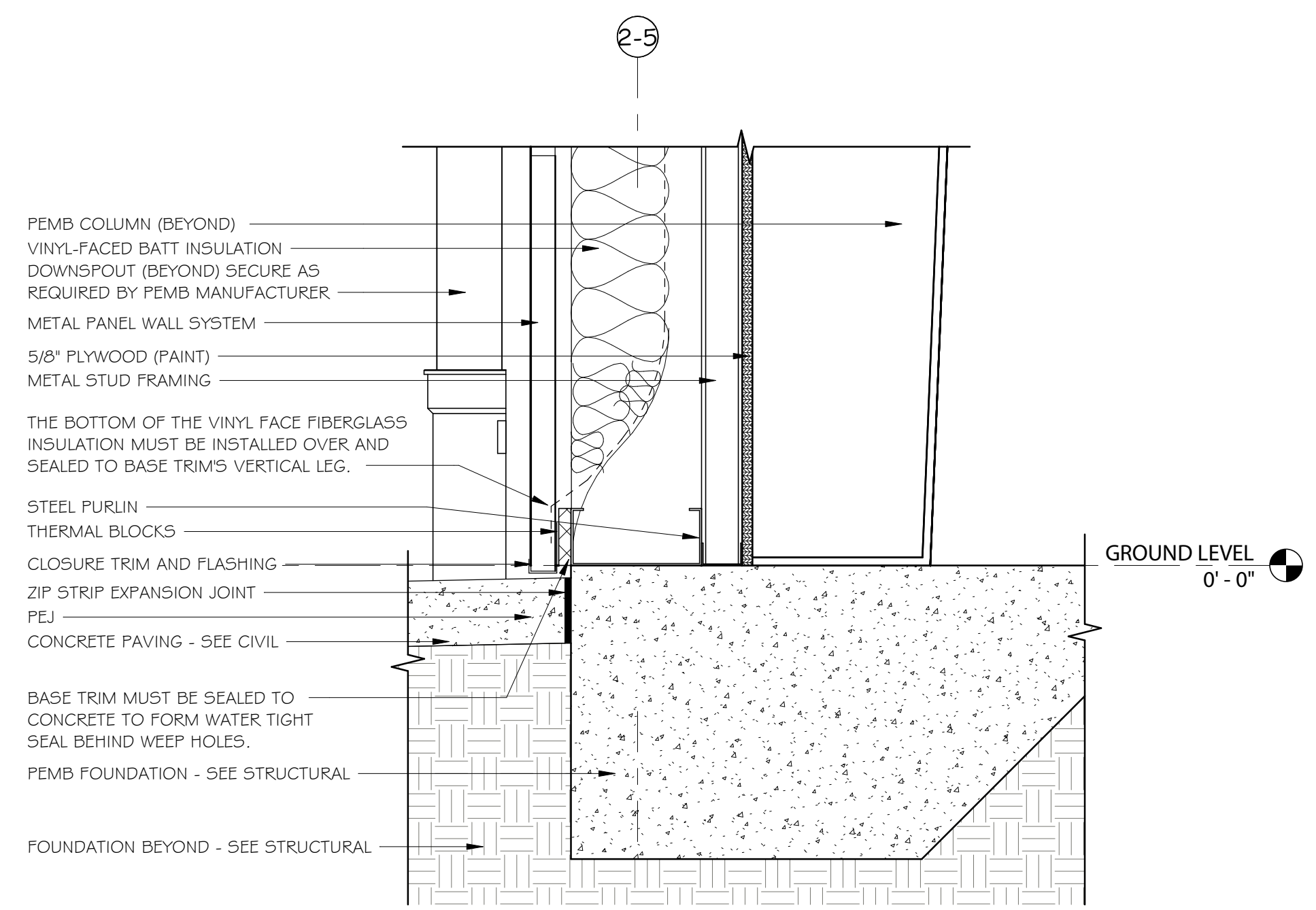
1 WALL SECTION G  
3/4" = 1'-0"



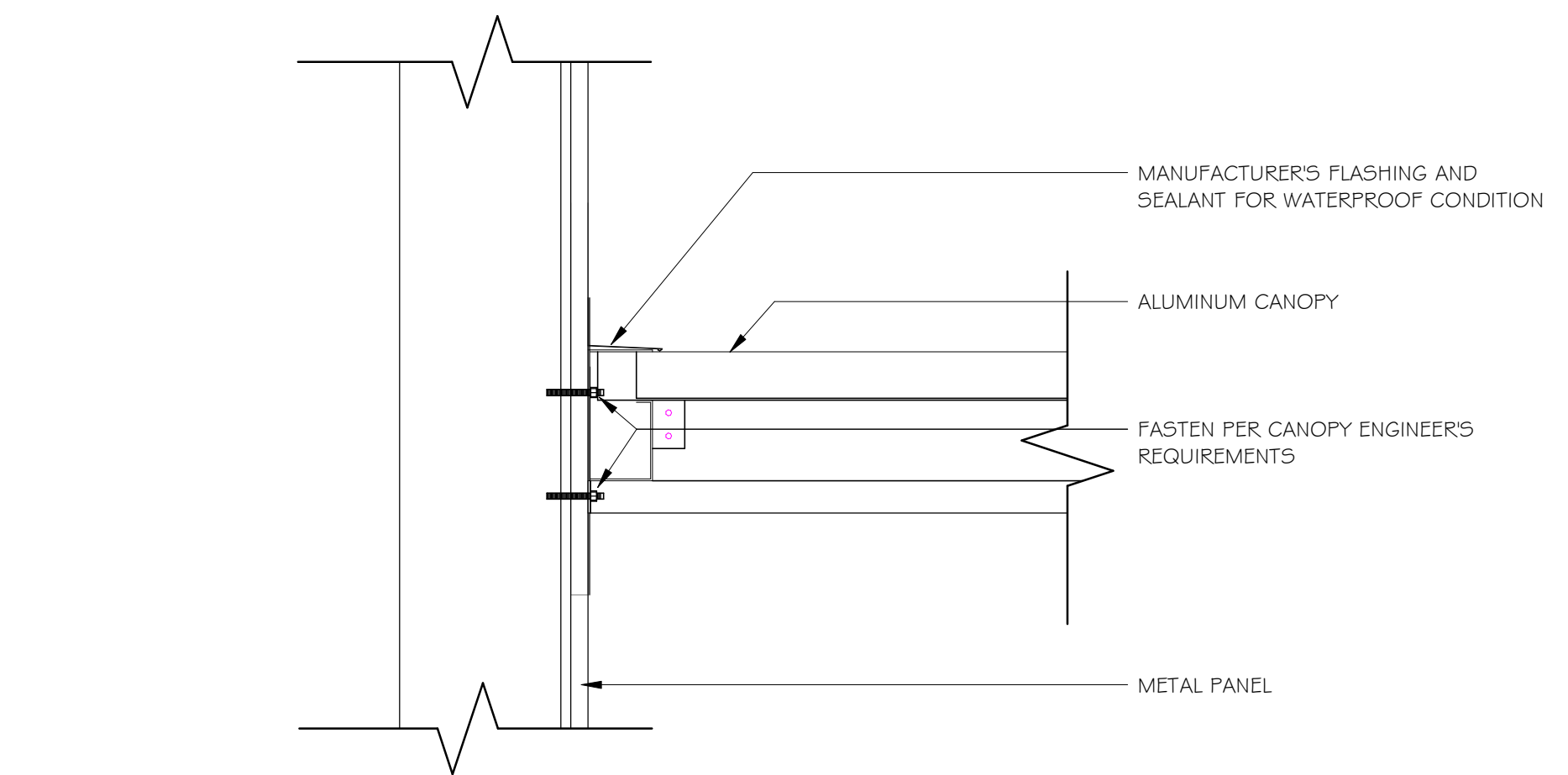
3 TYP. WALL EXPANSION JOINT AT GPTB  
6" = 1'-0"



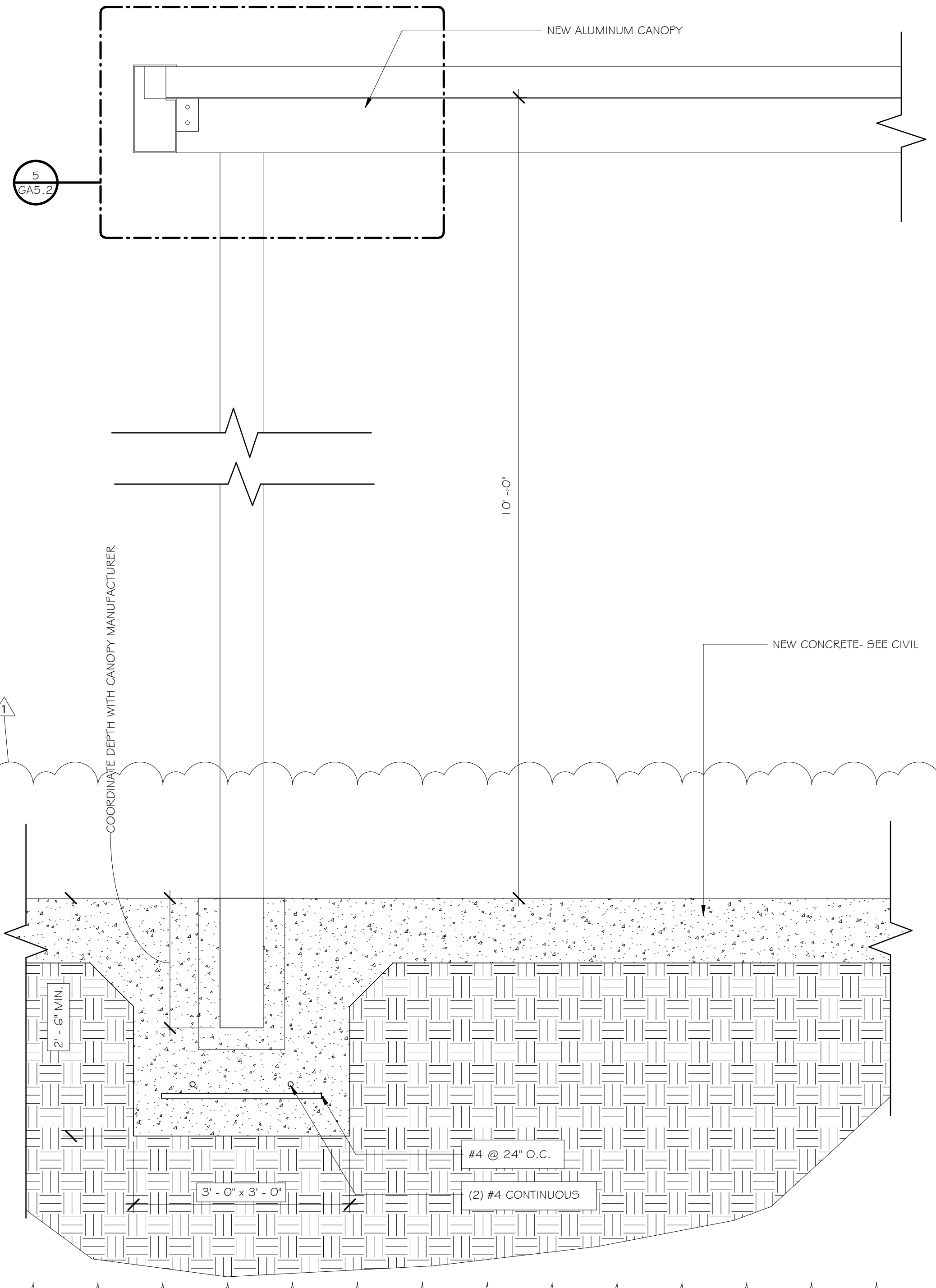
5 CANOPY SECTION DETAIL B  
1 1/2" = 1'-0"



2 GPTB PANEL BASE DETAIL  
1 1/2" = 1'-0"



4 CANOPY SECTION DETAIL A  
1 1/2" = 1'-0"



6 CANOPY SECTION DETAIL C  
1 1/2" = 1'-0"

Rev.	Description	Date
1	Addendum #1	11.25.24

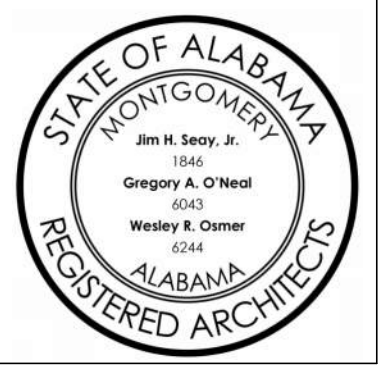
Job Number	21112
AL ARNG IFB #	AC-25-B-0006-S
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Project Title

HUNTSVILLE READINESS  
CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
SECTIONS &  
DETAILS - UNIT  
SUPPLY / GPTB

Sheet Number  
**GA5.2**











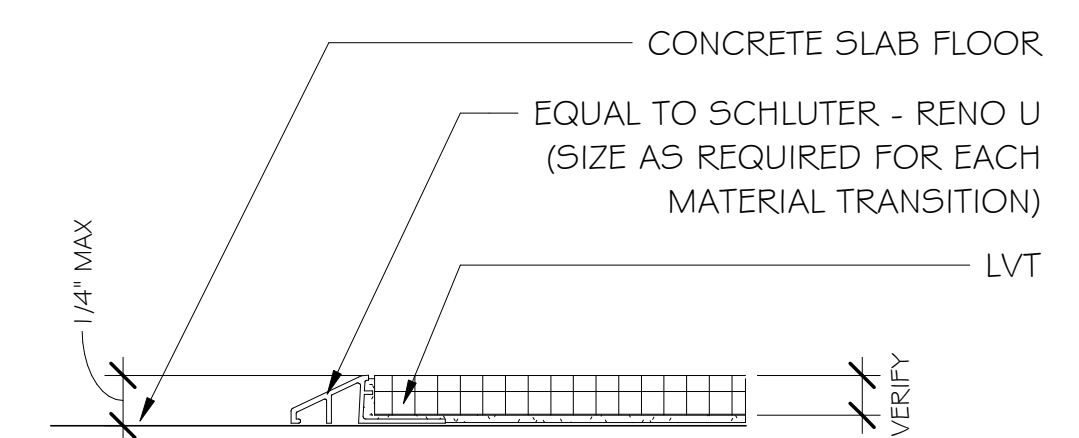
# GPTB FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR		WALL FINISH	CEILING FINISH	DOORS	NOTES
		FINISH	BASE FINISH				
200	DETACHED/UNHEATED STORAGE SPACE	SC	NONE	PAINT	EXPOSED	PAINT	
201	DETACHED/UNHEATED STORAGE SPACE	SC	NONE	PAINT	EXPOSED	PAINT	
202	SUPPLY ROOM	SC	NONE	PAINT	EXPOSED	PAINT	
203	SUPPLY ROOM	SC	NONE	PAINT	EXPOSED	PAINT	
204	VAULT	SC	NONE	PAINT	EXPOSED/PAINT	PAINT	
205	VAULT	SC	NONE	PAINT	EXPOSED/PAINT	PAINT	
206	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
207	VEST.	SC	RB I	PAINT	ACT 1	PAINT	
208	VEST.	SC	RB I	PAINT	ACT 1	PAINT	
209	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
210	CORRIDOR	SC	RB I	PAINT	ACT 1	PAINT	
211	FM STORAGE	SC	NONE	PAINT	ACT 1	PAINT	
212	MENS	HT I	TILE	WT I/PNT	ACT 2	PAINT	
213	SHWR	MT I	TILE	WT I	ACT 2	PAINT	
214	JAN	SC	RB I	PAINT	ACT 2	PAINT	
215	WMNS	HT I	TILE	WT I/PNT	ACT 2	PAINT	
216	SHWR	MT I	TILE	WT I	ACT 2	PAINT	
217	IT	SC	NONE	PAINT	ACT 1	PAINT	
218	ELEC	SC	NONE	PAINT	ACT 1	PAINT	
219	OPEN OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
220	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
221	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
222	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
223	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
224	CORRIDOR	SC	RB I	PAINT	ACT 1	PAINT	
224	OPEN OFFICE						
225	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
226	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
227	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
228	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
229	TOILET	HT I	TILE	WT I/PNT	ACT 2	PAINT	
230	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
231	CORRIDOR	SC	RB I	PAINT	ACT 1	PAINT	
232	STOR	SC	NONE	PAINT	ACT 1	PAINT	
233	LIBRARY	SC	NONE	PAINT	ACT 1	PAINT	
234	TOOL	SC	NONE	PAINT	ACT 1	PAINT	
235	SUPPLY	SC	NONE	PAINT	ACT 1	PAINT	
237	MECH	SC	NONE	PAINT	ACT 1	PAINT	
238	OFFICE	SC	RB I	PAINT	ACT 1	PAINT	
239	TRAINING BAY	SC	NONE	PAINT	EXPOSED	PAINT	
240	POL STORAGE	SC	NONE	PAINT	EXPOSED	PAINT	

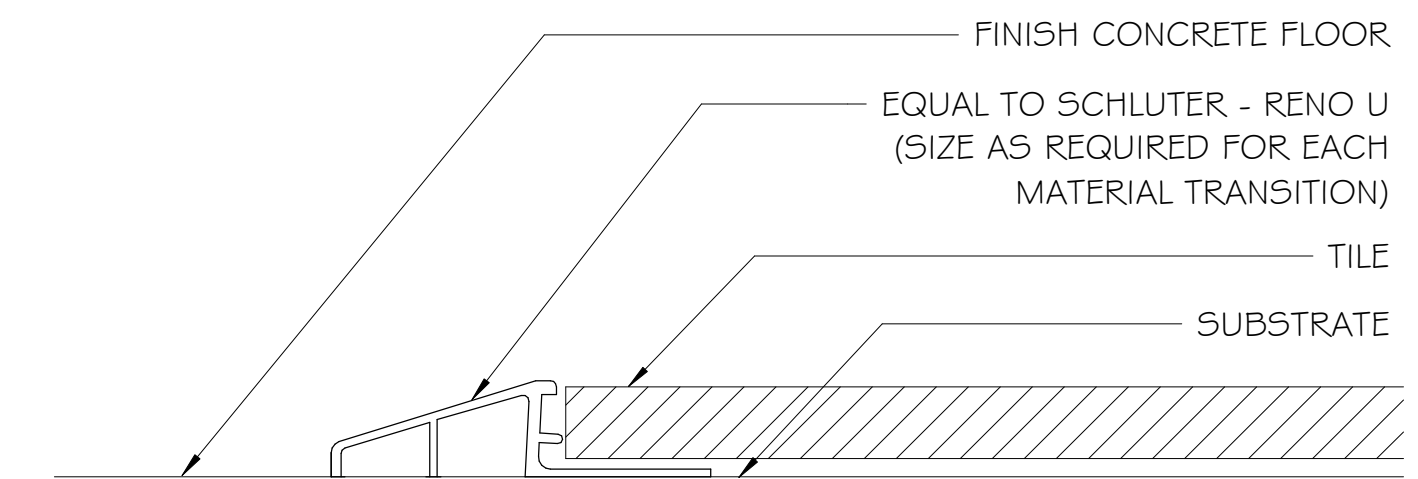
# FINISH SCHEDULE ABBREVIATIONS

- ACT-1 ACOUSTIC CEILING TILE TYPE 1
- ACT-2 ACOUSTIC CEILING TILE TYPE 2
- EXP EXPOSED CEILING
- HT-1 HARD TILE TYPE 1
- LVT-1 LINEAR VINYL TILE
- RB-1 RUBBER BASE
- SC SEALED CONCRETE
- PC POLISHED CONCRETE
- LMC LINEAR METAL CEILING
- WT WALL TILE
- QT-1 QUARRY TILE
- MT MOSAIC TILE
- PNT PAINT
- GYP GYPSUM WALL BOARD
- RF-1 RESILIENT ATHLETIC FLOORING
- QTB QUARRY TILE BASE

NOTE: DIFFERENT HEIGHT TRANSITIONS FROM LVT TO CONCRETE



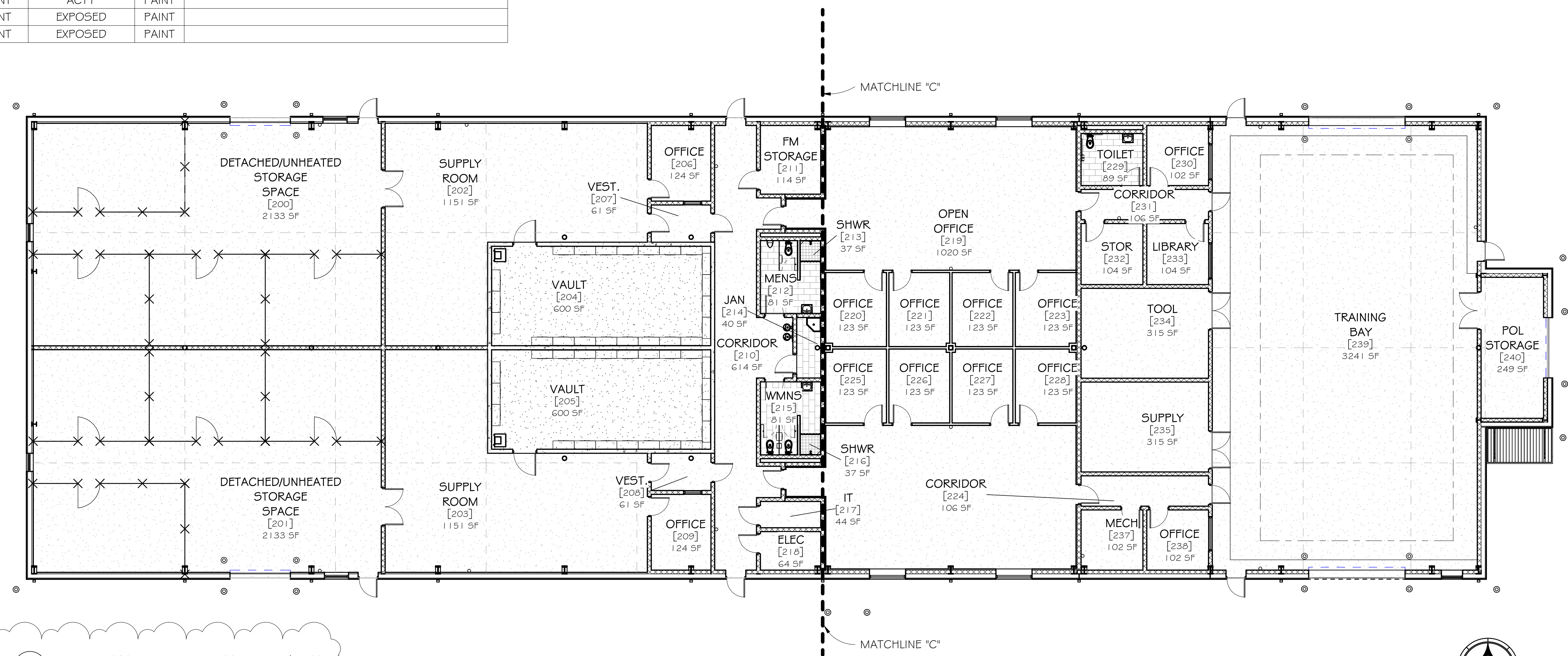
3 CONCRETE TO LVT DETAIL - GPTB  
1" = 1'-0"



2 CONCRETE TO TILE TRANSITION STRIP - GPTB  
12" = 1'-0"

## LEGEND:

- HARD TILE 12"x24"
- MOSAIC TILE
- QUARRY TILE
- LVT 1
- SEALED CONCRETE -OR- POLISHED CONCRETE (\*SEE RA.3.1 FINISH SCHEDULE)
- RESILIENT ATHLETIC FLOORING



1 FLOOR PATTERN PLAN - UNIT SUPPLY / GPTB  
3/32" = 1'-0"

Rev.	Description	Date
1	ADDENDUM #1	11.25.24

Job Number: 21112  
AL ARNG IFB #: AC-25-B-0006-S  
Date: NOVEMBER 1, 2024  
Drawn By: TS, CK, DW, WR  
Checked By: CI

Project Title

HUNTSVILLE READINESS CENTER  
5180 MOORE'S MILL ROAD  
HUNTSVILLE AL, 35811

Sheet Title  
FLOOR PATTERN & FINISH SCHEDULE - UNIT SUPPLY / GPTB

Sheet Number

GA9.1

