	<b>Fort Mill School District</b>  <b>Addendum #2</b>	Solicitation Number: #22-015 Date Issued: March 31, 2023 Procurement Specialist: Kelly Keniston Phone: (803) 548-8202 E-Mail Address: kenistonk@fortmillschools.org
--	--	---

**DESCRIPTION Springfield Middle School Cooler & Freezer Enclosure Replacement**

SUBMIT YOUR SEALED OFFER ON-LINE or TO THE FOLLOWING ADDRESS:	
<b>MAILING ADDRESS:</b> <b>Fort Mill School District</b> <b>2233 Deerfield Dr</b> <b>Fort Mill, SC 29715</b>	<b>PHYSICAL ADDRESS:</b> <b>FORT MILL SCHOOL DISTRICT</b> <b>2233 DEERFIELD DRIVE</b> <b>FORT MILL, SC 29715</b>

**QUESTION MUST BE RECEIVED BY: March 29, 2023 @ 12:00 pm**

**SUBMIT OFFER BY (Opening Date/Time): April 11, 2023 @ 12:00 pm**

(see "Deadline for submission of offer" provision)

**NUMBER OF COPIES TO BE SUBMITTED: One (1) original**

<b>CONFERENCE TYPE:</b> Pre-Bid Meeting & Site Visit <b>DATE &amp; TIME:</b> Wednesday, March 22, 2023 @ 12pm (As appropriate, see "Conferences-Pre-Bid/Proposal" & "Site Visit provisions")	<b>LOCATION:</b> Fort Mill School District 2232 Deerfield Dr Fort Mill, SC 29715
--	--

<b>AWARD &amp; AMENDMENTS</b>	Award will be posted on or around April 14, 2023. The award, this solicitation, any amendments, and any related notices will be posted at the following web address: <a href="http://www.fortmillschools.org/departments/procurement/">http://www.fortmillschools.org/departments/procurement/</a>
-------------------------------	---

You must submit a signed copy of this form with Your Offer. By submitting a bid or proposal, You agree to be bound by the terms of the Solicitation. You agree to hold Your Offer open for a minimum of thirty (30) calendar days after the Opening Date.  
(See "Signing Your Offer" and "Electronic Signature" provisions.)

<b>NAME OF OFFEROR</b>  <small>(full legal name of business submitting the offer)</small>	Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, i.e., a separate corporation, partnership, sole proprietorship, etc.	
<b>AUTHORIZED SIGNATURE</b>  <small>(Person must be authorized to submit binding offer to contract on behalf of Offeror.)</small>	<b>TAXPAYER IDENTIFICATION NO.</b>  <small>(See "Taxpayer Identification Number" provision)</small>	
<b>TITLE</b>  <small>(business title of person signing above)</small>		
<b>PRINTED NAME</b>  <small>(printed name of person signing above)</small>	<b>DATE SIGNED</b>	<b>STATE OF INCORPORATION</b>  <small>(If you are a corporation, identify the state of incorporation.)</small>

<b>OFFEROR'S TYPE OF ENTITY: (Check one)</b> <span style="float: right;"><small>(See "Signing Your Offer" provision.)</small></span>		
<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Partnership	<input type="checkbox"/> Other _____
<input type="checkbox"/> Corporate entity (not tax-exempt)	<input type="checkbox"/> Corporation (tax-exempt)	<input type="checkbox"/> Government entity (federal, state, or local)

**Minority Participation:**  
Are you a SC Certified Minority Vendor  Yes  No If yes, SC Certification # \_\_\_\_\_  
Are you a Non SC Certified Minority Vendor  Yes  No

**PAGE TWO**

**(Return Page Two with Your Offer)**

<b>HOME OFFICE ADDRESS</b> (Address for offeror's home office / principal place of business)	<b>NOTICE ADDRESS</b> (Address to which all procurement and contract related notices should be sent.) (See "Notice" clause)
	_____ Area Code - Number - Extension                      Facsimile _____ E- mail Address

<b>PAYMENT ADDRESS</b> (Address to which payments will be sent.) (See "Payment" clause)	<b>ORDER ADDRESS</b> (Address to which purchase orders will be sent) (See "Purchase Orders and "Contract Documents" clauses)
_____ Payment Address same as Home Office Address _____ Payment Address same as Notice Address <b>(check only one)</b>	_____ Order Address same as Home Office Address _____ Order Address same as Notice Address <b>(check only one)</b>

**ACKNOWLEDGMENT OF AMENDMENTS**  
 Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. (See "Amendments to Solicitation" Provision)

Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date

<b>DISCOUNT FOR PROMPT PAYMENT</b> (See "Discount for Prompt Payment" clause)	10 Calendar Days (%)	20 Calendar Days (%)	30 Calendar Days (%)	_____ Calendar Days (%)
--	----------------------	----------------------	----------------------	-------------------------

**PREFERENCES - A NOTICE TO VENDORS (SEP. 2009):** On June 16, 2009, the South Carolina General Assembly rewrote the law governing preferences available to in-state vendors, vendors using in-state subcontractors, and vendors selling in-state or US end products. This law appears in Section 11-35-1524 of the South Carolina Code of Laws. A summary of the new preferences is available at [www.procurement.sc.gov/preferences](http://www.procurement.sc.gov/preferences). ***ALL THE PREFERENCES MUST BE CLAIMED AND ARE APPLIED BY LINE ITEM, REGARDLESS OF WHETHER AWARD IS MADE BY ITEM OR LOT. VENDORS ARE CAUTIONED TO CAREFULLY REVIEW THE STATUTE BEFORE CLAIMING ANY PREFERENCES. THE REQUIREMENTS TO QUALIFY HAVE CHANGED. IF YOU REQUEST A PREFERENCE, YOU ARE CERTIFYING THAT YOUR OFFER QUALIFIES FOR THE PREFERENCE YOU'VE CLAIMED. IMPROPERLY REQUESTING A PREFERENCE CAN HAVE SERIOUS CONSEQUENCES.*** [11-35-1524(E)(4)&(6)]

**PREFERENCES - ADDRESS AND PHONE OF IN-STATE OFFICE:** Please provide the address and phone number for your in-state office in the space provided below. An in-state office is necessary to claim either the Resident Vendor Preference (11-35-1524(C)(1)(i)&(ii)) or the Resident Contractor Preference (11-35-1524(C)(1)(iii)). Accordingly, you must provide this information to qualify for the preference. An in-state office is not required, but can be beneficial, if you are claiming the Resident Subcontractor Preference (11-35-1524(D)).

\_\_\_\_\_ In-State Office Address same as Home Office Address  
 \_\_\_\_\_ In-State Office Address same as Notice Address    (check only one)

**Addendum #2 is being issued to answer questions submitted by bidders and include additional information for the contract set of documents.**

**You must acknowledge this addendum on page #2 and the bid form.**

**Please note, unless otherwise stated, all stipulations from the original solicitation apply.**

**ATTACHMENTS:**

- 1.1 Bid Form**
- 1.2 Specification Section 01 11 00 – Summary of Work**
- 1.3 Specification Section 01 26 53 – Proposal Requests**
- 1.4 Specification Section 01 29 73 – Schedule of Values**
- 1.5 Specification Section 01 29 76 – Progress Payment Procedures**
- 1.6 Specification Section 07 54 23 – Mechanically attached TPO Membrane Roofing**  
(Specification for Alternate #1 on Bid Form)
- 1.7 Specification Section 08 11 13 – Hollow Metal Doors and Frames**
- 1.8 Drawing A302 – Elevations, Sections, Door Schedule, & Finish Schedule – Revision 1**
- 1.9 Drawing S101 – Structural Plans and Sections – Revision 1**
- 1.10 Drawing E101 – Electrical Plan – Revision 1**

**LIST OF QUESTIONS:**

**Question#1**

**Please specify appropriate brick sizing.**

**A:** Modular brick is acceptable in lieu of the specified utility brick. Contractor is responsible for submitting color samples to the Owner for approval prior to procurement.

**Question#2**

**Liquidated damages amount? Date? 8' x 10 Freezer and Cooler Rental in lieu of liquidated damages?**

**A:** Refer to attached Specification 01 11 00 – Summary of Work Item 1.07.B for liquidated damages.

**Question#3**

**Who determines/ verifies existing footer?**

**A:** The existing cooler / freezer is currently located on a recessed slab on grade with no existing foundations. Foundations shown in Details 1 & 7 / Sheet S101 are new foundations required per the contract documents. Please dismiss note on Detail 3 / Sheet A302, “Existing Footing, Field Verify”.

#### Question#4

##### **Soil compaction test necessary if existing footers are verified?**

**A:** Soil bearing capacity testing will be required following the demo and excavation for the installation of the turndown slab indicated in Details 1 & 7 / Sheet S101. The Owner is responsible for all testing costs associated with Chapter 1 & 17 inspections. However, the contractor is responsible for all costs due to failed or incomplete work resulting in re-inspections. The contractor will be notified of any inspection back charges on a monthly basis and a deductive change order executed at the end of the project.

#### Question#5

##### **Are code compliant roof top penetration housings and penetrations acceptable in lieu of detail 4 M101?**

**A:** Substitution Request of Vault – Roof Penetration Housings, LLC – AW Vault Model and corresponding Vault Exit Seals were reviewed and approved by the design team as an acceptable product in accordance with Detail 4 / M101.

#### Question#6

##### **Is overhead feed of new electric into roof top penetration housing acceptable?**

**A:** Per original construction drawings, the all electrical raceways for the cooler / freezer components are run underground. However, a junction box is located at a height of 9’6” AFF along the current exterior wall above the existing unit. The existing underground raceway back to the electrical panel can be utilized and any extension from the above ceiling junction boxes to the cooler / freezer can be installed above ceiling. Should any new electrical raceway be required, above ceiling installation is an acceptable installation to panel SBL-1.

#### Question#7

##### **Will new cooler/freezer require strip lighting?**

**A:** Refer to the Walk-in Cooler / Freezer specifications included within the Project manual (pg226) Item G: *“Freezer shall have minimum of (4) 4 ft LED light fixtures. Cooler to have minimum of (2) 4 ft LED light fixtures.”* And Item 8.0 Lighting: *“Each entrance door shall be provided with mini LED light on the interior of the door section. The light shall have a coated glass shatterproof globe. A neon pilot light and toggle switch shall be flush mounted on the exterior of the door section and shall have a stainless steel cover. The door panel and door leaf shall be U.L. approved in its entirety, including all mounted accessories.”* These items shall be incorporated within the cooler / freezer design and electrical connections performed by the Electrical subcontractor.

#### Question#8

##### **Please provide instructions on connection of HSS 8x6x1/4 tube to HSS 6x2x1/4 at corner of structure.**

**A:** The HSS 6x2x1/4 tube steel will be supported by the exterior wall structural metal framing as indicated in Detail 8 / S101. The ends of the HSS 8x6x1/4 will be supported from the existing exterior wall as shown on Detail 11 / S101 and by the structural metal framing similar to the HSS 6x2x1/4 member. The HSS splice connection Detail 10 indicates the connection between HSS 6x2x1/4 members. Please see the updated sheet S101 including the revised Detail 10 including the connection between the two HSS members.

**PROJECT MANUAL:**

- 2.1 Specification Section 01 11 00 – Summary of Work**  
ADD the specification in its entirety.
- 2.2 Specification Section 01 26 53 – Proposal Requests**  
ADD the specification in its entirety.
- 2.3 Specification Section 01 29 73 – Schedule of Values**  
ADD the specification in its entirety.
- 2.4 Specification Section 01 29 76 – Progress Payment Procedures**  
ADD the specification in its entirety.
- 2.5 Specification 07 54 23 – Mechanically Attached TPO Membrane Roofing**  
ADD the specification in its entirety. Specification associated with Alternate #1.
- 2.6 Specification Section 08 11 13 – Hollow Metal Doors and Frames**  
REPLACE the specification with the revised version.
- 2.7 Specification Section 087100 – Door Hardware**  
DELETE the item 2.02 – KEY CONTROLS in its entirety.

**DRAWINGS:**

- 3.1 A302 – Elevations, Sections, Door Schedule, & Finish Schedule – Revision 1**  
REPLACE the sheet with the attached revised version.
- 3.2 S101 – Structural Plans and Sections – Revision 1**  
REPLACE the sheet with the attached revised version.
- 3.3 E101 – Electrical Plan – Revision 1**  
REPLACE the sheet with the attached revised version.

**GENERAL:**

- 4.1 Bid Form**  
REPLACE Bid Form in its entirety. This version shall be submitted with Bid Package.

**END OF ADDENDUM NO. 2**

II. Bid Form

# FORT MILL SCHOOLS

SOLICITATION RFB# 22-014 – ADDENDUM #2  
SPRINGFIELD MIDDLE SCHOOL – COOLER / FREEZER ENCLOSURE

BIDDER NAME: \_\_\_\_\_

BIDDER PHONE: \_\_\_\_\_

BIDDER EMAIL: \_\_\_\_\_

---

FORT MILL SCHOOL DISTRICT  
2233 DEERFIELD DR.  
FORT MILL, SC 29715

***SINGLE PRIME*** CONTRACT

---

All Parties:

Having carefully examined the Drawings and Specifications for the above noted project(s), as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials, labor, equipment, and services called for by them for a lump sum consideration of:

BASE BID: \$ \_\_\_\_\_ (NUMERICAL AMOUNT HERE)

\_\_\_\_\_ (WRITTEN DOLLARS HERE)

The above stated bid is based on the above-mentioned Drawings, Specifications, Pre-Bid Schedule and any Addenda issued subsequent to the basic Drawings and Specifications. (List all Addenda with dates of any issued. If no additional Addenda are issued, write the word "NONE".)

Addendum Number

Date

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If any of the following Alternates are accepted, the above stated sum (base bid amount) will be altered by the amount(s) indicated below.

- a. If no Alternates are indicated, enter the term "NOT APPLICABLE" after the dollar (\$) sign.
- b. If Alternates are indicated, strike through completely either "add" or "deduct" in order to leave exposed the proper change to the base bid amount and indicate the amount of the change in numbers after the dollar (\$) sign.
- c. If Alternates are indicated, but there is no change to the base bid amount, enter the term "NO CHARGE" after the dollar (\$) sign.

**Alternate No. 1: Roofing System**

Base Bid: Modified Bitumen Roofing System

Alternate: TPO Membrane Roofing System – In lieu of Specified Modified Bitumen Roof System  
(See Alternate Specification 07 54 23 – Mechanically Attached TPO Membrane Roofing)

**ADD and/or DEDUCT \$** \_\_\_\_\_

**Listing Of Subcontractors:**

In the below space, list the requested subcontractor(s), SC Contractor’s License #, and the amount included in the **Base Bid** for this subcontractor(s):

Masonry: \_\_\_\_\_ Subcontract Amount: \_\_\_\_\_

SC Contractor’s License #: \_\_\_\_\_

Roofing: \_\_\_\_\_ Subcontract Amount: \_\_\_\_\_

SC Contractor’s License #: \_\_\_\_\_

Fire Sprinkler: \_\_\_\_\_ Subcontract Amount: \_\_\_\_\_

SC Contractor’s License #: \_\_\_\_\_

Plumbing: \_\_\_\_\_ Subcontract Amount: \_\_\_\_\_

SC Contractor’s License #: \_\_\_\_\_

HVAC: \_\_\_\_\_ Subcontract Amount: \_\_\_\_\_

SC Contractor’s License #: \_\_\_\_\_

Electrical: \_\_\_\_\_ Subcontract Amount: \_\_\_\_\_

SC Contractor’s License #: \_\_\_\_\_

If notified of the acceptance of this bid or any Alternate within one hundred twenty (120) days after the date fixed for the opening of the bid, the undersigned agrees to execute and deliver the specified Contract and Contractor's Bond within ten (10) days. The undersigned agrees, if awarded the Contract within one hundred twenty (120) days from the fixed date for opening of the bids, to faithfully and properly complete the whole work within the specified time, consistent with the best interest of the Owner, the safety of the public and in accordance with first-class workmanship.

The undersigned agrees that the Owner may retain the sum of money specified as “Liquidated Damaged” as indicated within the Contract Documents, from the amount of compensation to be paid the undersigned for each calendar day that work remains uncompleted and unaccepted after the maximum duration of time for the work to be completed. This amount is agreed upon as the proper measure of liquidated damages, which the Owner sustains per day by failure of the undersigned to complete the work in the stipulated time and is not to be construed in any sense as a penalty.

A Performance and Payment Bond, executed on AIA Document A312, will be required in the amount of one hundred percent (100%) of the Contract amount. Cost of bonds shall be included in the bid.

It is agreed that the undersigned has completed and/or will comply with all requirements concerning licensing and with all other local, state, and national laws and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him and/or in the performance of the Work required there under.

By submission of this bid, the undersigned declares that the person or persons signing this proposal is/are authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof. Furthermore, each person signing on behalf of any bidder certifies, under penalty of perjury that, to the best of its knowledge and belief, each bidder is not on the list created pursuant to Section 11-57-310 of the South Carolina Code of Laws.

Respectfully submitted this \_\_\_\_\_ day of \_\_\_\_\_, 2023.

\_\_\_\_\_  
(Name of Firm)

\_\_\_\_\_  
(S.C. Contractor's License)

\_\_\_\_\_  
(Address)

By \_\_\_\_\_  
(Title)

Minority Owned/Operated Contractor/Business? Yes \_\_\_ No \_\_\_ Certificate Number \_\_\_\_\_

**\*\*\* Be sure to include this page in your proposal \*\*\***



PART 1 - GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. The scope of work includes the demo and replacement of the existing Cooler / Freezer at Springfield Middle School. Work to also include the new construction of an enclosed structure to house the new unit as shown in the contract documents.

1.02 RELATED WORK

- A. Documents affecting work of this section include, but are not necessarily limited to, the contract documents, addenda and General Conditions.

1.03 SAFETY COMPLIANCE

- A. In addition to any detailed requirements of these specifications, the contractor shall meet the requirements of federal and state standards referenced in applicable publications, whichever is more restrictive. Matters of interpretation of these standards shall be submitted by the contractor to the respective administrative agency for resolution before starting work.

1.04 PRECAUTION AND SAFETY

- A. Accident Prevention and Safety: Comply with all applicable laws, ordinances, rules, regulations, and orders of governing authorities having jurisdiction for the safety of persons and property to protect them from damage, injury or loss. Erect and maintain, as required by conditions and progress of the work, all necessary safeguards for safety and protection, including fences, railings, barricades, lighting, posting of danger signs and other warnings against hazards. Where prevention of construction accidents is not regulated by code or ordinances, comply with AGC' s "Manual of Accident Prevention in Construction." Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Project. All scaffolds shall be built in accordance with all requirements of local, state and Federal laws and regulations.

1.05 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install, and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."
  - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
  - 2. Store combustible materials in containers in fire-safe locations.
  - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access route for fighting fires. Prohibit smoking in hazardous fire exposure areas.

## SECTION 01 11 00 – SUMMARY OF WORK

### SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
- B. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements of erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- D. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
  1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- E. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways, and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

#### 1.06 COORDINATION OF WORK SEQUENCE

- A. Coordinate work for the various sections of the Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify characteristics that elements of interrelated operating equipment are compatible; coordinate work of various sections having interdependent responsibilities for installing, connection to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts and conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

#### 1.07 TIME OF COMPLETION AND LIQUIDATED DAMAGES

SECTION 01 11 00 – SUMMARY OF WORK  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

- A. The contract performance period shall be as follows:  
Notice to Proceed: April 17, 2023  
Substantial Completion: August 1, 2023
- B. Should the contractor fail to have all work completed within the time specified, the contractor shall be required to provide a rental cooler / freezer boxes and/or accessed Liquidated Damages in the amount of five hundred dollars (\$500.00) per calendar day until Substantial Completion is achieved. The Owner reserves the right to implement the additional financial cost shall be the

1.08 CONSTRUCTION PROGRESS SCHEDULE:

- A. Contractor shall provide a detailed bar chart (CPM Method) of his work clearly showing how his schedule integrates with the durations provided by other subcontractors and the total construction duration. This bar chart schedule must identify project critical path including all links between activities.
- B. Construction project schedule shall be updated and provided to the Construction Manager monthly.
- C. **In no event shall any Contractor work less than five (5) days per week. If a normal workday (Monday through Friday) is lost due to weather, it is expected that the Contractor work Saturday and/or Sunday to make up the lost day(s).**

1.09 REQUEST FOR EXTENSION DUE TO DELAYS:

- A. It is understood that the Owner, Construction Manager or Architect/Engineer shall not, in any event, be liable to the Contractor for delays of any kind whatsoever and the Contractor shall be fully responsible for making up lost time of all delays except to the extent that extensions of time are granted. If completion of the work is delayed by any act of neglect of the Owner, or by the Construction Manager or the acts of the Construction Manager or Architect/Engineer, by strikes or by other exceptional conditions over which the Contractor has no reasonable control, the time of completion shall upon receipt of the Contractor's written request, be extended by such period as the Construction Manager may consider reasonable. No extension shall be allowed unless a claim is presented in writing to the Construction Manager within seven (7) days after the commencement of such delay. In case of continued cause of delay, only one claim is necessary. Nothing in this clause shall be construed to release the Contractor from the obligation to perform at his own expense all overtime necessary to maintain the Contract completion date where delays have occurred which are not excused. If the Contractor, delayed by any acts of the Owner, Construction Manager, Architect/Engineer, is granted an extension of time by the Construction Manager, the Contractor shall comply with the extended schedule with no additional compensation from the Owner.
- B. Delays due to weather/precipitation. The following table shows the number of days, on average, per month, that it rained .1" or more in York County, SC, over a ten-year period.

January	4 days	July	6 days
---------	--------	------	--------

SECTION 01 11 00 – SUMMARY OF WORK  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

February	4 days	August	5 days
March	5 days	September	6 days
April	4 days	October	3 days
May	4 days	November	3 days
June	5 days	December	4 days

- C. For the Contractor to claim an extension due to weather, there must have been at least .1" of precipitation that day or from a previous day, a critical path activity must have been affected and the Contractor and Construction Manager must agree that the day was unworkable. Critical Path activities are determined based on the updated monthly schedule provided by the Contractor for the month in question. If the Contractor fails to provide an updated schedule for the month that an extension is being requested, then the previous month's schedule shall be used. All days must be documented on a daily basis and agreed upon by the Construction Manager. The difference between the total actual unworkable days due to precipitation and the above days will be granted (if in excess). This extension must be formally requested once a month (with transmittal of Pay Application) for the extension to be granted. If a formal request is not made at the said time, the opportunity for extension request will not be granted.
- D. Per 1.0.1.C above, normal workdays lost due to weather shall be made up on the following Saturday and/or Sunday, as necessary, to complete the five (5) day work week requirement. If an extension request is made for lost day(s) and the Contractor failed to work the following Saturday and/or Sunday, weather permitting, to meet the 5 day requirement, the request will be reduced by the number of Saturdays and Sundays that should have been worked to complete the 5 day work week requirement.

1.10 TEMPORARY FACILITIES:

- A. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented, and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
- B. **Contractor use of the existing restrooms within the building is not permitted.**

1.11 FINAL INSPECTION AND PUNCH LIST:

- A. The contract has an established contract completion date. In order to avoid the assessment of liquidated damages, the contractor shall request in writing to the Architect/Engineer a final inspection on or prior to the established completion date. The contractor shall certify that all construction/installation is complete and has been checked out and is operating as designed. The Architect/Engineer shall notify the Owner in writing that the job is ready for inspection.
- B. The Architect/Engineer, Construction Manager, contractor, and all sub-contractors associated with the construction/installation of the building equipment shall be

SECTION 01 11 00 – SUMMARY OF WORK  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

present during the final inspection to demonstrate the proper operations of the equipment. Removal/replacement of necessary covers for inspection shall be conducted by the contractor.

- C. At the time of inspection, should the architect/engineer and Owner's Representatives determine that the construction/installation is less than 100% complete to the extent that a re-inspection will be required, the inspection will cease and a charge of five hundred dollars (*\$500.00*) will be assessed by the Owner against the Contractor, for costs associated with re-inspection requirements and for delays incurred as a result of failure to complete the punch list.

1.12 FINAL PUNCH LIST ITEMS:

- A. The contractor and sub-contractors shall have thirty (30) calendar days from the date of final inspection to complete the repair of any and all items listed on the final punch list.
- B. If the contractor or his sub-contractor fails to complete all items on the final inspection punch list within the allocated twenty one calendar days, liquidated damages in the amount specified by the contract will be assessed retroactive to the contract completion date and will continue until all items on the punch list are completed. (Only exception shall be by recommendation of the Architect/Engineer and/or Construction Manager, and approval by the Owner, that lack of completion was due to circumstances beyond the control of the contractor.)

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. NO EXTRA WORK SHALL BE PERFORMED WITHOUT FIRST RECEIVING WRITTEN APPROVAL FROM THE CONSTRUCTION MANAGER.
- B. Work included: Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the Owner and the Architect and issued after execution of the Contract, in accordance with provisions of this Section.
- C. Related Work: Documents affecting work of this section include, but are not necessarily limited to, the contract documents, addenda and General Conditions.
- D. Mark up of Allowance items (equipment, rental, labor, subcontracts or other) will not be allowed by the Contractor at the time of Allowance use. This includes the assignment of contracts or change requests (change conditions) whether initiated by the Owner, Contractor or any other party. The Contractor should include markup of the Allowance with the lump sum bid.**
- E. Change Orders using the "Time and Material" method may be used in order to expedite the construction process. If used, the contractor will be required to issue certified payroll and all pertinent invoicing. These items shall be agreed to during the pre-construction meeting or prior to initiating work.

1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such measures as are needed to assure familiarity of the Contractor's staff and employees with these procedures for processing Change Order data.

1.3 SUBMITTALS

- A. Make submittals directly to the Construction Manager at the address shown on the Project Directory in the Project Manual.
- B. Submit the number of copies called for under the various items listed in this Section along with appropriate back-up materials.

1.4 PROCESSING CHANGES INITIATED BY THE OWNER

- A. Should the Owner contemplate making a change in the Work or a change in the Contract Time of Completion, the Construction Manager and/or Architect will issue a Proposal Request to the Contractor.
  - 1. Proposal Requests will be dated and will be numbered in sequence.
  - 2. The Proposal Requests will describe the contemplated change, and will carry one of the following instructions to the Contractor:
    - a. Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion;

SECTION 01 26 53 – PROPOSAL REQUESTS  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

- b. Make the described change in the Work, and provide for a credit or cost to be determined in accordance with the General Conditions.
    - c. Promptly advise the Construction Manager as to the credit or cost proposed for the described change. This will not be an authorization to proceed with the change.
  - B. If the Contractor has been directed by the Construction Manager and/or Architect through issuance of a Construction Change Directive to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes, the Contractor shall proceed with the change and shall notify the Construction Manager as provided for under the General Conditions.
    1. If Contractor fails to comply with initiating work within seven (7) calendar days of formal directive, the Contractor's forces will be supplemented and all incurred costs will be back-charged to Contractor. Schedule impacts as a result the supplementation of work forces will be assessed to the Contractor as set forth in Section 01 11 00 Summary of Work Part 1.07.B.
  - C. If the Contractor has been directed by the Construction Manager and/or Architect through issuance of a Construction Change Directive to make the described change subject to later determination of cost or credit in accordance with the General Conditions, the Contractor shall:
    1. Take such measures as needed to make the change;
    2. Consult with the Construction Manager and reach agreement on the most appropriate method for determining credit or cost for the change.
  - D. If the Contractor has been directed by the Construction Manager or Architect to promptly advise him as to credit or cost proposed for the described change, the Contractor shall:
    1. Analyze the described change and its impact on costs and time;
    2. Secure the required information and forward it to the Construction Manager for review;
    3. Meet with the Construction Manager and/or Architect as required to explain costs, and when appropriate, to determine other acceptable ways to achieve the desired objective;
    4. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Construction Manager in writing when avoidance no longer is practicable.

1.6 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

- A. Make written reply to the Construction Manager in response to each Proposal Request.
  1. State proposed change in the Contract Sum, if any.
  2. State proposed change in the Contract Time of Completion, if any.

SECTION 01 26 53 – PROPOSAL REQUESTS  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

desirable therewith, if any.

4. Include full backup data such as, subcontractor's letter of proposal or similar information.
  5. Submit this response in a single copy.
- B. When cost or credit for the change has been agreed upon by the Owner and the Contractor, or the Owner has directed that cost or credit be determined in accordance with provisions of the General Conditions, the Construction Manager will issue written notification to bill against the General Contingency Allowance or the Construction Manager will issue a "Change Order" to the Contractor.

1.8 PROCESSING CHANGE ORDERS

- A. Change Orders will be dated and will be numbered in sequence.
- B. The Change Order will describe the change or changes, will refer to the Proposal Request(s) involved, and will be signed by the Owner and the Architect.
- C. The Architect will issue five copies of each Change Order to the Construction Manager for the remaining distribution and execution of all parties.
  1. The Contractor shall promptly sign all five copies and return all five copies to the Construction Manager.
  2. The Construction Manager will then forward five copies to the Architect for his signature.
  3. The Architect will sign all five copies and then forward five copies to the Owner for his signature.
  4. The Owner will sign all five copies, retain one copy for his file and return the remaining four copies to the Construction Manager who will then forward fully executed copies to the Contractor, Architect and the Office of School Facilities.
- D. Should the Contractor disagree with the stipulated change in Contract Sum or change in Contract Time of Completion, or both:
  1. The Contractor promptly shall submit a copy of the Change Order, unsigned by him, to the Architect with copy to the Construction Manager with a letter signed by the Contractor, stating his disagreement.
  2. The Contractor's disagreement with the Change Order shall not in any way relieve the Contractor of his responsibility to proceed with the change as ordered under pertinent provisions of the Contract Documents.
- E.
  1. Maximum allowable "mark-up" percentages for contractors and sub-contractors AFTER ALL ALLOWANCES ARE EXHAUSTED shall be 10% for self-performed work and 5% on sub-contract work.
- F. Cost of Change Work Sheet
  1. See Cost of Change Worksheet included in this Section. This worksheet is to be used as part of any and all Proposal Requests.



### COST OF CHANGE WORKSHEET

Project: **SFMS Cooler / Freezer Enclosure Replacement**

Package/Contractor: \_\_\_\_\_

Proposal Request # \_\_\_\_\_

Associated RFI(s): \_\_\_\_\_

Description of Work (from Proposal Request form):

- |   |          |          |
|---|----------|----------|
| 1. Material Cost (Include Itemized Breakdown):                                    | \$ _____ |          |
| 2. Equipment Cost (Include Itemized Bill):  | \$ _____ |          |
| 3. Sales Tax:   | \$ _____ |          |
| 4. Overhead & Profit (10%):<br>(NOT to be added to items deducted from allowance) | \$ _____ |          |
| 5. SUBTOTAL 1:  |          | \$ _____ |
| 6. Labor Costs (Include Itemized Breakdown):                                      | \$ _____ |          |
| 7. Labor Burden:  | \$ _____ |          |
| 8. Overhead & Profit (10%):<br>(NOT to be added to items deducted from allowance) | \$ _____ |          |
| 9. SUBTOTAL 2:  |          | \$ _____ |
| 10. Subcontract Cost (Include Itemized Breakdown):                                | \$ _____ |          |
| 11. Overhead & Profit (5%):<br>(NOT to be added to items deducted from allowance) | \$ _____ |          |
| 12. SUBTOTAL 3:   |          | \$ _____ |
| 13. TOTAL:  |          | \$ _____ |
| 14. Insurance/Bond Expense:<br>(NOT to be added to items deducted from allowance) |          | \$ _____ |
| 15. GRAND TOTAL:  |          | \$ _____ |

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.
- B. Related Work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, the contract documents, addenda and General Conditions.
  - 2. Schedule of Values is required to be compatible with the continuation sheet and accompanying applications for payment, as described in Section 01 29 76.

1.2 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of the sums described.
- B. When so required by the Construction Manager and/or Architect, provide copies of the subcontractor's Schedule of Values or other data acceptable to the Construction Manager and/or Architect, substantiating the sums described.

1.3 SUBMITTALS

- A. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values. Contractor to follow AIA Documents AIA G732 and G703 formatting for Schedule of Values and Progress Payments.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of the Architect.
    - c. Project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
  - 3. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
  - 4. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
  - 5. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item shall be complete including its total cost and proportionate share of general overhead and profit margin.

SECTION 01 29 73 – SCHEDULE OF VALUES

SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

6. Temporary facilities and other major cost items that are not direct cost of actual work-in-place shall be shown as separate line items in the Schedule of Values.
  7. Schedule Updating: Update the Schedule of Values when Change Orders result in a change in the Contract Sum.
- B. Prior to first application for payment, submit a proposed schedule of values to the Construction Manager for review.
1. Meet with the Construction Manager and determine additional data, if any required to be submitted.
  2. Secure the Construction Manager's approval of the schedule of values prior to submitting first application for payment. **NO APPLICATIONS FOR PAYMENT WILL BE PROCESSED PRIOR TO APPROVAL OF THE SCHEDULE OF VALUES.**
  3. AIA Form G732 shall be submitted with all columns and spaces completed as per direction of the Construction Manager.

END OF SECTION

SECTION 01 29 76 – PROGRESS PAYMENT PROCEDURES  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Comply with procedures described in this Section when applying for progress payments and final payment under the Contract.
- B. Related Work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, the contract documents, addenda and General Conditions.
  - 2. The Contract Sum and the schedule for payments are described in the Agreement Form.
  - 3. Payments upon Substantial Completion and Completion of the Work are described in the AIA Contract and in Division I of these Specifications.
  - 4. The Construction Manager's and Architect's approval of applications for progress payment and final payment may be contingent upon the Construction Manager's and Architect's approval of status of Closeout and Project Record Documents.

1.2 QUALITY ASSURANCE

- A. Prior to approval of payment application number one, secure the Construction Manager's approval of the project schedule and Schedule of Values required to be submitted under Section 01 29 73 of these Specifications.
- B. During progress of the Work, modify the schedule of values as approved by the Construction Manager to reflect changes in the Contract Sum due to Change Orders or other modifications of the Contract.
- C. Base requests for payment on the approved Schedule of Values.

1.3 SUBMITTALS

- A. Informal Submittal: Unless otherwise directed by the Construction Manager:
  - 1. Make an informal submittal of request for payment by filling in, with erasable pencil, pertinent portions of AIA Document G732, "Application and Certificate for Payment", plus continuation sheet or sheets.
  - 2. Make this preliminary submittal of request for payment as agreed with the Construction Manager, initialing all copies.
- B. Formal Submittal: Unless otherwise directed by the Construction Manager:
  - 1. Make formal submittal of request for payment by filling in the agreed date, by typewriter or neat lettering in ink, on AIA Document G702, "Application and Certificate for Payment", plus continuation sheet or sheets.
  - 2. Sign and notarize the Application and Certificate for Payment.
  - 3. Submit the original of the Application and Certificate for Payment, plus one (1)

SECTION 01 29 76 – PROGRESS PAYMENT PROCEDURES  
SPRINGFIELD MIDDLE SCHOOL – COOLER/FREEZER ENCLOSURE - ADDENDUM #2

identical copies of the entire Application including all continuation sheet or sheets, to the Construction Manager. All copies shall bear original signatures and original notarizations.

4. Submit Partial Release of Liens for ALL sub-contractors and material suppliers that have an interest in the current or any past Applications for Payment.
5. The Construction Manager will compare the formal submittal with the approved informal submittal and, when approved, will sign the Application and Certificate for Payment, and will distribute:
  - a. Two copies to Architect / Construction Manager for Approval;
  - b. After approval of Architect, One copy to Owner.
6. Requests for Payment against any change order will not be honored until the change order is signed by all appropriate parties.

END OF SECTION

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- A. TPO Mechanically fastened membrane roofing system.
- B. Cover board.
- C. Roof insulation.
- D. Vapor retarder.
- E. Substrate board.

### 1.2 RELATED SECTIONS

- A. Refer to **ALTERNATES SECTION 01 2300** for alternates affecting this section.

### 1.3 REFERENCES

- A. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms in this Section:
  - 1. ASTM D 1079 "Terminology Relating to Roofing and Waterproofing."
  - 2. Glossary of NRCA's "The NRCA Roofing and Waterproofing Manual."
  - 3. Roof Consultants Institute "Glossary of Roofing Terms."
- B. Sheet Metal Terminology and Techniques: SMACNA Architectural Sheet Metal Manual.

### 1.4 DESIGN CRITERIA

- A. General: Installed roofing membrane system shall remain watertight; and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.
- C. Wind Uplift Performance: Roofing system shall be identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE 7.
  - 1. Field-of-Roof Uplift Pressure: As per manufacturer's recommendations for this specific site.
  - 2. Perimeter Uplift Pressure: As per manufacturer's recommendations for this specific site.
  - 3. Corner Uplift Pressure: As per manufacturer's recommendations for this specific site.
- D. FMG Listing: Roofing membrane, base flashings, and component materials shall comply with requirements in FMG 4450 and FMG 4470 as part of a roofing system and that are listed in FMG's

"RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.

#### 1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets for each product to be provided.
- B. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details of attachment to other Work, including:
  - 1. Base flashings, cants, and membrane terminations.
  - 2. Tapered insulation, including slopes.
  - 3. Crickets, saddles, and tapered edge strips, including slopes.
  - 4. Insulation fastening patterns.
- C. Verification Samples: Provide for each product specified.
- D. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" and "Guarantees" Article.
  - 1. Provide evidence of meeting performance requirements and intent to guarantee.
- F. Qualification Data: For Installer and manufacturer.
- G. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.
- H. Maintenance Data: Refer to Johns Manville's latest published documents on [www.specJM.com](http://www.specJM.com).

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive the specified manufacturer's guarantee.
- B. Manufacturer Qualifications: Qualified manufacturer that has UL or FMG approval for roofing system identical to that used for this Project.
- C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
- D. Test Reports:
  - 1. Roof drain and leader test or submit plumber's verification.
  - 2. Roof deck fastener pullout test.
- E. Source Limitations: Obtain all components from the single source roofing manufacturer guaranteeing the roofing system. All products used in the system must be labeled by the single source roofing manufacturer issuing the guarantee.

- F. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or FMG and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
  - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
  - 2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

#### 1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and guarantee requirements.

#### 1.9 GUARANTEE

- A. Provide manufacturer's system guarantee equal to Johns Manville's Peak Advantage No Dollar Limit Roofing System Guarantee.
  - 1. Single-Source special guarantee includes roofing plies, base flashings, liquid applied flashing, roofing membrane accessories, roof insulation, fasteners, substrate board, manufacturer's expansion joints and other single-source components of roofing system marketed by the manufacturer.
  - 2. Guarantee Period: **15** years from date of Substantial Completion.
  - 3. Wind Rider: Guarantee shall not exclude coverage for wind events up to 120 mph.
  - 4. Hail Rider: Guarantee shall have no exclusions for hail events up to 1 inch.
  - 5. Accidental Puncture Rider: Guarantee shall provide coverage for accidental puncture for up to 8 billed repair hours per year for the life of the guarantee.
- B. Installer's Guarantee: Submit roofing Installer's guarantee, including all components of roofing system for the following guarantee period:
  - 1. Guarantee Period: Two Years from date of Substantial Completion.



## PART 2 - PRODUCTS

### 2.1 THERMOPLASTIC POLYOLEFIN ROOFING (TPO) MEMBRANE

- A. Fabric-Reinforced Thermoplastic Polyolefin (TPO) Sheet: ASTM D 6878, uniform, flexible sheet formed from a thermoplastic polyolefin, internally fabric or scrim reinforced. All products shall be supplied by Johns Manville (JM TPO Products) or single sourced by approved equal.
  - 1. Thickness: 60 mils (1.52 mm), nominal.
  - 2. Accelerated Weathering: Minimum of 24,000 hours without cracking or crazing as tested using ASTM G155.
  - 3. Tensile Strength: Minimum of 300 lbf as tested using ASTM D751
  - 4. Tearing Strength: Minimum of 85 lbs as tested using ASTM D751

### 2.2 AUXILIARY Roofing Materials

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
  - 1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's sheet flashing of same material, type, reinforcement, thickness, and color as sheet membrane.
- C. Sheet Flashing: Manufacturer's unreinforced sheet flashing of same material as sheet membrane.
- D. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel, with anchors.
- E. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, pre-punched.
- F. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
- G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories.

### 2.3 AUXILIARY ROOFING System Components

- A. Expansion Joints: Provide factory fabricated weatherproof, exterior covers for expansion joint openings consisting of flexible rubber membrane, supported by a closed cell foam to form flexible bellows, with two metal flanges, adhesively and mechanically combined to the bellows by a bifurcation process. Provide product manufactured and marketed by single-source membrane supplier that is included in the No Dollar Limit guarantee.
- B. Metal Flashing Sheet: Metal flashing sheets used for coping systems, fascia systems, and other similar systems detailed on plans or required for a complete roofing system are specified in Division 07 Section "Sheet Metal Flashing and Trim."

- C. Gypsum Board Base Layer for Fire Protection: ASTM C1177, glass-mat faced, water-resistant gypsum substrate, 5/8 inch (16 mm) thick type “X” Securock.

#### 2.4 COVER BOARD

- A. High-Density Polyisocyanurate: Invinsa Roof Board high-density polyisocyanurate technology bonded in-line to mineral-surfaced, fiber glass reinforced facers with greater than 125 lbs of compressive strength.

#### 2.5 ROOF INSULATION

- A. General: Preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
- B. Polyisocyanurate Board Insulation System: ENRGY 3, ASTM C 1289, Type II.
  - 1. Provide insulation package with R Value greater than R-25.
  - 2. Provide insulation package with minimum thickness of 2.5” per panel. Provide multiple layers to prevent thermal drift.
  - 3. Insulation shall be installed in multiple layers with the minimum being two (2).

#### 2.6 TAPERED INSULATION

- A. Tapered Insulation: ASTM C 1289, provide factory-tapered ENRGY 3 insulation boards fabricated to slope of 1/4 inch per 12 inches (1:48), unless otherwise indicated. Note, at back-slopes, two layers, or 1/2" per 12 inches, will be required to maintain a ¼ in per 12 inch positive slope.

#### 2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.
- B. Provide factory preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- C. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and furnished by roofing system manufacturer.
- D. Urethane Adhesive: Manufacturer’s two component urethane adhesive formulated to adhere insulation to substrate.
- E. Wood Nailer Strips: shall be treated where required.

#### 2.8 SUBSTRATE BOARD

- A. Substrate Board where required: ASTM C 728, Fesco perlite board, 3/4 inch (19 mm) and tapered where required.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions for compliance with requirements affecting performance of roofing system:
  - 1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Clean and remove from substrate sharp projections, dust, debris, moisture, and other substances detrimental to roofing installation in accordance with roofing system manufacturer's written instructions.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.3 SUBSTRATE BOARD INSTALLATION

- A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
  - 1. Fasten substrate board to top flanges of steel deck according to recommendations in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
  - 2. Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof according to roofing system manufacturer's written instructions.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.4 INSULATION INSTALLATION

- A. Coordinate installation of roof system components so insulation and cover board is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system manufacturer's written instructions for installation of roof insulation and cover board.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation boards with long joints in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with like material.

- E. Install multiple layers of insulation as specified under area of roofing to achieve required thickness. Install layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
- F. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- G. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- H. Preliminarily Fastened Insulation for Mechanically Fastened Systems: Install insulation with fasteners at rate required by roofing system manufacturer or applicable authority, whichever is more stringent.
- I. Mechanically Fastened with Subsequent Layers Adhered Insulation: Secure first layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type to deck type.
  - 1. Fasten first layer according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
  - 2. Fasten first layer to resist uplift pressure at corners, perimeter, and field of roof.
  - 3. Install subsequent layers in a two-part urethane adhesive according to roofing system manufacturer's instruction.
- J. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.5 COVER BOARD INSTALLATION

- A. Coordinate installing membrane roofing system components so cover board is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system manufacturer's written instructions for installing roof cover board.
- C. Install cover board with long joints of cover board in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with cover board.
  - 1. Cut and fit cover board within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- D. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.
  - 1. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- E. Adhered Cover Board: Adhere cover board to substrate as follows:
  - 1. Install in a two-part urethane adhesive according to roofing system manufacturer's instruction.
- F. Mechanically Fastened Cover Board: Install each layer of cover board and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof cover board to deck type.

1. Fasten according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
2. Fasten to resist uplift pressure at corners, perimeter, and field of roof.

G. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.6 ROOFING MEMBRANE INSTALLATION, GENERAL

- A. Install roofing membrane in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.
- B. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.
- C. Where roof slope exceeds 1/2 inch per 12 inches (1:24, contact the membrane manufacturer for installation instructions regarding installation direction and backnailing
- D. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.
- E. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
  1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation.
  2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
  3. Remove and discard temporary seals before beginning work on adjoining roofing.

### 3.7 MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION

- A. Install roofing membrane specification ST6RM over area to receive roofing in accordance with roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
- B. Start installation of roofing membrane in presence of roofing system manufacturer's technical representative.
- C. Accurately align roofing membranes and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- E. Always install membrane laps perpendicular to the steel deck flutes. "Picture Frame" installation method is not permitted.
- F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

- G. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
    - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
    - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
      - a. Remove and repair any unsatisfactory sections before proceeding with Work.
    - 3. Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements.
  - H. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.
  - I. In-Splice Attachment: Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.
  - J. Through-Membrane Attachment: Secure roofing membrane using fastening plates or metal battens and mechanically fasten roofing membrane to roof deck. Cover battens and fasteners with a continuous cover strip.
  - K. Install roofing membrane and auxiliary materials to tie in to existing roofing.
  - L. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.8 FLASHING INSTALLATION
- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
  - B. Flash penetrations and field-formed inside and outside corners with sheet flashing.
  - C. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
  - D. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.
  - E. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.9 FIELD QUALITY CONTROL
- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
  - B. Final Roof Inspection: Arrange for roofing system manufacturer's Registered Roof Observer (RRO) to inspect roofing installation on completion and submit report to Architect.
    - 1. Notify Architect or Owner 48 hours in advance of date and time of inspection.
  - C. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.

- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.10 PROTECTION AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
- B. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

**END OF SECTION 07 54 23**

## PART 1 GENERAL

### 1.01 SECTION INCLUDES

- A. Standard and custom hollow metal doors and frames.
- B. Steel sidelight, borrowed lite and transom frames.
- C. Louvers, lite frames and glazing installed in hollow metal doors.

### 1.02 RELATED REQUIREMENTS

- A. Division 01 Sections - Allowances, Alternates and General Conditions.
- B. Section 04 2000 - Unit Masonry: Masonry mortar fill of metal frames.
- C. Section 07 9005 - Joint Sealing: Caulking between door frames and adjacent construction.
- D. Section 08 1416 - Flush Wood Doors.
- E. Section 08 7100 - Door Hardware.
- F. Section 08 8000 - Glazing: Glass for doors and borrowed lites.
- G. Section 09 9113 – Exterior Paint.
- H. Section 09 9123 – Interior Paint.
- I. Division 26 Sections for electrical connections, conduit and wiring and coordination.
- J. Section 28 1300 – Access Control for electrical components installed at door openings

### 1.03 REFERENCE STANDARDS

- A. Comply with the version year adopted by the local Authority Having Jurisdiction.
- B. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2017.
- C. ANSI A250.4 – Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
- D. ANSI A250.6 – Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
- E. ANSI A250.8 - SDI-100 Recommended Specifications for Standard Steel Doors and Frames; latest edition.
- F. ANSI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
- G. ANSI A250.11 – Recommended Erection Instructions for Steel Frames.
- H. ASTM A1008 – Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High Strength, Low Alloy with Improved Formability.
- I. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.
- J. ASTM C 236 - Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box; 1989 (Reapproved 1993).
- K. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus; 2005 or latest edition.



- L. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 latest edition.
- M. ASTM E 413 - Classification for Rating Sound Insulation; 2004 latest edition.
- N. ASTM E 1408 - Standard Test Method for Laboratory Measurement of the Sound Transmission Loss of Door Panels and Door Systems; 1991 (Reapproved 2000).
- O. ANSI/BHMA A156.115 – Hardware Preparation in Steel Doors and Frames.
- P. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 2007 or latest edition.
- Q. ANSI/NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2010 or latest edition.
- R. NFPA 252 Standard Methods of Fire Tests of Door Assemblies.
- S. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.
- T. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- U. UL 1784 – Standard for Air Leakage Tests of Door Assemblies

1.04 SUBMITTALS:

- A. See Section 01 3300 - Submittal Procedures, for submittal procedures.
- B. LEED Submittals:
  - 1. Product Data for Credit MR-4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
  - 2. Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.
  - 3. Laboratory Test Reports for Credit IEQ 4: For paints and coatings, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers" or other LEED-approved standard for VOC content.
  - 4. Product Data for Credit EQ-9: For products required to comply with STC ratings for acoustical performance, provide certificates showing testing data for each type acoustical door.
- C. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.
- D. Shop Drawings: Include the following:
  - 1. Elevations of each door design.
  - 2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
  - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
  - 4. Locations of reinforcements and preparations for hardware.
  - 5. Details of anchorages, joints, field splices and connections.
  - 6. Details of accessories.
  - 7. Details of moldings removable stops and glazing.
  - 8. Details of conduit and preparations for power, signal and control systems.

- E. Schedule: Provide door and frame schedule using the same reference numbers for details and openings as shown on the Contract Documents.
- F. Samples: Submit two samples of metal, 2 x 2 inches in size showing factory finishes, colors, and surface texture.
- G. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
- H. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE:

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Temperature-Rise Limit: Where indicated and at vertical exit enclosures (stairwells) and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450degF above ambient after 30-minutes of standard fire -test exposure.
- C. Pre-submittal Conference: Conduct conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier, Installer and Contractor to review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knock-out boxes and conduit at frame with electrified or access control hardware.
- D. Maintain at the project site a copy of all reference standards dealing with installation.

1.06 DELIVERY, STORAGE, AND HANDLING:

- A. Store in accordance with NAAMM HMMA 840.
- B. Store hollow metal work under cover at project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch-high blocking. Do not store in a manner that traps excess humidity.
- C. Doors and frames must be properly marked with the door opening mark number to correspond with the schedule.
- D. Deliver all steel doors with corrugated edge protection and palletized to provide protection during transit and job storage.
- E. Deliver welded frames with two removeable spreader bars intact across the bottom of frame jambs and fixed mullions.
- F. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

- G. Store hollow metal units on raised platforms in vertical positions with blocking between units to allow air circulation.
- H. Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided the finish items are equal in all respects to new work and are acceptable to the Architect; otherwise, remove and replace damaged items as directed.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS:

- A. Steel Doors and Frames:
  - 1. Assa Abloy Ceco or Curries: [www.assaabloydss.com](http://www.assaabloydss.com).
  - 2. Pioneer Industries: [www.pioneerindustries.com](http://www.pioneerindustries.com).
  - 3. ~~Windsor~~ Republic Doors: [www.republicdoor.com](http://www.republicdoor.com).
  - 4. Steelcraft: [www.steelcraft.com](http://www.steelcraft.com).
  - 5. Substitutions: See Section 01-6000 - Product Requirements.

### 2.02 MATERIALS:

- A. Cold-Rolled Steel Sheets: Commercial quality carbon steel, Type E, matte finish, complying with ASTM A366 and ASTM A568. Provide stretcher-leveled standard of flatness for facing sheets of doors.
- B. Galvanized Steel Sheets: Zinc-coated carbon steel sheets of commercial quality, complying with ASTM A526, with ~~1.25 ounce~~ minimum G60 or A60 commercial zinc coating mill phosphatized complying with ASTM A525. Provide stretcher-leveled standard of flatness for facing sheets of doors.
- C. Supports and Anchors: Provide units fabricated of not less than 16 gauge sheet steel. Galvanize after fabrication where units will be built into exterior walls, complying with ASTM A153, Class B.
- D. Inserts, Bolts and Fasteners: Provide manufacturer's standard units, except hot-dip galvanize all items to be built into exterior walls, complying with ASTM A153.
- E. Shop-Applied Paint: Provide a rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints, complying with FS TT-P-57 (Type II), TT-P-636, or TT-P-664. Paint galvanized surfaces with a zinc dust-zinc oxide primer complying with FS TT-P-641, Type II.

### 2.03 DOORS AND FRAMES:

- A. Requirements for All Doors and Frames:
  - 1. Accessibility: Comply with ANSI/ICC A117.1.
  - 2. Door Top Closures: Flush with top of faces and edges.
  - 3. Door Edge Profile: Beveled lock edges: Square hinge edges.
  - 4. Door Texture: Smooth faces.
  - 5. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
  - 6. Hardware Preparation: In accordance with SDI 100, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
  - 7. Galvanizing for all units exposed to the exterior and installed in masonry: All components hot-dipped zinc-iron alloy-coated (galvannealed), A60/ZF180.
  - 8. Finish: Factory primed, for field finishing except stainable hollow metal doors shall be factory prefinished.

9. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers" or other LEED-approved standard for VOC content.

- C. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with all the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

#### 2.04 STEEL DOORS:

##### A. Exterior Doors:

1. Level 2, Physical Performance Level A (Extra-Heavy Duty), Model 2, flush panel.
2. Face sheets fabricated of commercial quality hot dipped, A60 coating.
3. Core Construction: Manufacturer's standard vertical stiffener core. Minimum 22-gauge steel stiffeners on 6-inch center construction, attached by spot welds spaced no more than 5" on centers. Spaces between stiffeners filled with fiberglass insulation (minimum density 0,8#/cubic ft).
4. Seamless edges and sealed, flush top caps. Provide weep holes in bottom channel.

- B. Hinge reinforcement: Minimum 7-gauge steel plate or minimum 14-gauge continuous channel with pierced holes, drilled and tapped per template.

- C. Hardware reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

- D. Thickness: 1-3/4 inches.

##### E. Interior Doors, Non-Fire-Rated:

1. Grade: ANSI A250.8 Level 2, physical performance Level B, Model 2, seamless.
2. Manufacturer's standard polystyrene, kraft honeycomb or steel channel/grid core.
3. Welded, inverted or flush channel top and bottom edges. Provide weep holes in bottom channel.
4. Hinge reinforcement: Minimum 7-gauge steel plate or minimum 14-gauge continuous channel with pierced holes, drilled and tapped per template.
5. Thickness: 1-3/4 inches.

##### F. Interior Doors, Fire-Rated:

1. Grade: ANSI A250.8 Level 3, physical performance Level A, Model 2, seamless.
2. Fire Rating: As indicated on drawings, tested in accordance with UL 10C ("positive pressure").
  - a. Provide units listed and labeled by UL.
  - b. Attach fire rating label to each fire rated unit.
  - c. Provide 3-hour fire-rated doors at all 3 & 4-hour rated walls as scheduled.
3. Core: Manufacturer's standard polystyrene, kraft honeycomb or steel channel/grid core at non-temperature-rise. Mineral fiberboard at temperature-rise.
4. Welded, inverted or flush channel top and bottom edges. Provide weep holes in bottom channel.
5. Hinge reinforcement: Minimum 7-gauge steel plate or minimum 14-gauge continuous channel with pierced holes, drilled and tapped per template.
6. Thickness: 1-3/4 inches.

#### 2.05 STEEL FRAMES:

##### A. General:

1. Comply with the requirements of grade specified for corresponding door, except:
  - a. Interior non-rated frames: ANSI A250.8 Level 2 Doors: Mitered and welded corners, 16 gage frames

- b. Exterior and Interior fire-rated frames: ANSI A250.8 Level 3 Doors: 14 gage frames.
  - c. Except on weatherstripped frames or gasketed openings, drill frame stops for silencers.
  - d. Frames for Wood Doors: Comply with frame requirements specified in ANSI A250.8 for Level 2, 16 gage.
  - e. Frames for Sound-Rated Wood Doors: Comply with frame requirements specified in ANSI A250.8 for Level 3, 14 gage, fully welded.
  - f. Provide kerfed frames at all interior fire rated and exterior frames.
  - g. Grout all frames at masonry, concrete and concrete panel construction. Repair frames as to indicate no evidence of the grout fill access location.
2. Finish: Same as for door.
  3. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
  4. Frames in Masonry Walls: Size to suit masonry coursing with head member where shown to fill opening without cutting masonry units.
  5. Frames Wider than 48 Inches: Reinforce with steel channel fitted tightly into frame head, flush with top.
  6. Frames Installed Back-to-Back: Reinforce with steel channels anchored to floor and overhead structure.
  7. High-Frequency Hinge Reinforcement: Provide high-frequency hinge straps at all frames where heavyweight butt hinges are scheduled in 087100 Section Door Hardware.
  8. Continuous Hinge Reinforcement: Provide welded, continuous, 12-gauge straps for continuous hinges specified in Section 087100 Door Hardware.
  9. Frames shall be mortised, reinforced, drilled and tapped at the factory for only template mortised hardware. Where surface mounted hardware is to be applied, frames to have reinforcing plates for field installation of hardware.
- C. Interior Door Frames in new walls, Non-Fire-Rated: Fully welded type.
2. Provide 3-hour fire-rated door frames at Vault rooms in Administrative Area.
- F. Frames for Interior Glazing or Borrowed Lights: Construction and face dimensions to match

door frames, and as indicated on drawings.

#### 2.06 ACCESSORY MATERIALS:

- A. Louvers: Roll formed steel with overlapping frame; finish same as door components; factory-installed.
  - 1. Style: Sightproof inverted V blade.
- D. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws. Locate on corridor side of opening and on the main room side of non-corridor openings.
- E. Astragals for Double Doors: Specified in Section 08 7100.
  - 1. Fire-Rated Doors: Steel, shape as required to accomplish fire rating.
  - 2. Astragals for Pairs of wood doors: For fire-rated openings, do not provide a mullion or astragal at the meeting edges of a pair of doors for openings rated up to 90 minutes. See Section 08 1416 - "Flush Wood Doors" for edge treatment of pairs of wood doors.
  - 3. Acoustical astragals: Provide removable type with integral acoustical seals at paired openings, tested to meet specified STC rating.
- F. Plaster Guards: Provide 26 gage steel plaster guards or mortar boxes, welded to frame, at back of finish hardware cutouts where mortar or other materials might obstruct hardware operation and to close off interior of openings.
- G. Grout for Frames: Portland cement grout of maximum 4-inch slump for hand troweling; thinner pumpable grout is prohibited.
- H. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.
- I. Temporary Frame Spreaders: Provide for all factory- or shop-assembled frames.
- J. Wall Anchors: Furnish wall anchors as required to secure frames to adjacent construction, formed of not less than 18 gauge galvanized steel.
  - 1. Masonry Construction: Adjustable, flat or corrugated or perforated, T-shaped to suit frame size with leg not less than 2" wide by 10" long. Furnish at least three anchors per jamb.
  - 2. Metal Stud Partitions: Metal Stud type; Provide at least three anchors for each jamb for frames.
- K. Floor Anchors: Provide floor anchors for each jamb and mullion which extends to floor, formed of not less than 16 gauge galvanized steel sheet.
  - 1. Monolithic Concrete Slabs: Clip type anchors, with two holes to receive fasteners, welded to bottom of jambs and mullions.

#### 2.07 FINISH MATERIALS:

- A. Primer: Rust-inhibiting, complying with ANSI A250.10, door manufacturer's standard.
- B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

### PART 3 EXECUTION

#### 3.01 EXAMINATION:

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

#### 3.02 PREPARATION:

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

### 3.03 INSTALLATION:

- A. Install in accordance with the requirements of the specified door grade standard, reviewed shop drawings, manufacturer's recommendations, and NAAMM HMMA 840.
- B. In addition, install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.
- D. Set frames accurately in position, plumbed, aligned and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
- E. Exposed fasteners on post-installed frames are to be countersunk into the frame and bondo finished over prior to painting. No exposed frame anchors will be accepted. This applies to ALL hollow metal frames whether listed in this section or not.
- F. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.
- G. Seal drywall frames with caulking – full frame perimeter where frame contacts wall on both sides of the partition.
  - 1. Acoustical frames:
    - a. Solidly grout fill frames eliminating all voids. The flanking path normally found behind the frame must be packed with either 6-12 lb rock wool insulation or grout filled to assure minimum sound transmission.
    - b. Seal frames tightly to walls with acoustical sealant both sides of frames.
- H. Doors shall be installed plumb and in true alignment in a prepared opening and be fastened to achieve the maximum operational effectiveness and appearance of the unit. Provide clearances as required by door grade standard for non-fire rated doors and as required by NFPA 80 for fire rated doors.
- I. Coordinate installation of hardware.
- J. Coordinate installation of glazing.
- K. Coordinate installation of electrical connections to electrical hardware items.
- L. Touch up damaged factory finishes.
- M. Prime Coat Touch-Up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

### 3.04 TOLERANCES:

- A. Clearances Between Door and Frame: As specified in ANSI A250.8.
- B. Maximum Diagonal Distortion: 1/16 in measured with straight edge, corner to corner.

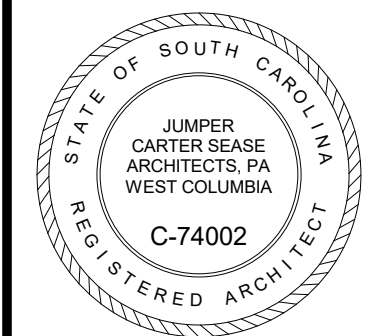
### 3.05 ADJUSTING:

- A. Adjust for smooth and balanced door movement.
- B. Adjust sound control doors so that seals are fully engaged when door is closed.
- C. Test sound control doors for force to close, latch, and unlatch in accordance with ASTM E 1408; adjust as required to comply.
- D. Remove and replace defective work, including doors or frames which are warped, bowed or

otherwise damaged.

END OF SECTION



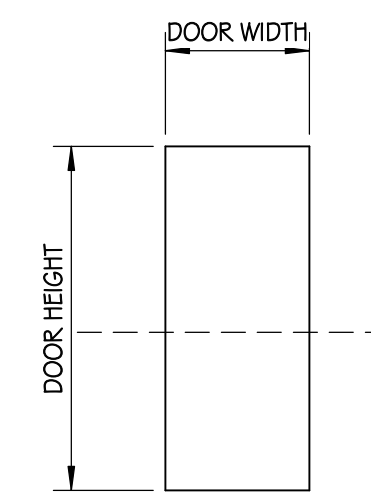


**FINISH SCHEDULE ABBREVIATIONS**

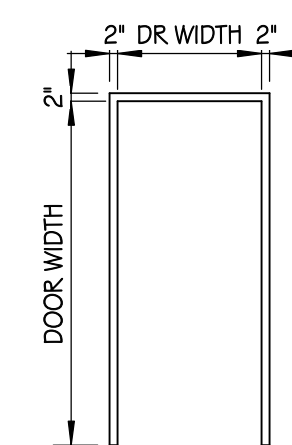
ACT	ACOUSTICAL CEILING TILE
CONC	CONCRETE
QFT	QUARRY FLOOR TILE
QTB	QUARRY TILE BASE
PNT	PAINT

**GENERAL FINISH NOTES APPLY TO ALL AREAS OR THOSE GENERAL FINISH NOTES: NOT SPECIFICALLY NOTED ON SCHEDULE.**

- SEE REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS.
- ALL HOLLOW METAL FRAMES TO BE PAINTED. COLOR TO BE SELECTED BY ARCHITECT.
- EPOXY PAINT TO BE USED AT DRY STORAGE ROOM AND KITCHEN WALLS.
- ACT-2 = VINYL FACED OR MOISTURE RESISTANT TILE  
SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- QUARRY TILE IS TO HAVE EPOXY GROUT. COLOR TO BE SELECTED BY ARCHITECT.



**D**  
**DOOR TYPES**  
1/4" = 1'-0"



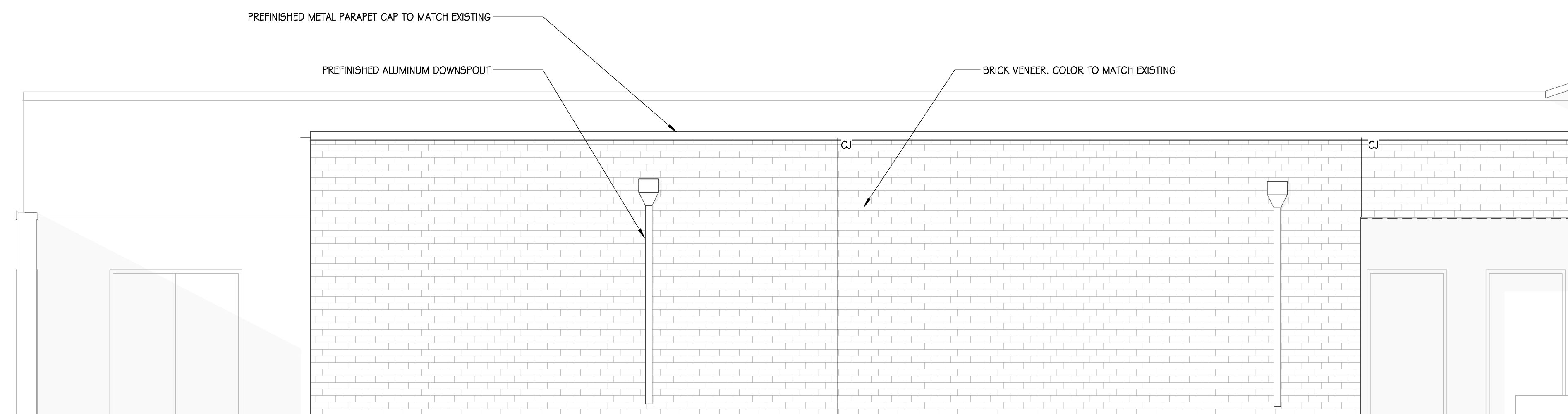
**I**  
**FRAME TYPES**  
1/4" = 1'-0"

**DOOR SCHEDULE**

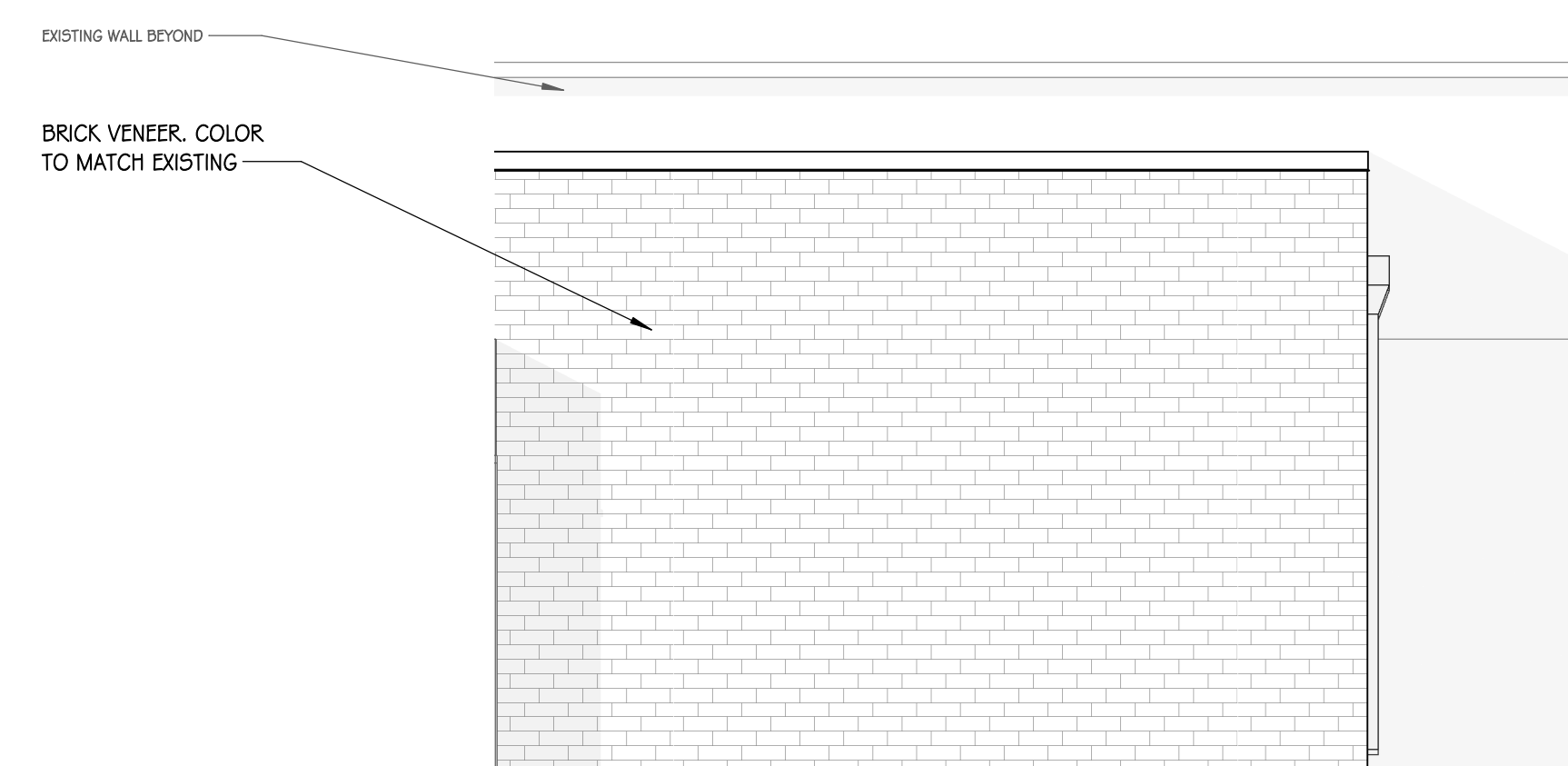
DOOR #	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR MATERIAL	DOOR FINISH	GLASS SIZE	GLASS TYPE	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	HEAD	JAMB	SILL	RATING	REMARKS
F129.A	D	3'-4"	7'-2"	HM	PAINT			I	HM	PAINT	H-1	J-1			

**FINISH SCHEDULE**

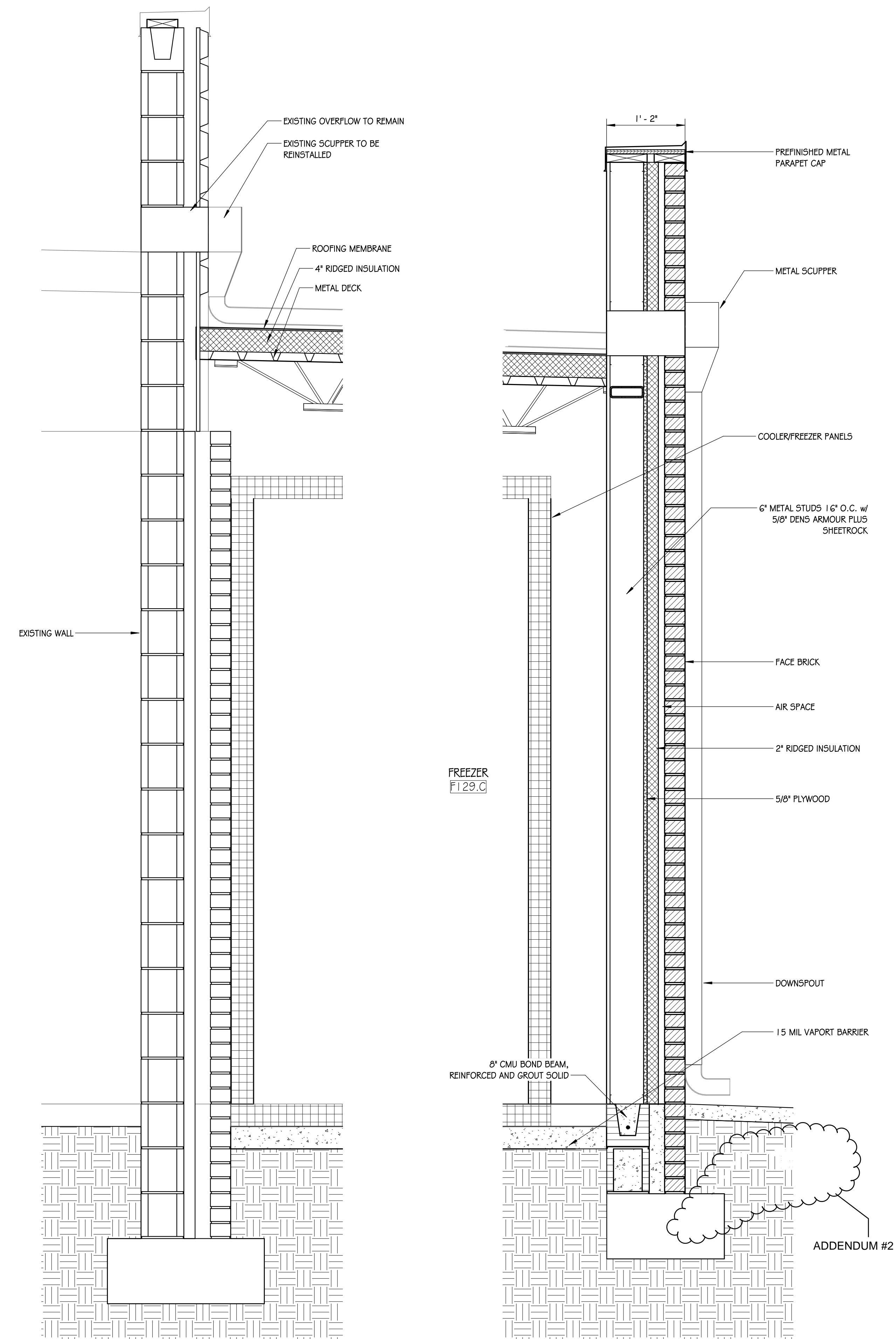
ROOM #	ROOM NAME	FLOOR FINISH	BASE TYPE	WALL NORTH	WALL SOUTH	WALL EAST	WALL WEST	COMMENTS
F129.A	DRY STORAGE	QT	QTB	PAINT	PAINT	PAINT	PAINT	
F129.B	COOLER	PREFINISHED		PREFINISHED	PREFINISHED	PREFINISHED	PREFINISHED	
F129.C	FREEZER	PREFINISHED		PREFINISHED	PREFINISHED	PREFINISHED	PREFINISHED	



**1**  
**FRONT ELEVATION**  
1/4" = 1'-0"



**2**  
**SIDE ELEVATION**  
1/4" = 1'-0"



**3**  
**WALL SECTION - 01**  
1" = 1'-0"

These drawings are the property of Jumper Carter Sease Architects, PA, and may not be reproduced, copied or used in whole or in part without written consent of the architect. Any infringement will be subject to legal action.

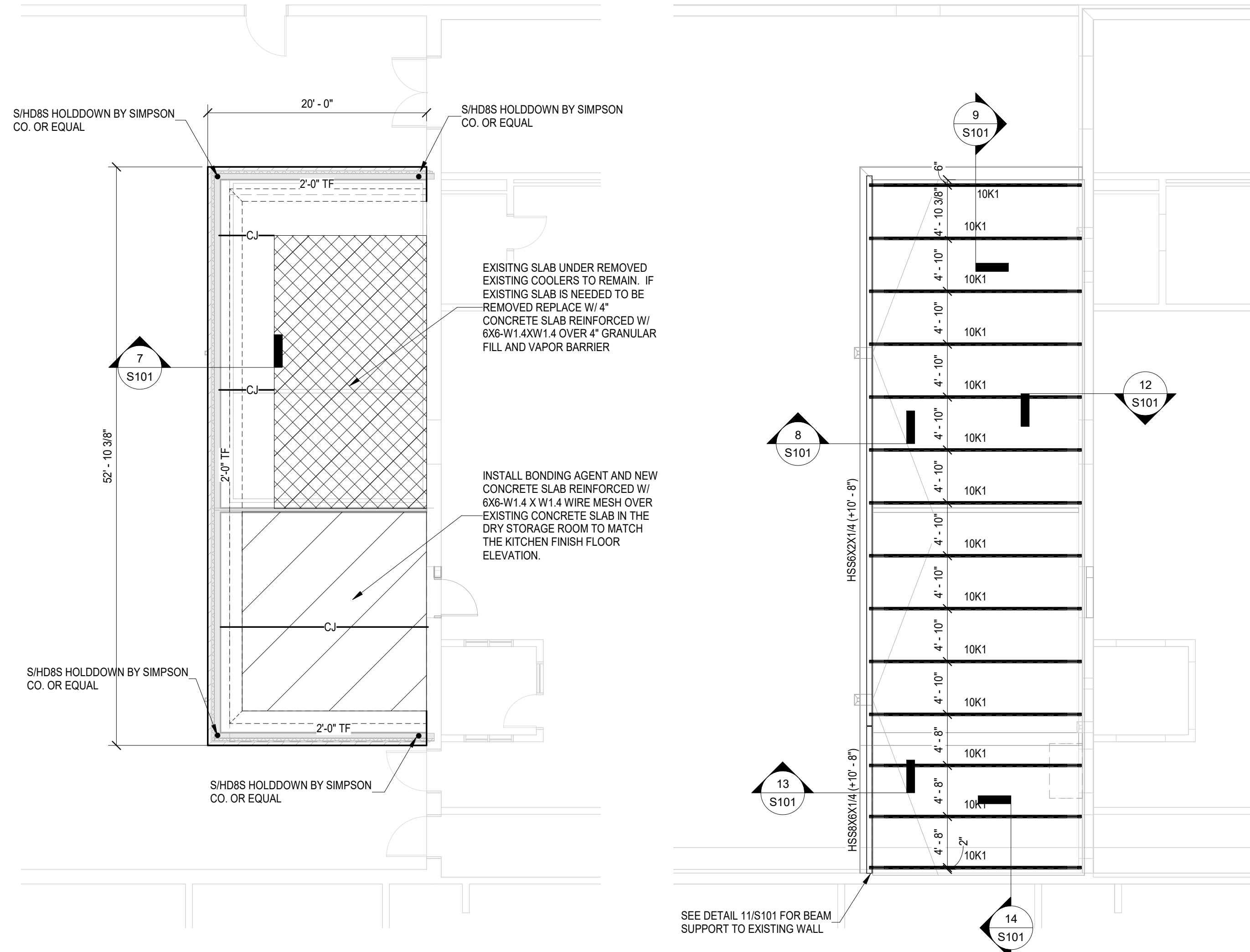
**SPRINGFIELD MIDDLE SCHOOL COOLER & FREEZER ENCLOSURE REPLACEMENT**  
**FORT MILL SCHOOL DISTRICT**  
1711 SPRINGFIELD PARKWAY, FORT MILL, SC

CONSTRUCTION DOCS

No	Description	Date
1	ADDENDUM #2	3/31/23

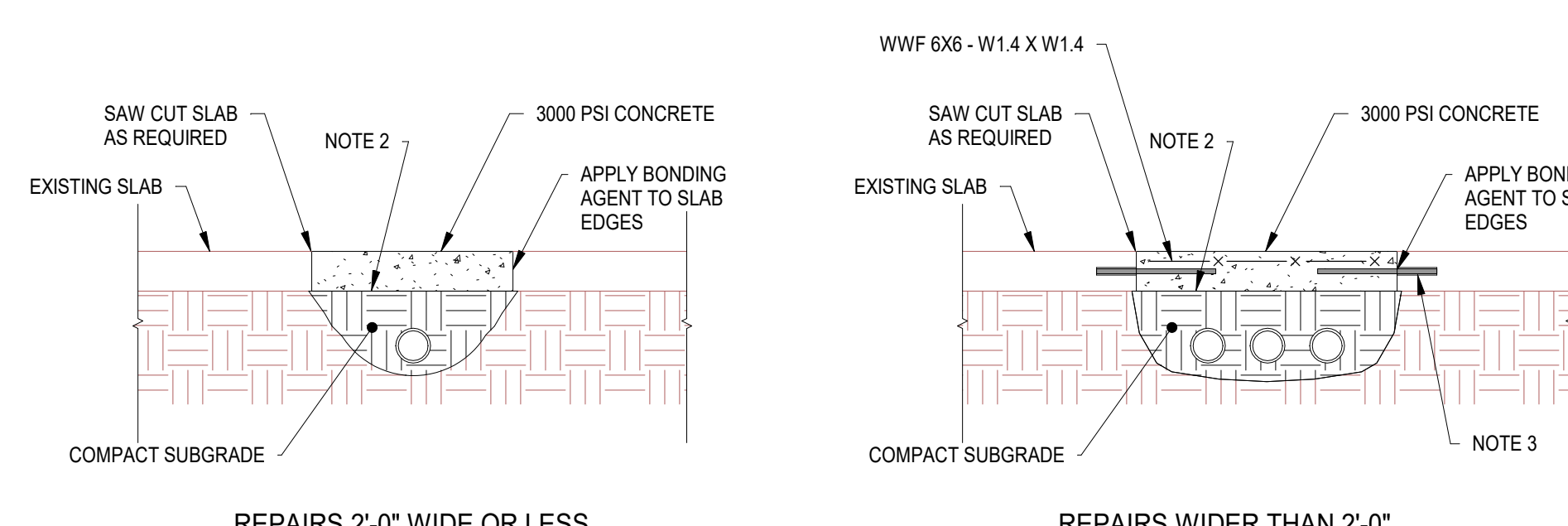
DRAWN BY:	HS
CHECKED BY:	TS
COMM NO:	22004
DATE:	2/28/23
SHEET TITLE:	ELEVATIONS, SECTIONS, DOOR SCHEDULE, & FINISH SCHEDULE

SHEET NO:

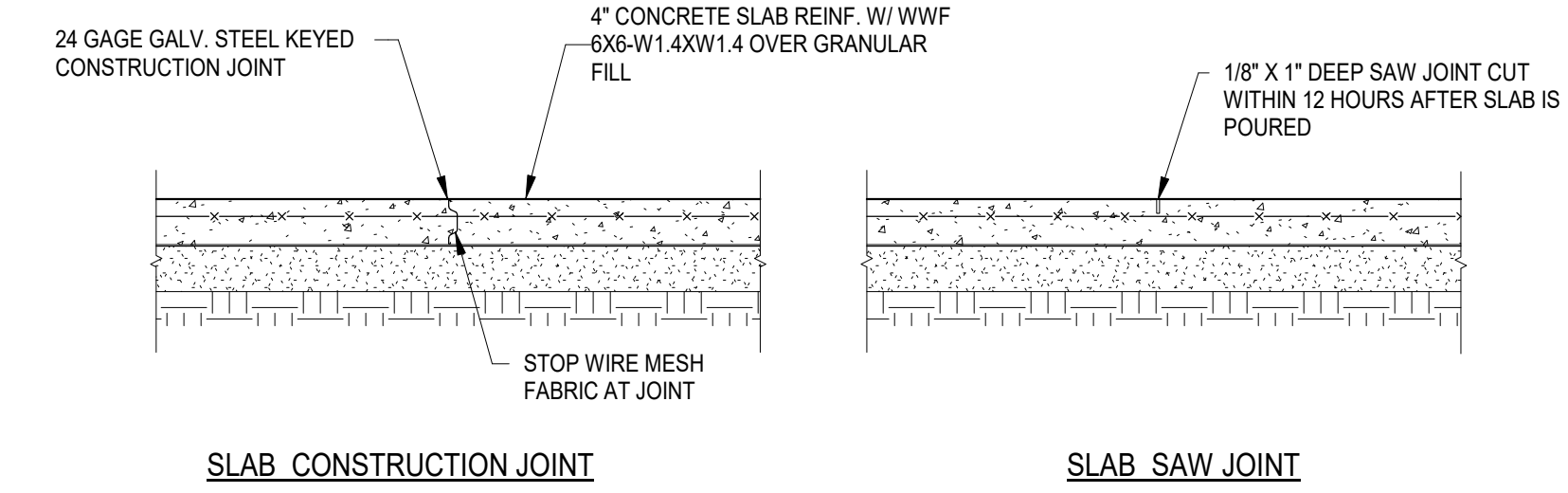


**1 FOUNDATION PLAN**  
S101 1/8" = 1'-0"

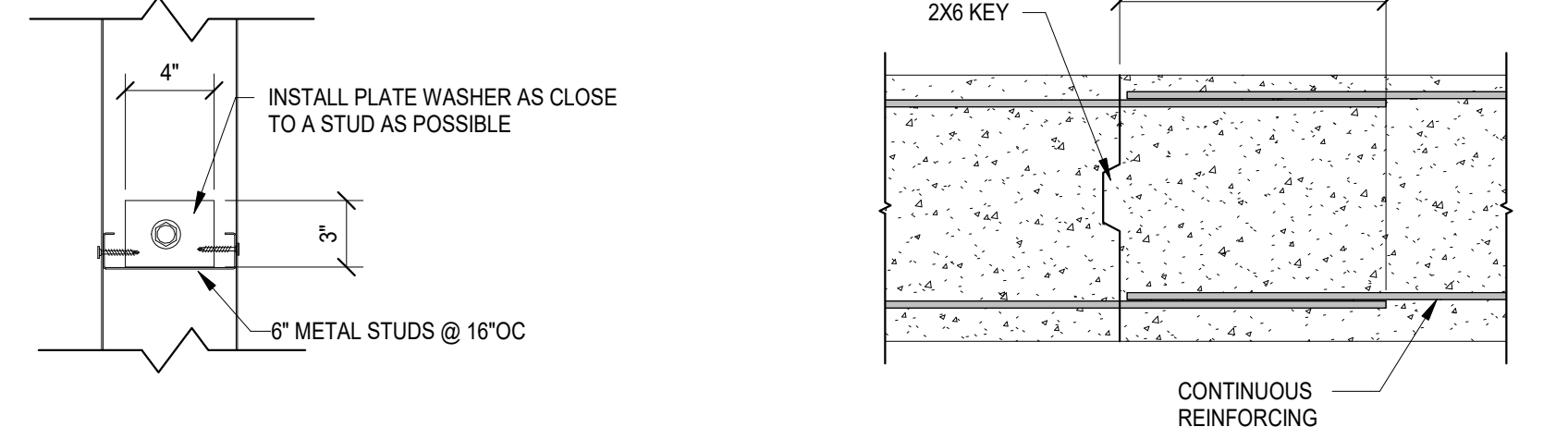
**2 ROOF FRAMING PLAN**  
S101 1/8" = 1'-0"



**3 SLAB PATCH DETAILS**  
S101 3/4" = 1'-0"  
NOTES:  
1. SEE THE DRAWINGS OF ALL OTHER DISCIPLINES FOR AREA WHERE EXISTING SLABS MUST BE CUT. REPAIR CUT AREAS AS SHOWN ABOVE.  
2. IF EXISTING SLAB HAS A VAPOR BARRIER, PROVIDE NEW VAPOR BARRIER OVER COMPACTED SUBGRADE AND TUCK UNDER EDGES OF EXISTING SLAB.  
3. AT SIDES OF SLAB REPAIRS WIDER THAN 2'-0", PROVIDE 12" LONG #4 DOWELS @ 24" OC DRILL AND EPOXY GROUT 4" INTO EXISTING SLAB.



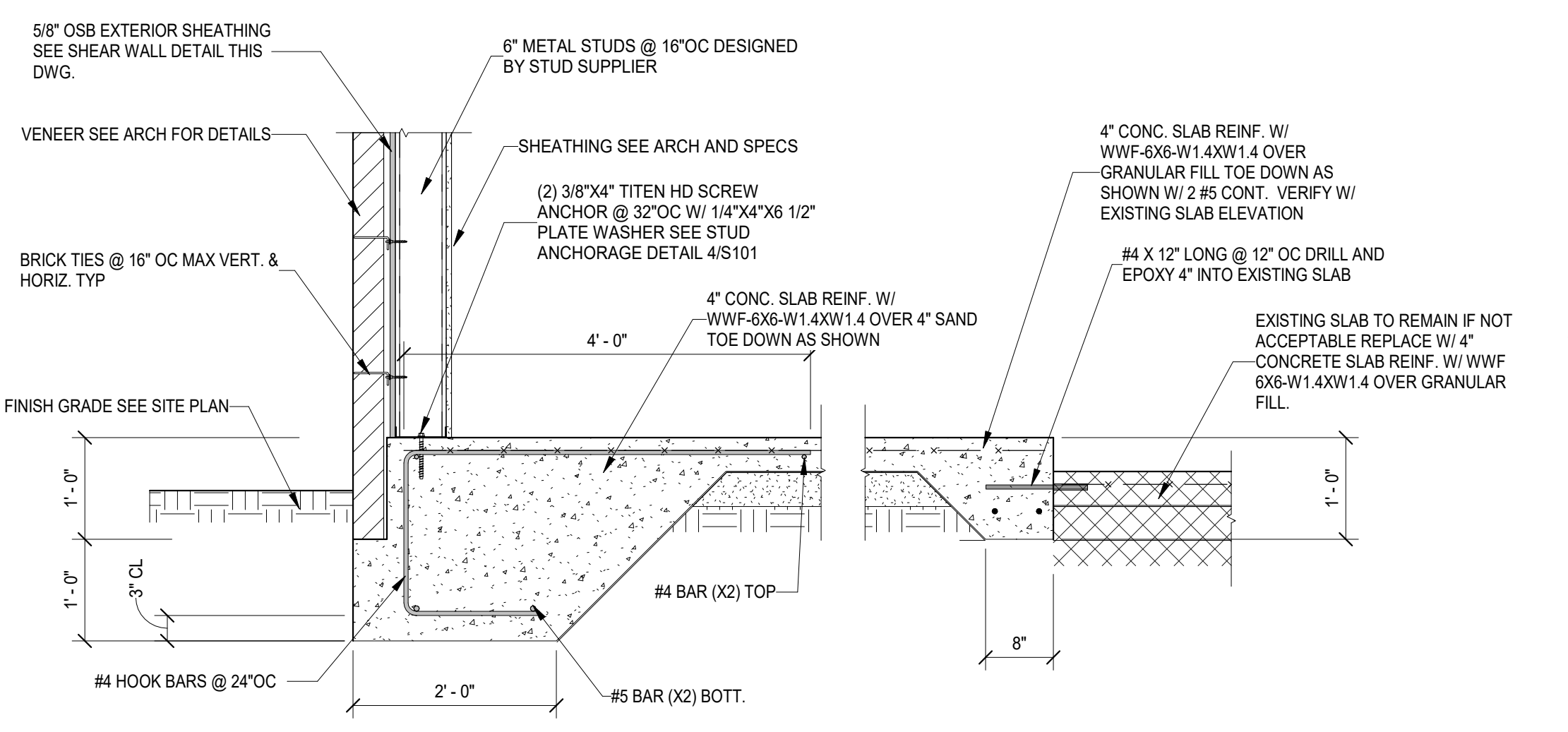
**4 SLAB JOINT DETAILS**  
S101 3/4" = 1'-0"  
NOTES:  
1. CONSTRUCTION JOINTS AND SAW JOINTS ARE NOTED "CJ" ON FOUNDATION PLAN.  
2. CONTRACTOR HAS THE OPTION OF WHERE TO PLACE CONSTRUCTION AND SAW JOINTS.



**5 STUD ANCHORAGE DETAIL** S101 1 1/2" = 1'-0"  
**6 TOE FOOTING CONSTRUCTION JOINT** S101 3/4" = 1'-0"  
NOTES:  
1. THIS DETAIL SHALL BE USED AT ALL LOCATIONS IN CONTINUOUS THICKENED TOE SLAB FOOTINGS WHERE CONCRETE POURS ARE STOPPED.

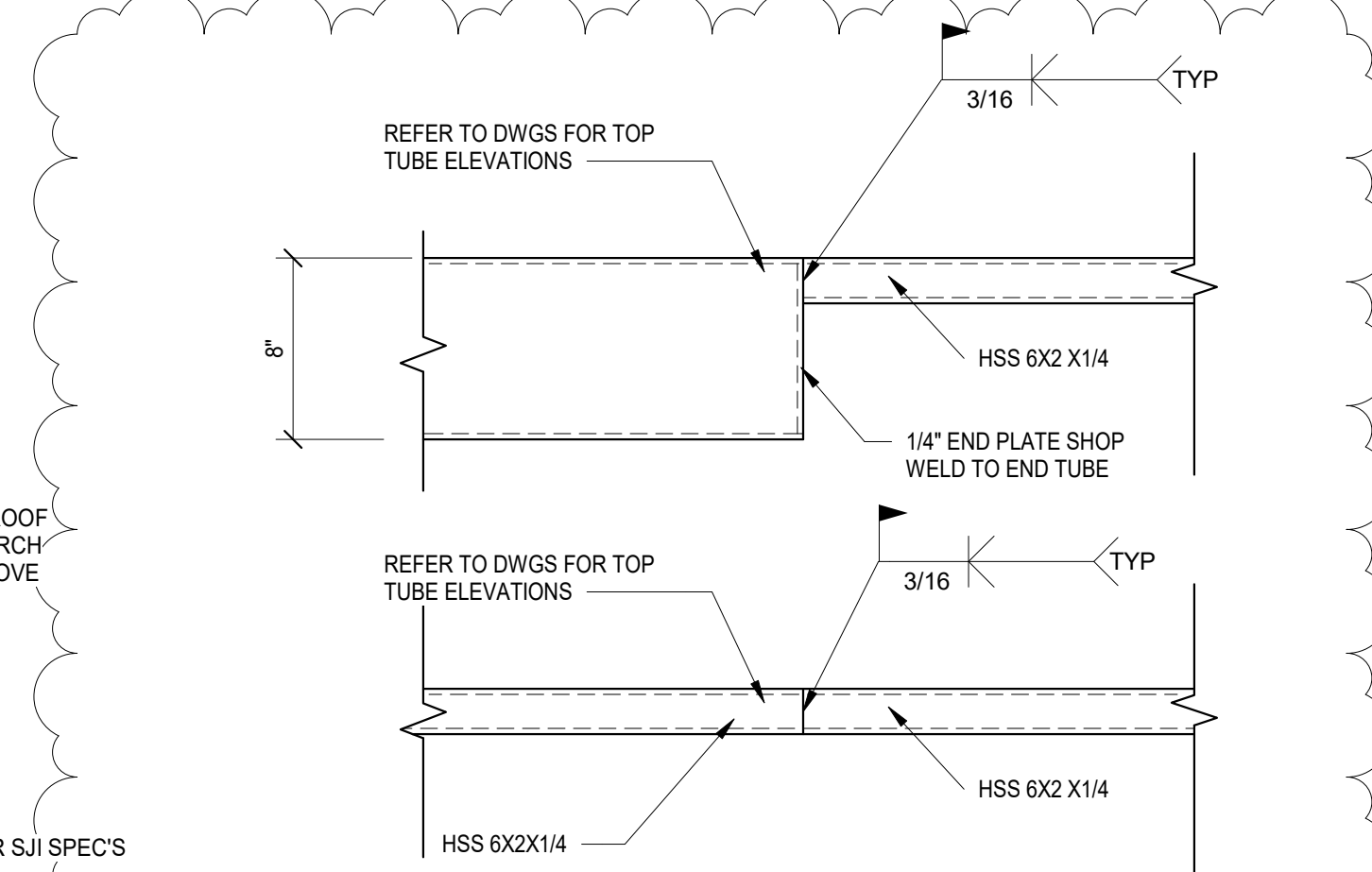
MASONRY POST-INSTALLED ANCHOR TABLE					
TYPE	MANUFACTURER	PRODUCT	BASE MATERIAL	DIAMETER/SIZE	
SCREW ANCHOR	HILTI	KWIK HUS-EZ	GROUTED CONCRETE BLOCK	1/4" TO 3/4"	
	POWERS	WEDGE-BOLT+ w/ WEDGE BIT	GROUTED CONCRETE BLOCK	1/4" TO 3/4"	
	SIMPSON	TITEN HD	GROUTED CONCRETE BLOCK	3/8" TO 3/4"	
EXPANSION ANCHOR	HILTI	KWIK BOLT	GROUTED CONCRETE BLOCK	1/4" TO 3/4"	
	POWERS	POWER-STUD + SD1	GROUTED CONCRETE BLOCK	3/8" TO 5/8"	
	SIMPSON	WEDGE ALL	GROUTED CONCRETE BLOCK	3/8" TO 3/4"	
ADHESIVE ANCHOR	HILTI	HIT-HY 270	GROUTED CONCRETE BLOCK	ALL THREAD ROD 1/4" TO 3/4"	
		HIT-HY 270	HOLLOW CONCRETE BLOCK (REQUIRES SCREEN TUBES)	ALL THREAD ROD 3/4"	
	POWERS	T308+	FULLY GROUTED	ALL THREAD ROD 3/4"	
			HOLLOW CONCRETE BLOCK (REQUIRES SCREEN TUBES)	REBAR #4 TO #6	
	SIMPSON	SET	FULLY GROUTED	ALL THREAD ROD 1/2" TO 3/4"	
			HOLLOW CONCRETE BLOCK (REQUIRES SCREEN TUBES)	ALL THREAD ROD 5/8" AND 3/4"	
		FULLY GROUTED	ALL THREAD ROD 3/8" TO 3/4"		
		HOLLOW CONCRETE BLOCK (REQUIRES SCREEN TUBES)	ALL THREAD ROD 3/8" TO 5/8"		

NOTES:  
1. THIS SELECTION TABLE SHALL BE USED WHEN ANCHOR RODS OR REBARS WITH ANCHOR ADHESIVE, EXPANSION ANCHORS OR SCREW ANCHORS ARE CALLED OUT ON THE DRAWINGS. THE ADHESIVES SHOWN SHALL ALSO BE USED WHERE THE TERM EPOXY IS USED ON THE STRUCTURAL DRAWINGS.  
2. ADHESIVE ANCHORS HOLES SHALL BE CLEANED PER THE MANUFACTURER RECOMMENDATIONS INCLUDING USING A BRUSH AND 100 PSI MINIMUM OR THE MANUFACTURERS REQUIRED COMPRESSED AIR.  
3. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. (MP1)  
4. SCREW AND EXPANSION ANCHORS SHALL MEET THE EMBEDMENT DEPTHS AS SPECIFIED IN THE DRAWINGS BUT NOT LESS THAN THE MINIMUM OR 7 TIMES THE ANCHOR DIAMETER.  
5. ADHESIVE ANCHORS SHALL MEET THE EMBEDMENT DEPTHS AS SPECIFIED IN THE DRAWINGS. IF NO EMBEDMENT IS SPECIFIED, EMBED 12 TIMES THE ANCHOR DIAMETER.  
6. CONTACT THE ENGINEER OF RECORD FOR APPROVAL OF ANY OTHER ANCHOR TYPE OR DIAMETER PRIOR TO INSTALLATION.



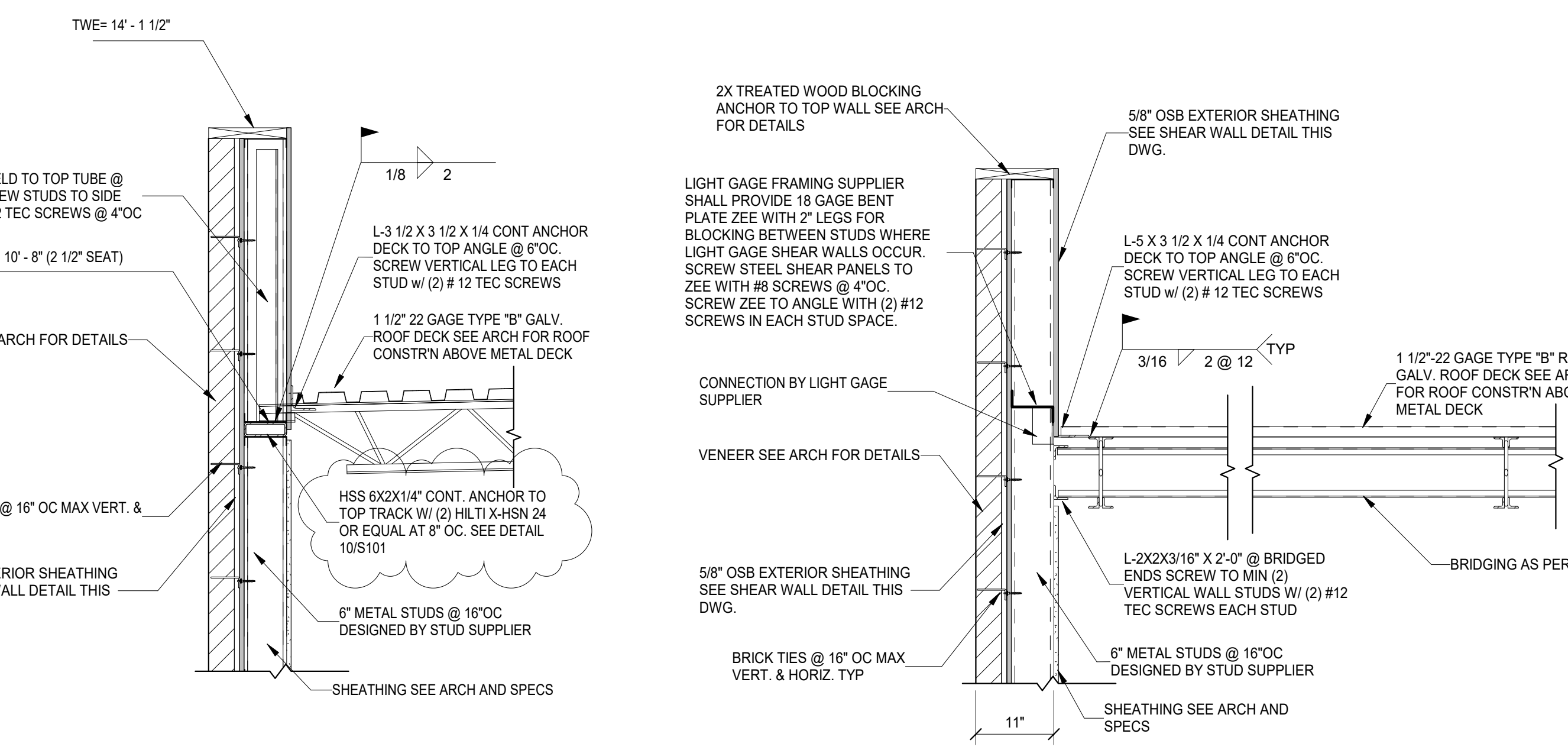
**7 SECTION**  
S101 3/4" = 1'-0"

- GENERAL NOTES
- IN CASE OF DISCREPANCY BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS, CONSULT WITH THE ARCHITECT FOR DIMENSIONS AND DETAILS NOT SHOWN. SEE THE ARCHITECTURAL DRAWINGS. VERIFY ALL MECHANICAL OPENINGS AND SUPPORTS WITH THE MECHANICAL EQUIPMENT. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION.
  - DESIGN CRITERIA
    - BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE
    - RISK CATEGORY: III
    - SEISMIC DESIGN DATA:
      - IMPORTANCE FACTOR: 1.25
      - S<sub>s</sub> = 0.218
      - SD<sub>1</sub> = 0.233
      - SD<sub>0</sub> = 0.138
      - SITE CLASS D ASSUMED, SEISMIC DESIGN CATEGORY C
      - DESIGN BASE SHEAR:
      - SEISMIC RESPONSE COEFFICIENT: C<sub>s</sub> = 0.045
      - BASIC SEISMIC FORCE RESISTING SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE. R = 8.5
      - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
      - WIND VELOCITY 119 MPH. EXPOSURE C. INTERNAL PRESSURE COEFFICIENT +0.18. SEE DIAGRAM AND CHART AT LEFT FOR COMPONENTS AND CLADDING DESIGN PRESSURES.
      - ROOF LIVE LOAD: 20 PSF
      - GROUND SNOW LOAD: 10 PSF
      - FLOOR LIVE LOADS:
        - COOLERS: 100 PSF
  - FOUNDATION DESIGN IS BASED ON THE ASSUMED ALLOWABLE BEARING PRESSURE LISTED BELOW. CONTRACTOR SHALL HIRE AN INDEPENDENT TESTING LABORATORY ACCEPTABLE TO THE ARCHITECT TO VERIFY THE ALLOWABLE BEARING PRESSURE BEFORE FOOTINGS ARE CONSTRUCTED OR REINFORCING IS FABRICATED.
    - ASSUMED ALLOWABLE BEARING PRESSURE = 2500 PSF
    - STEP FOOTINGS AS REQUIRED TO LET UTILITIES PASS OVER FOOTINGS.
    - CONCRETE: 28-DAY COMPRESSIVE STRENGTHS SHALL BE AS FOLLOWS:
      - ALL CONCRETE: 3000 PSI, NORMAL WEIGHT
    - CONCRETE REINFORCING STEEL
      - ASTM A615, GRADE 60, EXCEPT WHERE REINFORCING IS SHOWN TO BE WELDED. USE ASTM A706 WELDABLE REINFORCING. DO NOT WELD OR TACK WELD ANY REINFORCING NOT SHOWN ON THE DRAWINGS TO BE WELDED.
      - DETAIL IN ACCORDANCE WITH ACI DETAILING MANUAL, LATEST EDITION.
      - LAP ALL BARS WITH CLASS B SPLICES UNLESS NOTED OTHERWISE.
      - PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL REINFORCING AT ALL WALLS AND FOOTING INTERSECTIONS. LAP WITH CLASS B SPLICES.
  - STRUCTURAL STEEL
    - MATERIALS:
      - PIPE: ASTM A53, GRADE B
      - TUBE: ASTM A500, GRADE C
      - WIDE FLANGES AND TEES: ASTM A992, GRADE 50
      - OTHER: ASTM A36
    - FABRICATION SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS.
    - BOLTED CONNECTIONS: ASTM A325, 3/4" DIAMETER, SNUG-TIGHTENED, BEARING TYPE CONNECTIONS WITH THREADS IN THE SHEAR PLANE UNLESS NOTED OTHERWISE.
    - WELDED CONNECTIONS: E70XX ELECTRODES. ELECTRODES USED FOR WELDING A992 STEEL SHALL BE LOW HYDROGEN ELECTRODES. ALL WELDS IN MOMENT CONNECTIONS (INCLUDING SHEAR TABS AND STIFFENER PLATES) SHALL BE MADE WITH A WELD METAL WITH A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT.-LBS. AT MINUS 20 DEGREES F AND 40 FT.-LBS AT 70 DEGREES F.
  - STEEL JOISTS
    - JOISTS SHALL BE INSTALLED AND BRIDGED IN ACCORDANCE WITH SJI SPECIFICATIONS. IN ADDITION TO STANDARD SJI BRIDGING, PROVIDE A SINGLE LINE OF BOTTOM CHORD BRIDGING FOR UPLIFT AT THE FIRST BOTTOM CHORD PANEL POINT AT EACH END OF ROOF JOISTS.
    - ALL JOISTS SHALL BE DESIGNED FOR THE ADDITIONAL BENDING STRESSES RESULTING FROM A 300 POUND CONCENTRATED LOAD LOCATED AT ANY LOCATION ALONG THE TOP AND BOTTOM CHORD. THE 300 POUND LOAD IS ALREADY ACCOUNTED FOR IN THE JOIST DESIGNATIONS SHOWN ON THE DRAWINGS UNLESS NOTED OTHERWISE AND SHALL BE APPLIED CONCURRENTLY WITH THE BALANCE OF THE STANDARD SJI SERVICE LOAD.
    - ALL ROOF JOISTS SHALL BE DESIGNED FOR A NET UPLIFT OF 20 PSF.
    - JOISTS SHALL BE DESIGNED FOR ANY SPECIAL LOADS SHOWN ON THE DRAWINGS.
  - STEEL DECK
    - ROOF DECK SHALL BE 1 1/2" 22 GAGE TYPE B (WIDE RIB) GALVANIZED STEEL DECK IN 36" WIDE SHEETS. MINIMUM SECTION MODULUS = 0.186 INCHES<sup>4</sup>.
    - EXTERIOR WALL STUDS SHALL BE #18 GAGE MINIMUM GALVANIZED STUDS WITH 1 5/8" FLANGES. STUDS, HEADERS OVER OPENINGS, SILLS UNDER OPENINGS, JAMB STUDS, AND CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN SOUTH CAROLINA FOR THE DESIGN CRITERIA IN GENERAL NOTE 2 ABOVE. SHOP DRAWINGS AND CALCULATIONS FOR LIGHT GAGE METAL FRAMING AND ITS CONNECTIONS SHALL BE PREPARED AND SUBMITTED UNDER THE SEAL OF AN ENGINEER REGISTERED IN SOUTH CAROLINA.
    - PROVIDE DOUBLE STUDS AT JAMBS OF OPENINGS 5" WIDE OR LESS. PROVIDE TRIPLE STUDS AT JAMBS OF OPENINGS WIDER THAN 5".
    - TRACKS SHALL BE 16 GA. ATTACH TO STEEL WITH 0.145" DIAMETER POWER DRIVEN FASTENERS @ 16" OC. FASTENERS MUST PENETRATE TRACKS A MINIMUM OF 1 1/8".



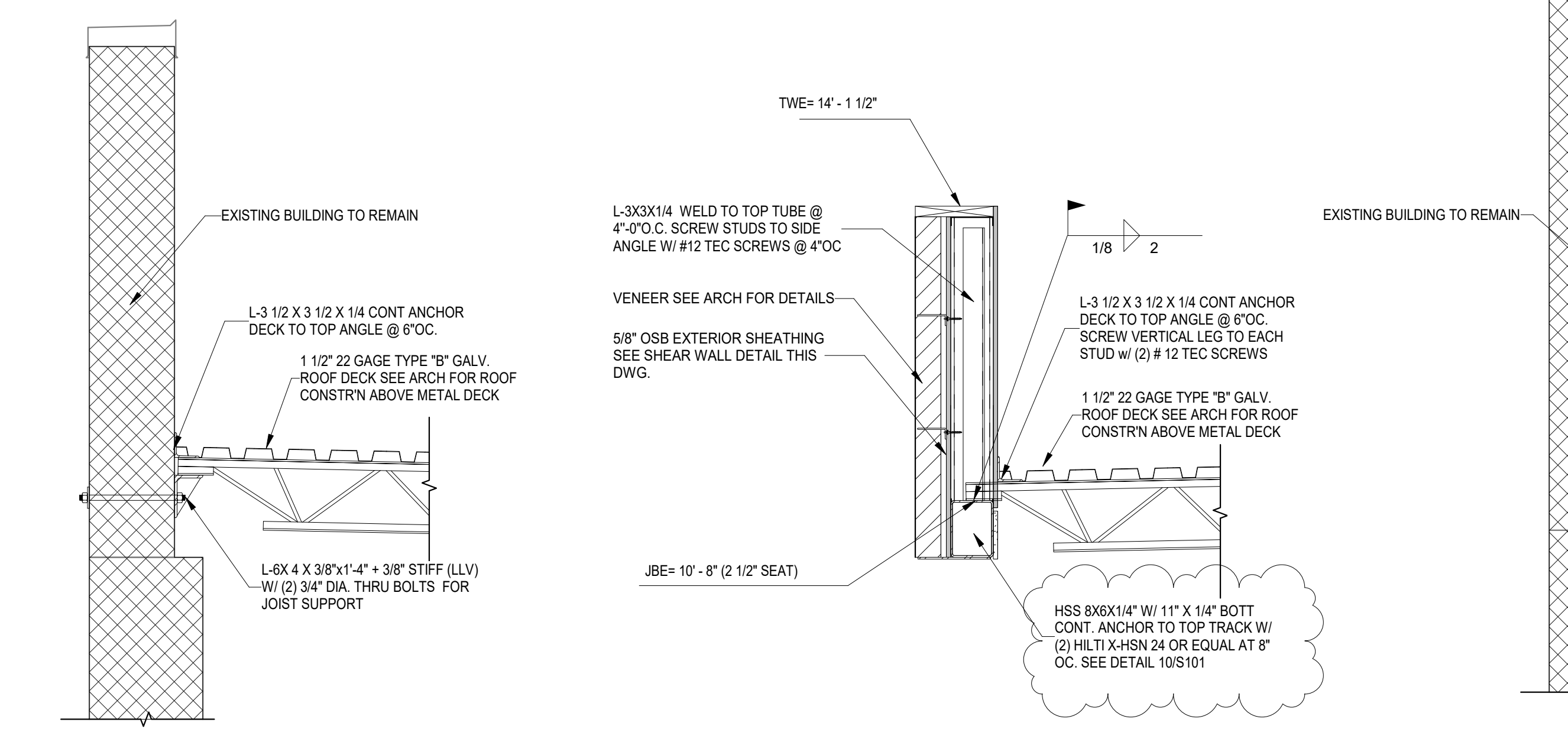
**10 HSS TUBE SPLICE DETAIL**  
S101 1 1/2" = 1'-0"  
NOTES:  
1. FIELD SPLICE ALL CONTINUOUS HSS 6"x2" AND 8" TUBES AT JOINTS AS SHOWN ABOVE.

**11 HSS TUBE CONNECTION TO EXISTING WALL**  
S101 3/4" = 1'-0"  
NOTES:  
1. IF THRU BOLTS CAN NOT BE USED USE 3/4" DIAMETER EPOXY ANCHORS WITH MINIMUM 5" EMBEDMENT.



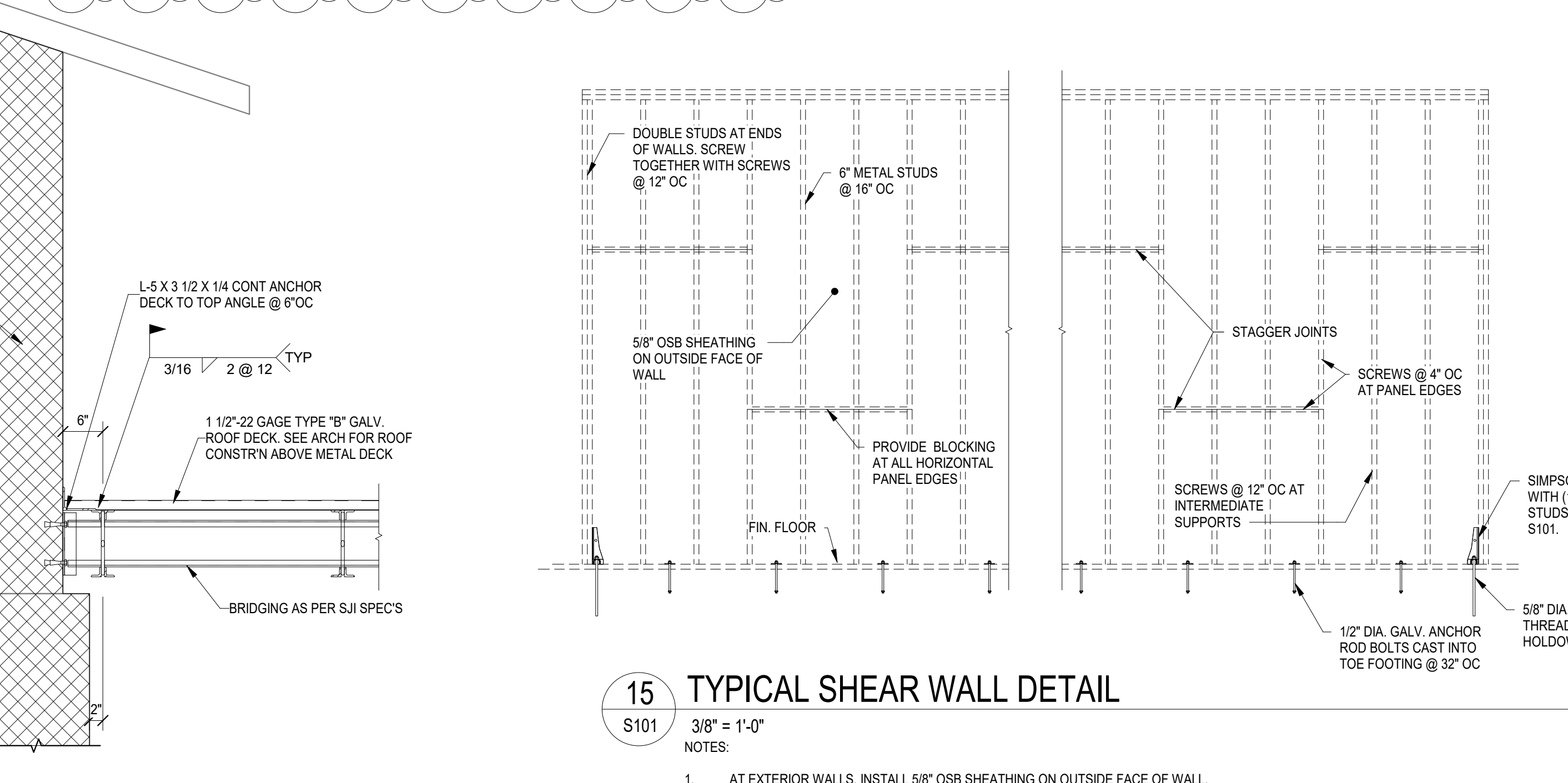
**8 SECTION**  
S101 3/4" = 1'-0"

**9 SECTION**  
S101 3/4" = 1'-0"

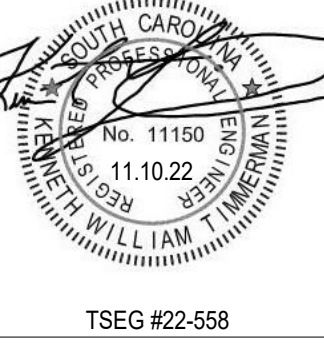


**12 SECTION**  
S101 3/4" = 1'-0"

**13 SECTION**  
S101 3/4" = 1'-0"



**15 TYPICAL SHEAR WALL DETAIL**  
S101 3/8" = 1'-0"  
NOTES:  
1. AT EXTERIOR WALLS, INSTALL 5/8" OSB SHEATHING ON OUTSIDE FACE OF WALL.  
2. SCREWS ARE #8 MINIMUM MODIFIED TRUSS HEAD SCREWS.  
3. DOUBLE STUDS AT ENDS OF PANELS SHALL BE UNPINCHED.  
4. PROVIDE SIMPSON SHD88S HOLD-DOWN AT EACH END OF SHEAR PANELS. SCREW THROUGH BOTH WEBS OF BACK TO BACK STUDS.  
5. BOLT HOLD-DOWN TO CONCRETE AT EACH END OF SHEAR PANEL WITH 7/8" X 1/4" DIAMETER THREADED ROD ANCHOR BOLT. DRILL AND GROUT INTO CONCRETE WITH APPROVED EPOXY.



No	Description	Date
1	Addendum #2	3.31.23

DRAWN BY: **LWK**

CHECKED BY: **KT**

COMM NO: **22004**

DATE: **11/10/22**

SHEET TITLE: **STRUCTURAL PLANS AND SECTION**

SHEET NO: **S101**

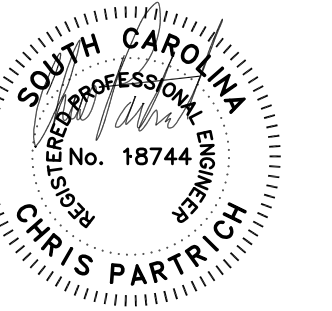
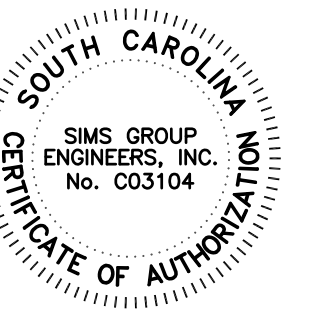
Jumper

Carter

Sease

ARCHITECTS

412 Meeting Street  
West Columbia  
South Carolina



ADDENDUM NO. 2 03/31/2023

SPRINGFIELD MIDDLE SCHOOL COOLER & FREEZER ENCLOSURE  
FORT MILL SCHOOL DISTRICT  
1711 SPRINGFIELD PARKWAY, FORT MILL, SC

CONSTRUCTION DOCUMENTS

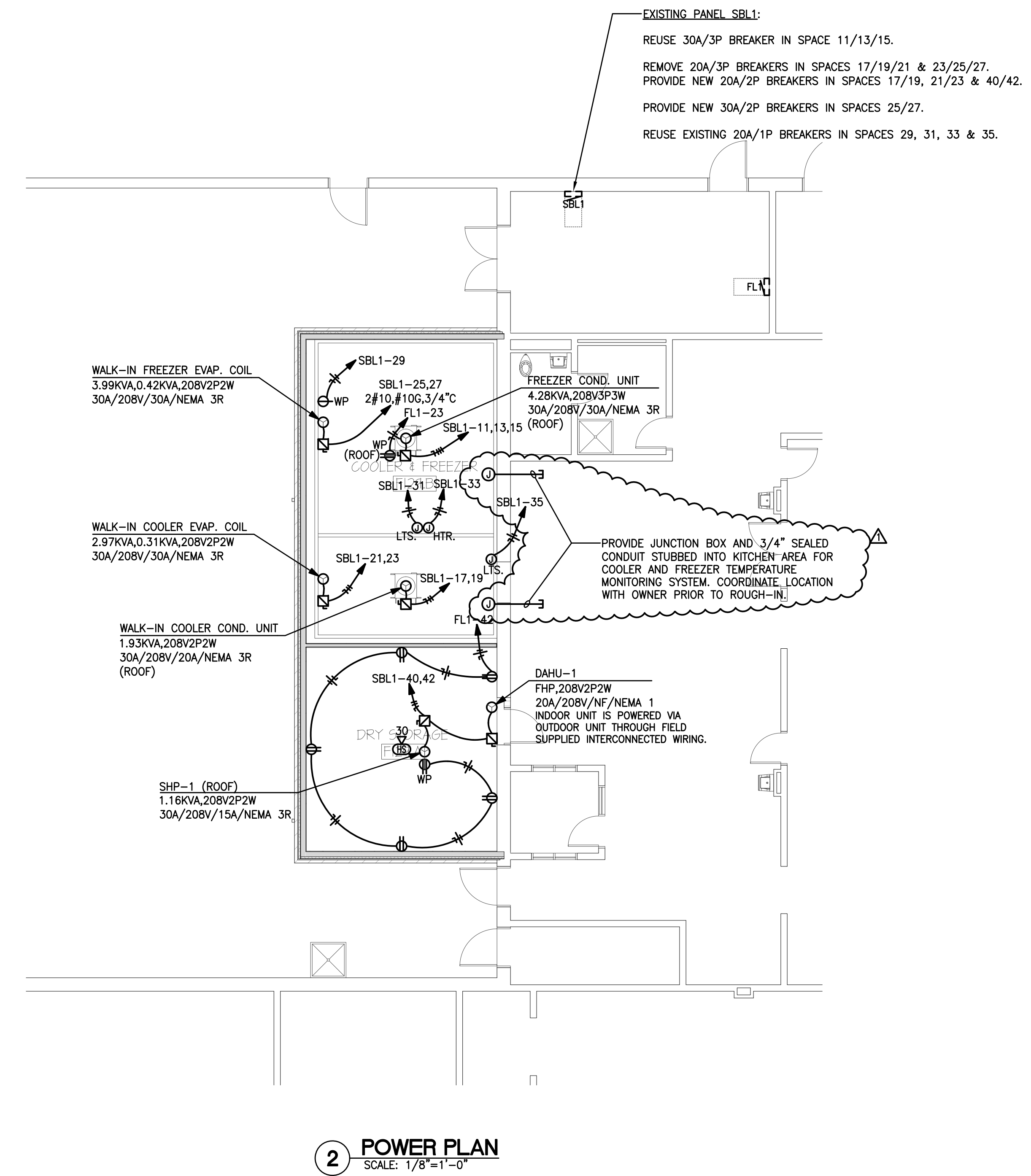
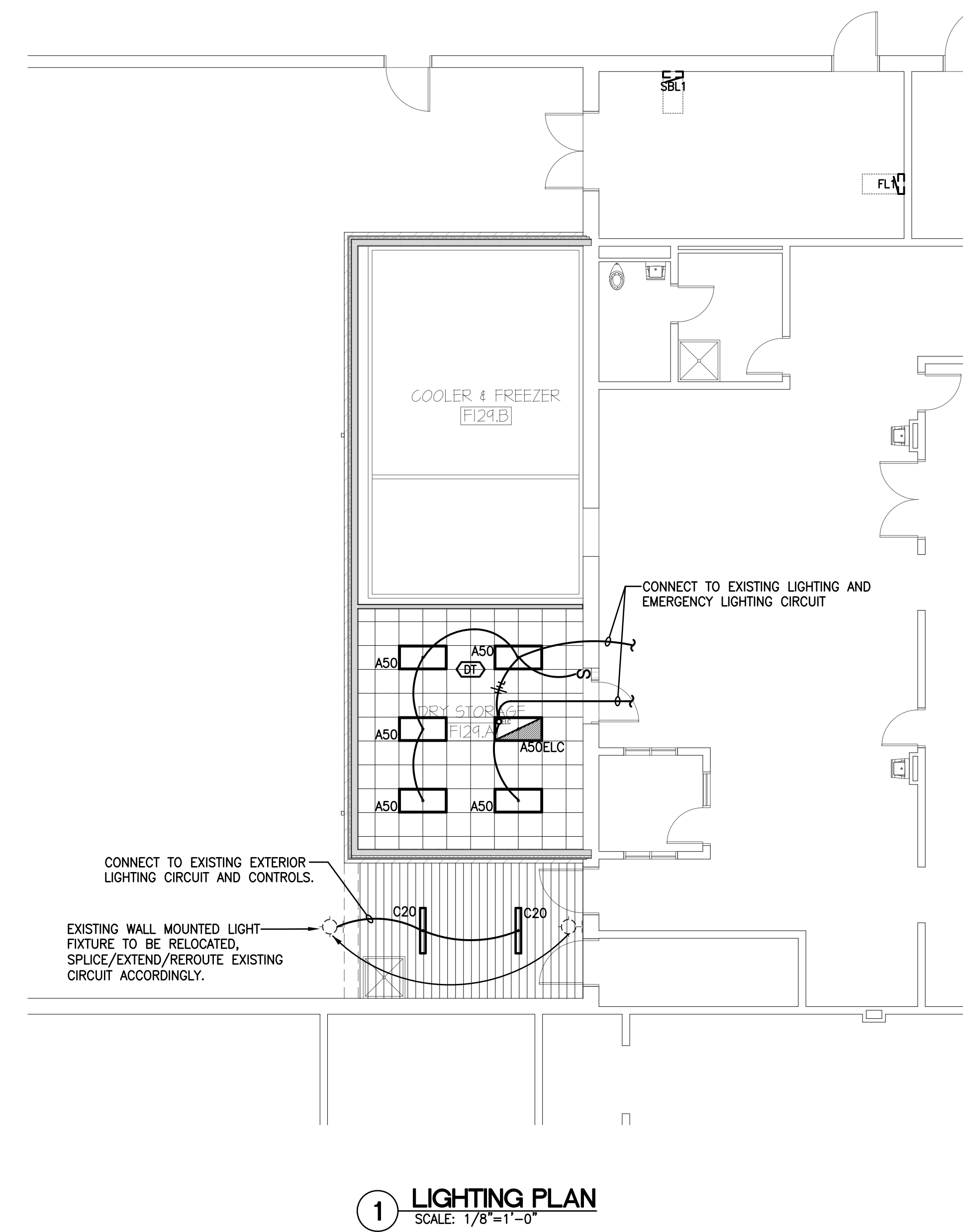
No	Description	Date
2	ADDENDUM NO. 2	03/31/2023

DRAWN BY: **JWB**  
 CHECKED BY: **CLP**  
 COMM NO: **22004**  
 DATE: **02/28/23**

SHEET TITLE: ELECTRICAL PLAN

SHEET NO:

E101



ADDENDUM NO. 2 | C23001

**sims group**  
 SIMS GROUP ENGINEERS, INC.  
 800 Columbian Drive, Suite 208  
 Irmo, South Carolina 29063  
 Phone: (803) 765-1007 Fax: (803) 765-1030  
 www.simsgruppusa.com

these drawings are the property of Jumper Carter Sease Architects, P.A., and may not be reproduced, copied or used in whole or in part without written consent of the architect. any infringement will be subject to legal action.