

# ST. PETERSBURG COLLEGE

## EPI-TECH BUILDING

### ADDENDUM NO. 1

MAY 16, 2018

MATRIX PROJECT NO. 17-0720

PREPARED BY:       Engineering Matrix, Inc.  
                          2860 Scherer Drive  
                          Suite 640  
                          St. Petersburg, Florida 33716

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The following Addendum is made and hereby becomes a part of the contract documents for the subject project.

<b>INSTRUCTIONS</b>
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- A.     This Addendum to the Specifications is issued prior to the receipt of bids.
- B.     All work covered in this Addendum is subject to the General and Special Conditions.
- C.     This Addendum shall be acknowledged on the Bid Form and the cost of the work herein specified shall be included in the Base Bid and/or Alternate lump sum amounts.
- D.     If this Addendum lists additional acceptable manufacturers, manufacturers listed remain responsible for meeting the design and performance criteria of specifications and drawings, as shown.

<b>PRE-BID MEETING CLARIFICATIONS</b>
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Item 1.     Please see the below list of questions and answers distributed at the 5/8/2018 Pre-Bid meeting:

- 1.     Need info on Boiler, P0.0 Acid Neutralization Tank Detail Note 1. Asks us to coordinate with Boiler Manufacture to check and see if Acid Neuralization tank is integral to boiler??

*Response.....Please bid the project assuming there is no integral tank. Cannot verify if the chosen boiler will have an integral acid neutralization tank at this time.*

2. What is temperature range of exhaust vent condensate?

*Response.....The temperature is at or below the maximum temperature rating for PVC.*

3. What size are Gas connections at unit?

*Response.....Basis of design boiler gas connection is 1-1/2"*

4. What is pressure required at gas inlet at boiler?

*Response.....Basis of design boiler – min/max 3" – 14" (9" nominal).*

5. What is service pressure of gas at tie in point?

*Response.....As-builts call for 0.5 psig inside building.*

6. Acid Tank is polyethylene, what material is condensate piping to tank and leaving tank to existing floor drain?

*Response.....Schedule 40 Polypropylene piping from the boiler to the tank, PVC leaving tank.*

7. What is size of existing floor drain, will it accommodate 3" waste line from the acid neutralization tank?

*Response.....Condensate drainage is an indirect connection. The 3" condensate pipe can drain into the 3" floor drain.*

8. Who demo's existing Boiler/Gas piping?

*Response.....The successful Mechanical (Prime Contractor) will determine scope of work. Contact the Mechanical (Prime Contractor) for further clarification of who removes what in this Project.*

9. Need pictures of structure for hanging requirements gas/vent.

*Response.....Attend at pre-bid for photos.*

10. Would like pictures of existing gas pipe at source in boiler room and vent piping.

*Response.....Attend at pre-bid for photos.*

Item 2. Contractor to provide Port-O-Let unit with service minimum 2 times weekly.

Item 3. Contractor and all downlines shall not enter the Epi-Tech building proper, access limited to CEP and nearby parking.

- Item 4. New louvers will require lintels. Contractor option to install
- a) steel angle lintel (similar to a brick ledger angle), or
  - b) install a reinforced concrete "U-block" lintel filled with concrete; and install on each side vertical reinforcing and fill with concrete.
- Item 5. This bid is for a one hundred percent (100%) of Work identified on the Plans, Specifications and Addendum issued prior to Bid Opening.
- Item 6. Test and Balance will be purchased by the Owner; however, coordination with trades will be the responsibility of the Contractor.
- Item 7. SPC will permit this Project through the SPC Building Official. Contractors will have to register and supply proof of licensure etc. to the SPC Building Official before beginning on site work.
- Item 8. Contractor shall provide a bid for the specified standalone acid neutralization tank only if the boiler does not include this as an integral component.
- Item 9. Please see the attached Pre-Bid Meeting Attendance Sign-in sheet.
- Item 10. Please use the attached "Revised Bid Forms" (7 pages).

<b>CHANGES TO SPECIFICATIONS</b>
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- Item 1. Refer to Specification Section 23 09 00, Instrumentation and Control For HVAC; Part 1, General; Paragraph 1.2, Scope; Subparagraph H.
- ☐ MODIFY this item as follows:
- H. Provide a separate **Bid Alternate #2** to add the Epi-Tech Campus to the ES system. Submit the Bid Alternate with two options:
    - Bid Alternate #2A** - Using the existing BCU and MP5xx Controllers;
    - Bid Alternate #2B** – *Replacing the existing BCU controllers with SC vintage controllers.*

<b>CHANGES TO DRAWINGS</b>
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- Item 1. Drawing M1.1, Mechanical Floor Plans.
- ☐ MODIFIED the boiler flue demo and new scope of work to include all new Category IV venting.
  - ☐ CLARIFIED the (E)BP-1 shall be turned over to the Owner (should Bid Alternate #1 not be accepted).

Item 2. Drawing M2.1, Mechanical Details

- ☐ MODIFIED the Boiler Flue Detail include all new Category IV venting.

\*\*\*END OF ADDENDUM NO. 1\*\*\*

Attachments: Revised Bid Forms, Pre-Bid Meeting Sign-in Sheet, Revised Drawings  
M1.1, and M2.1 dated 05/16/18



## FACILITIES PLANNING AND INSTITUTIONAL SERVICES

### Pre-Bid Meeting

**Project Name:**

Project #

Date:

**Meeting Location:**

## Boiler Replacement, Epi-Center

**265-W-18-1**

05/08/2018 9:00AM

**Epi Center, Tech Building, #1-450**

[illegible]

### *Common Problems that may Result in Bid Being Rejected*

The following is a listing of some of the more common mistakes/problems that may result in Bid being rejected. This is only a partial listing therefore, the General Specifications and Technical Specifications should be thoroughly reviewed before submitting a bid.



**Failure to sign and notarize the bid.**



**Failure to fill out the bid in ink, typewriter or via computer.**



**Failure to initial price changes.**



**Taking exceptions.**



**Failure to meet the minimum requirements of the specifications.**



**Failure to provide all required information/documentation.**



**Failure to deliver the bid on time to the proper location.**



**Failure to sign and return all addenda which may have been issued.**



**Failure to answer all questions on Contractors Qualification Statement.**

**ST. PETERSBURG COLLEGE**  
**INVITATION TO BID NO. SPC PROJECT # 265-W-18-1**  
**Boiler Replacement, Epi-Center**

**BID TENDER/CONTRACTOR'S QUALIFICATION STATEMENT**

The undersigned, having carefully read the general terms, conditions and specifications of Bid No. SPC Project # 265-W-18-1 for **Boiler Replacement, Epi-Center** hereby submits bid pricing for the described services as follows:

1. Acknowledge receiving Addendum number(s) \_\_\_\_\_

2. Base bid:

\$ \_\_\_\_\_

**2. ALTERNATES**

Bid Alternate Number One (1) **DELETE** Boiler #2 and all of Boiler #2 related construction.

**DEDUCT** \$ \_\_\_\_\_

Bid Alternate Number Two (2) **"A"** **ADD** SPC EPI-TECH campus to the SPC TRANE ES control system with existing BCU controllers.

**ADD** \$ \_\_\_\_\_

Bid Alternate Number Two (2) **"B"** **ADD** SPC EPI-TECH campus to the SPC TRANE ES control system with new SC controllers.

**ADD** \$ \_\_\_\_\_

**DATE:** \_\_\_\_\_

**FIRM NAME:** \_\_\_\_\_

**BY:** \_\_\_\_\_

*Authorized Signature*

*Printed/Typed Name of Signature*

**TITLE:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**PHONE/FAX:** \_\_\_\_\_

**EMAIL ADDRESS:** \_\_\_\_\_

**ST. PETERSBURG COLLEGE**  
**INVITATION TO BID NO. SPC PROJECT # 265-W-18-1**  
**Boiler Replacement, Epi-Center**

***Bid Tender /Contractor's Qualification Statement***

The undersigned certifies under oath the truth and correctness of all statements and all answers to questions made hereinafter.

**Submitted to: ST. PETERSBURG COLLEGE/Facilities Director**  
**Bid No. SPC Project # 265-W-18-1**

**Submitted by: Name: \_\_\_\_\_ ( ) Corporation**  
**Address: \_\_\_\_\_ ( ) Partnership**  
**Principal Office: \_\_\_\_\_ ( ) Individual**  
**(Note: Attach separate sheets as required.) ( ) Joint Venture**  
**( ) Other**

1. Your company has been in business 10 years or more. ☐ YES ☐ NO
2. Your company has performed at least 3 projects in the State of Florida in the last 5 years. YES ☐ NO ☐
3. Your company has performed 3 successful boiler replacement projects in the last 5 years. YES ☐ NO ☐  
Not to include modifications performed to new chiller plants.

IF YES, PROVIDE NARRATIVE OF SCOPE OF WORK AND OWNER CONTACT INFORMATION FOR EACH PROJECT:

PROJECT #1

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PROJECT #2

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PROJECT #3

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4. Your company, partners, or authorized officer have never failed to complete a contract. ☐ YES ☐ NO
5. Your company's main business is in mechanical systems. ☐ YES ☐ NO

**36. ANTI-COLLUSION STATEMENT:** The below signed bidder has not divulged to, discussed or compared his/her proposal with other bidders and has not colluded with any other bidders or parties to this invitation to bid whatsoever. (NOTE: No premiums, rebates or gratuities permitted either with, prior to, or after any delivery or personal contact. Any such violation will result in the cancellation of this proposal and the removal from Bid Lists.)

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 2018

Name of Company: \_\_\_\_\_

By: \_\_\_\_\_  
(Authorized signature)

Printed Name of signer: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

<b>NOTARIZATION</b>
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The foregoing Bid Tender-Contractor's Qualification Statement was Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2018. The individual signing before me is Personally Known \_\_\_\_\_ or produced appropriate identification: \_\_\_\_\_

\_\_\_\_\_  
Signature of Notary

Notary Public—State of \_\_\_\_\_

My Commission expires: \_\_\_\_\_

\_\_\_\_\_  
(Printed, typed or stamped commissioned  
Name of notary public

**37. DRUG FREE WORKPLACE CERTIFICATION:** In accordance with Florida Statute 287.087, preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the vendors submitting identical bids have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1.** Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2.** Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
- 3.** Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4.** In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
- 5.** Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6.** Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

**As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.**

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VENDOR'S SIGNATURE

## Minority and Woman Owned Business Declaration

Bidder hereby declares that it is a Minority/Woman Owned Business Enterprise by virtue of the following:

Type of Business: Check applicable block(s)

- ☐ **“African American”** includes persons having origins in any of the Black racial groups of Africa.
- ☐ **“Hispanic American”** includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish cultures or origins, regardless of race.
- ☐ **“Native American”** includes American Indians, Eskimos, Alaskan Indians, Aleuts and Native Hawaiians.
- ☐ **“Asian-American”** includes persons whose origins are from Japan, China, Taiwan, Korea, Southeast Asia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and Northern Marianas.
- ☐ **“American Woman-Owned Business Enterprise”**
- ☐ **“Service-Disabled Veteran”**

Note: MBE and WBE are defined by Federal Register 49 CFR, Part 23, as a business firm which as at least fifty-one percent (51%) owned by minority or women group members, or in the case of a publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by the minority or woman. The minority or woman ownership must exercise actual day to day management and control of the business.

Bidder:	
Certified by (name of Public Entity, if applicable)	
City:	County:
State:	Zip Code
Certificate Number:	
Signature:	Date:
Attach copy	

**Minority and Woman Owned Businesses (M/WBE) shall complete this page, and  
return with their submittal**

***Statement of No Bid***  
**SPC PROJECT # 265-W-18-1**  
**Boiler Replacement, Epi-Center**

If your company does not intend to bid on this procurement, please complete and return this form prior to the date shown for receipt of bids to: St. Petersburg College, Facilities Department, P.O. Box 13489, St. Petersburg, Florida 33733-3489.

The undersigned declines to bid on the above referenced Invitation to Bid for the following reason(s):

- ☐ Specifications are too "restrictive." (please explain below)
- ☐ Unable to meet specifications
- ☐ Specifications were unclear. (please explain below)
- ☐ Insufficient time to respond
- ☐ We do not offer this type of service or equivalent
- ☐ Our schedule would not permit us to perform
- ☐ Other (please explain below)

REMARKS:

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Company Name

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Telephone

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Signature

---

Fax

---

Email Address

---

Title

---

Typed or Printed Name

---

Address

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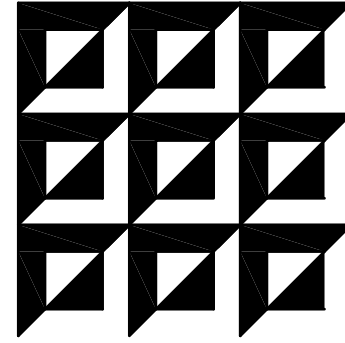
City

---

State

---

Zip



ENGINEERING MATRIX, INC.  
CONSULTING ENGINEERS  
2860 SCHERRER DRIVE, SUITE 440  
ST. PETERSBURG, FLORIDA 33716  
PH: (727) 973-4606 F: (727) 973-3902  
EMAIL: emi@engmatrix.com  
CERT. OF AUTHORIZATION NO. 4288  
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SEAL:

DRAWING PHASE:

PERMIT DOCUMENTS

ISSUE DATE: 04-13-2018 EMI JOB NO. 17-0720

DRAWING REVISIONS:

ADDENDUM #1  
05-16-2018

ST. PETERSBURG COLLEGE  
EPI - TECH BUILDING  
BOILER REPLACEMENT  
13805 58TH ST N, CLEARWATER, FL 33760

SPC  
ST. PETERSBURG  
COLLEGE

DRAWN BY: SMW CHECKED BY: CAT

DRAWING TITLE:

MECHANICAL  
FLOOR  
PLANS

SCALE:

1/4" = 1' - 0"

DRAWING NUMBER:

M1.1

### GENERAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF DEMOLITION WORK WITH OTHER TRADES TO AVOID CONFLICTS.
- ALL EQUIPMENT SCHEDULED FOR DEMOLITION SHALL BE PRESENTED TO OWNER FOR THE FIRST RIGHT OF REFUSAL. SHOULD THE OWNER REFUSE, ALL EQUIPMENT SHALL BE DISPOSED OF IN A PROPER MANNER.
- EXISTING EQUIPMENT, LOCATIONS, AND DATA ARE BASED ON EXISTING DRAWING DATA. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS.
- ANY EXISTING WALL, ROOF, FLOOR, EQUIPMENT, ETC. DAMAGED DURING DEMOLITION SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING. COORDINATE WITH GENERAL CONTRACTOR AND/OR OWNER.
- CONTRACTOR SHALL INSTALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRANSITIONS, FITTINGS, ELBOWS, DUCTWORK, PIPING, SUPPORTS, ETC. NECESSARY FOR A PROPER INSTALLATION AND OPERATION OF A NEW HVAC SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF INSTALLATION WORK WITH OTHER TRADES TO AVOID CONFLICTS.
- ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
- SOME VALVES AND OTHER HYDRONIC ACCESSORIES HAVE BEEN OMITTED FROM FLOOR PLAN FOR CLARITY PURPOSES. COORDINATE WITH MECHANICAL DETAILS AND MECHANICAL FLOW DIAGRAM FOR FURTHER EXTENT OF VALVES AND HYDRONIC ACCESSORIES REQUIRED WITH NEW EQUIPMENT SCHEDULED TO BE INSTALLED.

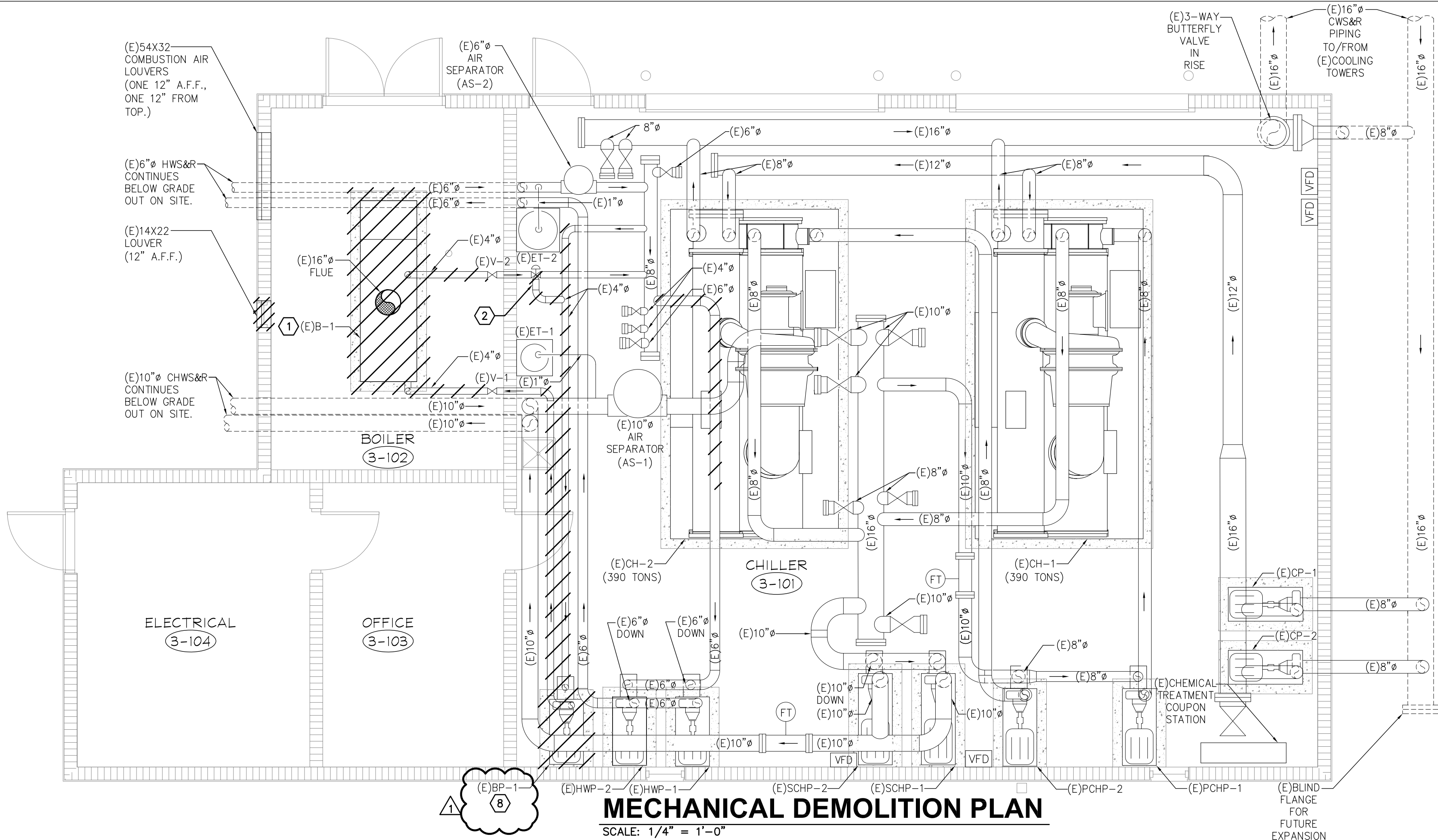
### ALTERNATE DEDUCT #1

CONTRACTOR SHALL PROVIDE AN ALTERNATE DEDUCT PRICE FOR THE FOLLOWING SCOPE OF WORK:

- INSTALL ONE 1,999 MBH BOILER, IN LIEU OF TWO BOILERS. ALL WORK ASSOCIATED WITH THE SECOND BOILER, INCLUDING THE HVAC CONTROLS, FLUE AND HOT WATER PIPING CONNECTION WOULD BE ELIMINATED FROM THE SCOPE OF WORK.
- REUSE THE EXISTING BOILER PUMP (E)BP-1
- ELIMINATE SCOPE ASSOCIATED WITH THE NEW BOILER PUMPS BP-1 OR BP-2
- REUSE EXISTING LOUVERS IN THE BOILER ROOM IN LIEU OF REPLACING WITH TWO NEW LOUVERS AS SHOWN.

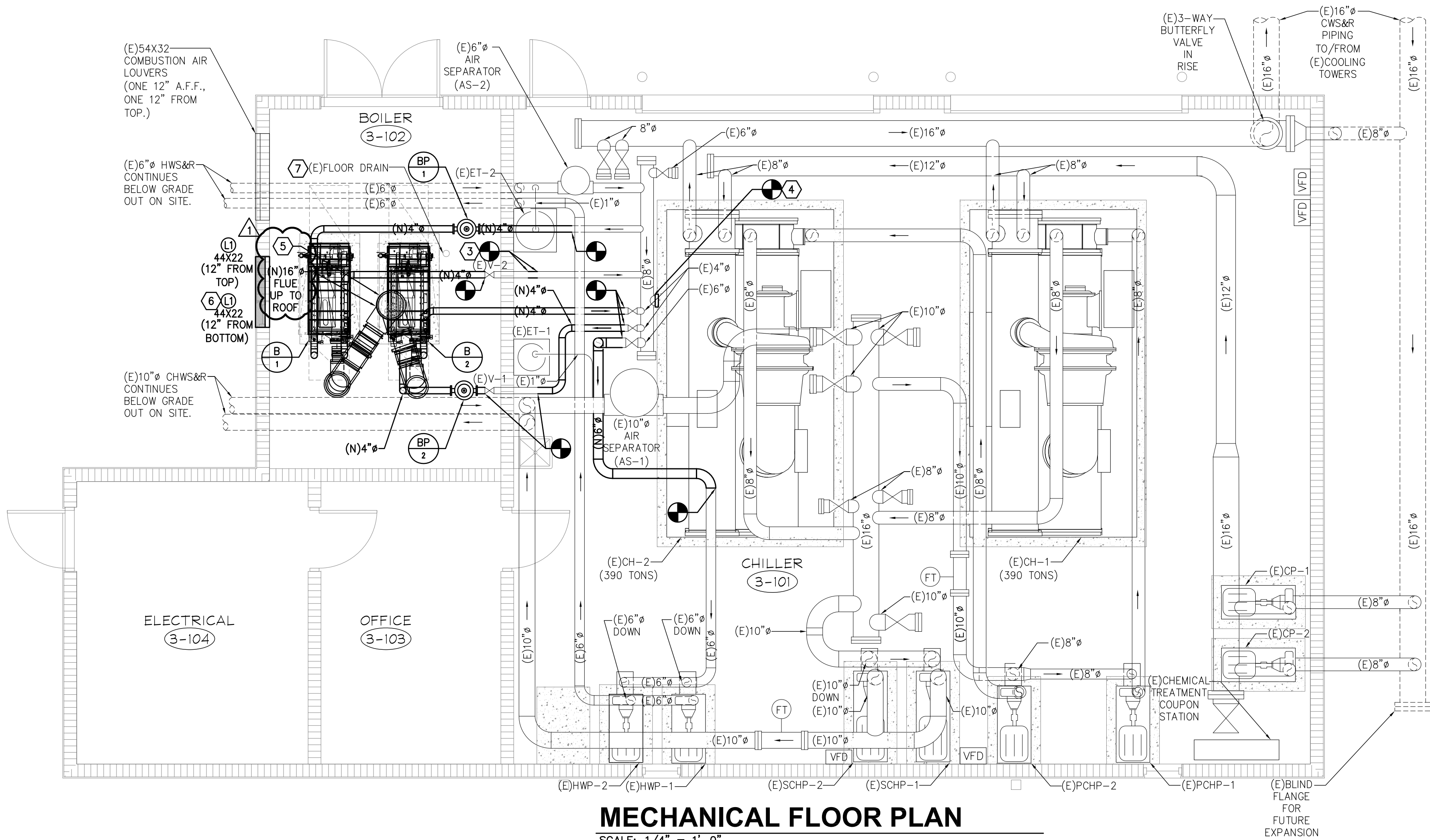
### KEYED NOTES

- CONTRACTOR SHALL DEMOLISH AND REMOVE EXISTING GAS FIRED BOILER IN ITS ENTIRETY INCLUDING THE EXISTING CONCRETE HOUSEKEEPING PAD, EXISTING HOT WATER PIPING CONNECTED TO BOILER SHALL BE DEMOLISHED BACK TO POINT OF EXISTING ISOLATION VALVES SHOWN WITHIN BOILER ROOM. EXISTING FLUE DUCT UP TO ROOF AS WELL AS EXISTING GAS LINE SHALL BE TEMPORARILY DISCONNECTED AND MADE SAFE FOR RECONNECTION TO NEW BOILERS INDICATED ON NEW FLOOR PLAN AND SHOWN ON THIS SHEET.
- CONTRACTOR SHALL FIELD LOCATE, DEMOLISH, AND REMOVE EXISTING THREE-WAY HOT WATER CONTROL VALVE AND ALL ASSOCIATED HOT WATER BYPASS PIPING. EXISTING HOT WATER PIPING SHALL BE RE-CONNECTED/CAPPED AS INDICATED ON NEW FLOOR PLAN AND SHOWN ON THIS SHEET.
- CONTRACTOR SHALL PROVIDE SPOOL PIECE OF PIPING, IN ACCORDANCE WITH MECHANICAL SPECIFICATIONS, SUITABLE TO RE-CONNECT EXISTING HOT WATER SUPPLY PIPING BACK TOGETHER. CONFIRM EXISTING PIPE SIZE IN FIELD PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL PROVIDE BLIND FLANGE ON EXISTING HOT WATER PIPING AND SEAL WATER TIGHT. CONFIRM EXISTING PIPE SIZE IN FIELD PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL ROUTE NEW COMMON BOILER FLUE UP THRU ROOF UTILIZING EXISTING ROOF OPENING. NEW COMMON BOILER FLUE SHALL TERMINATE AT NEW THIMBLE ON ROOF. REFER TO SPECIFICATIONS FOR APPROVED DUCT CONSTRUCTION MATERIALS. REFER TO MECHANICAL DETAILS FOR MORE INFORMATION.
- CONTRACTOR SHALL COORDINATE ENLARGING OF EXISTING WALL OPENING DOWN LOW TO FACILITATE INSTALLATION OF NEW COMBUSTION AIR LOUVER. REFER TO MANUFACTURER'S INSTALLATION GUIDELINES FOR RECOMMENDED WALL OPENING PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL COORDINATE WITH LOCATION OF EXISTING FLOOR DRAIN IN THE FIELD PRIOR TO ROUGHING IN NEW CONCRETE HOUSEKEEPING PADS SCHEDULED TO HOUSE NEW GAS-FIRED BOILERS.
- DEMOLISHED BOILER PUMP BP-1 SHALL BE GIVEN TO THE OWNER AFTER IT IS REMOVED FROM SERVICE.



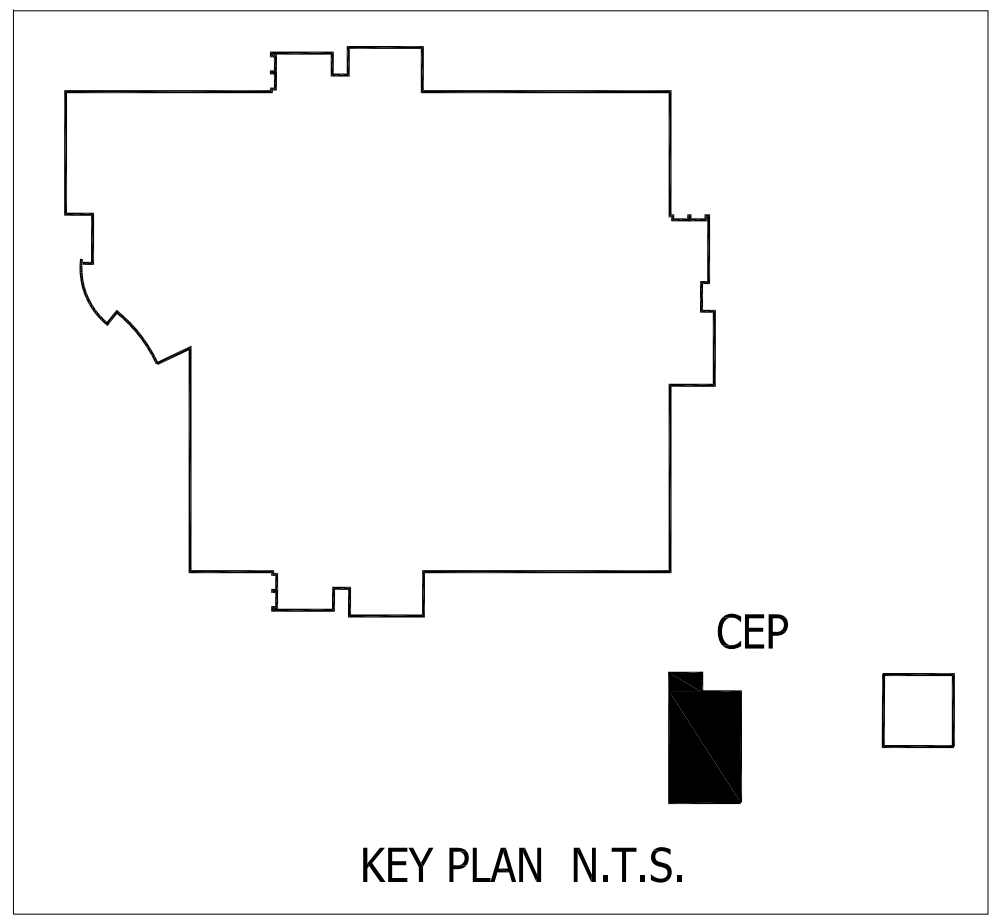
### MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

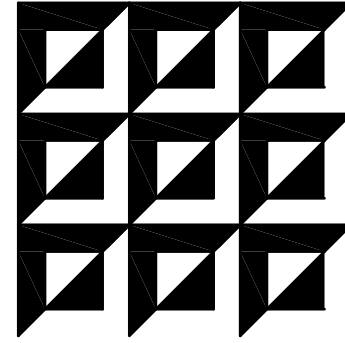


### MECHANICAL FLOOR PLAN

SCALE: 1/4" = 1'-0"



KEY PLAN N.T.S.



ENGINEERING MATRIX, INC.  
CONSULTING ENGINEERS  
2860 SCHERRER DRIVE, SUITE 440  
ST. PETERSBURG, FLORIDA 33716  
PH: (727) 973-4606 F: (727) 973-3902  
EMAIL: emi@engmatrix.com  
CERT. OF AUTHORIZATION NO. 4288  
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SEAL:

DRAWING PHASE:

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ISSUE DATE: 04-13-2018 EMI JOB NO. 17-0720

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ADDENDUM #1  
05-16-2018

ST. PETERSBURG COLLEGE  
EPI - TECH BUILDING  
BOILER REPLACEMENT  
13805 58TH ST N, CLEARWATER, FL 33760

SPC  
ST. PETERSBURG  
COLLEGE

DRAWN BY: SMW CHECKED BY: CAT

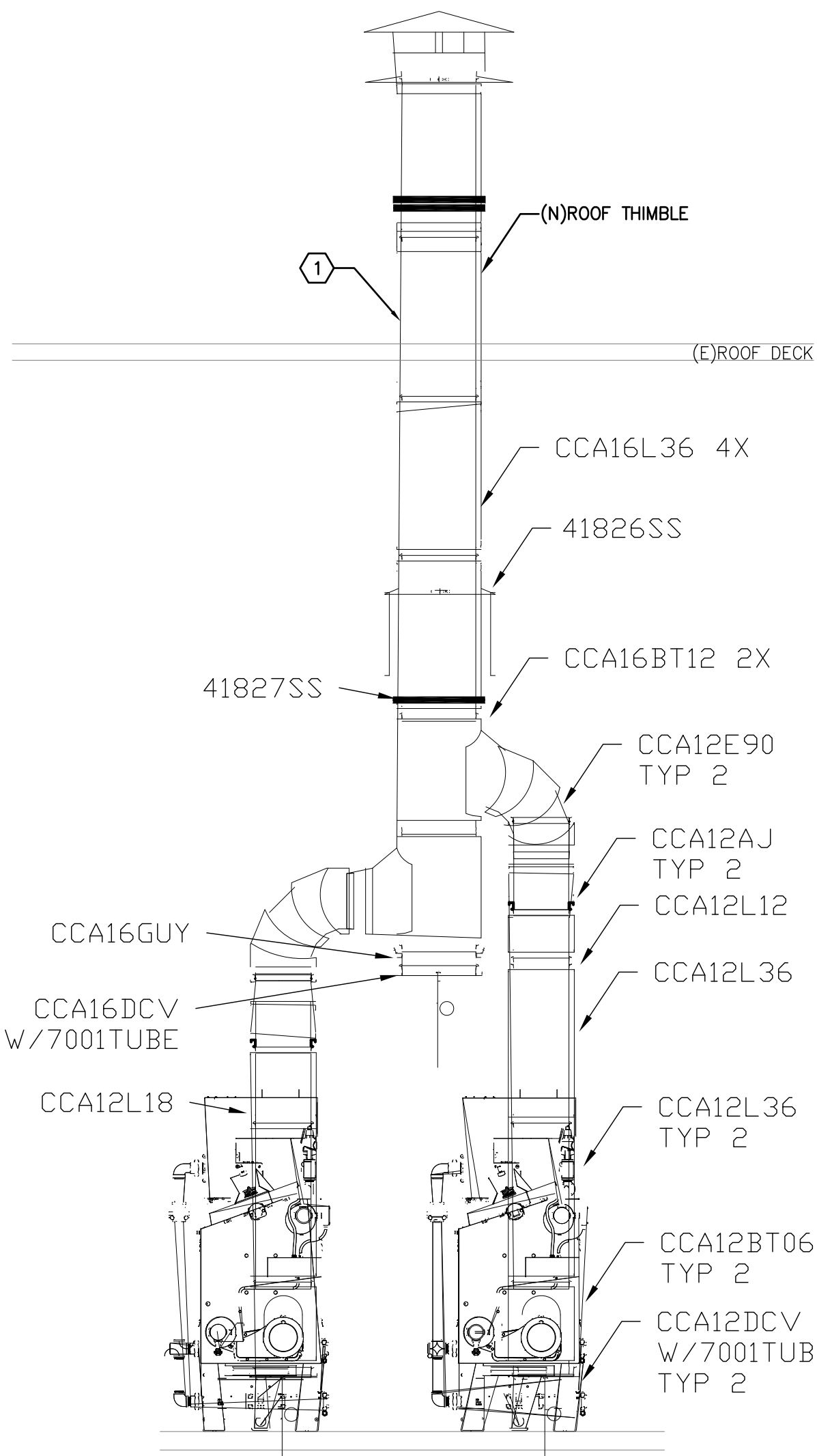
DRAWING TITLE:

MECHANICAL  
DETAILS

SCALE: NOT TO SCALE NORTH:

DRAWING NUMBER:

M2.1



BACK VIEW  
(2) HYDROTHERM KN-20

GENERAL NOTES:

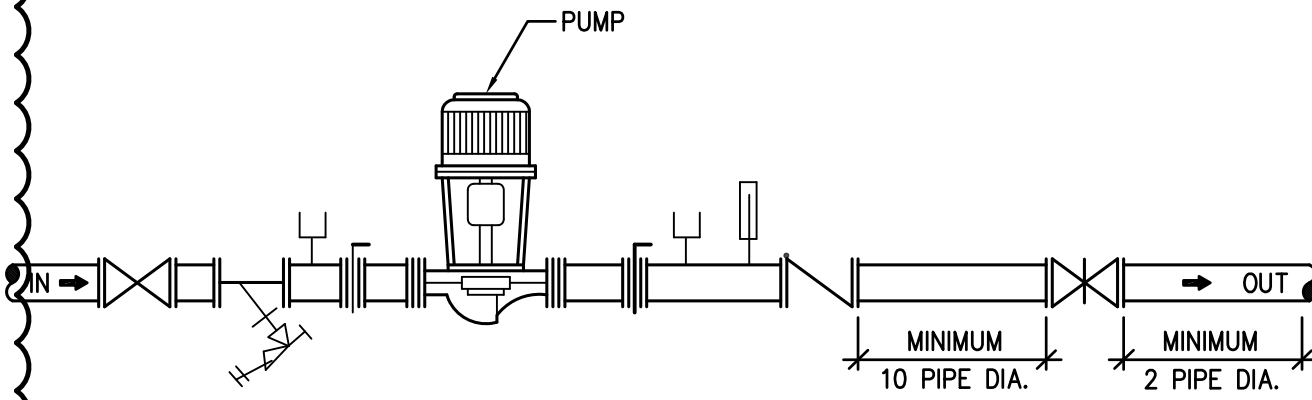
1. VERIFY DIMENSIONS BEFORE ORDERING FLUE FOR INSTALLATION.
2. BASIS OF DESIGN: ALL FLUE IS HEAT-FAB SAF-T VENT MODEL 'CI-PLUS' DOUBLE WALL SPECIAL GAS VENT.
3. FLUE IS SIZED PER MANUFACTURERS REQUIREMENTS.
4. FOLLOW INSTALLATION INSTRUCTIONS FOR CORRECT INSTALLATION METHODS.
5. PITCH 1/4" PER FOOT, NOT SHOWN.

KEYED NOTES:

- (1) NEW CAT IV BOILER FLUE SHALL EXTEND A MINIMUM OF 2'-0" ABOVE THE EXTERIOR WALL OF THE ADJACENT CHILLER ROOM. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED DESIGN DOCUMENTS FOR THE SUPPORT OF FLUE VENT ON ROOF.

BOILER FLUE DETAIL

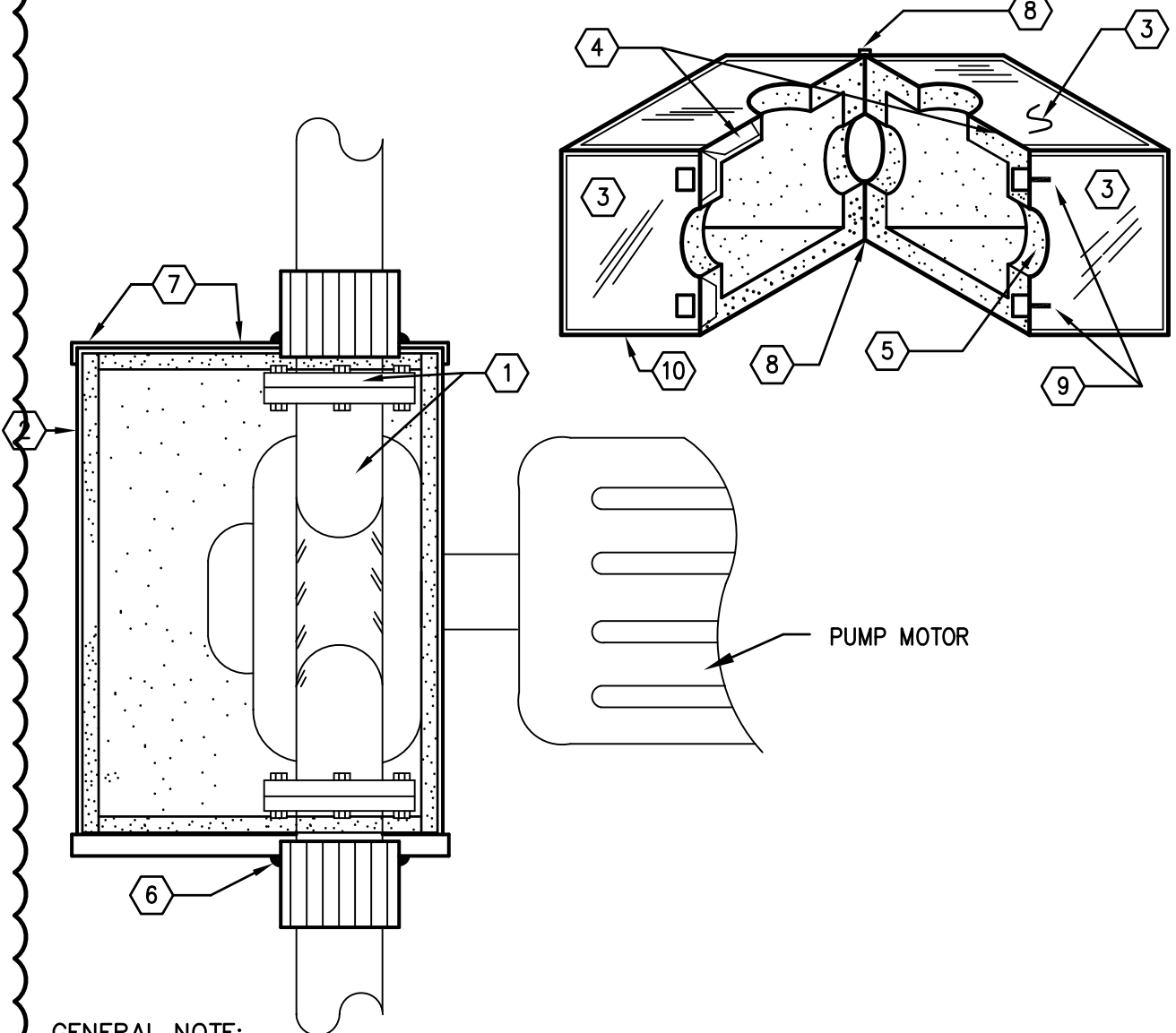
NO SCALE



TYPICAL INLINE PUMP PIPING DIAGRAM

NO SCALE

TYP. OF BP-1 & BP-2



GENERAL NOTE:

1. REFER TO MANUFACTURES PUMP INSULATION INSTRUCTIONS PRIOR TO INSULATING PUMPS. DO NOT COVER PUMP BEARING BRACKETS OR GREASE FITTINGS.

NOTES:

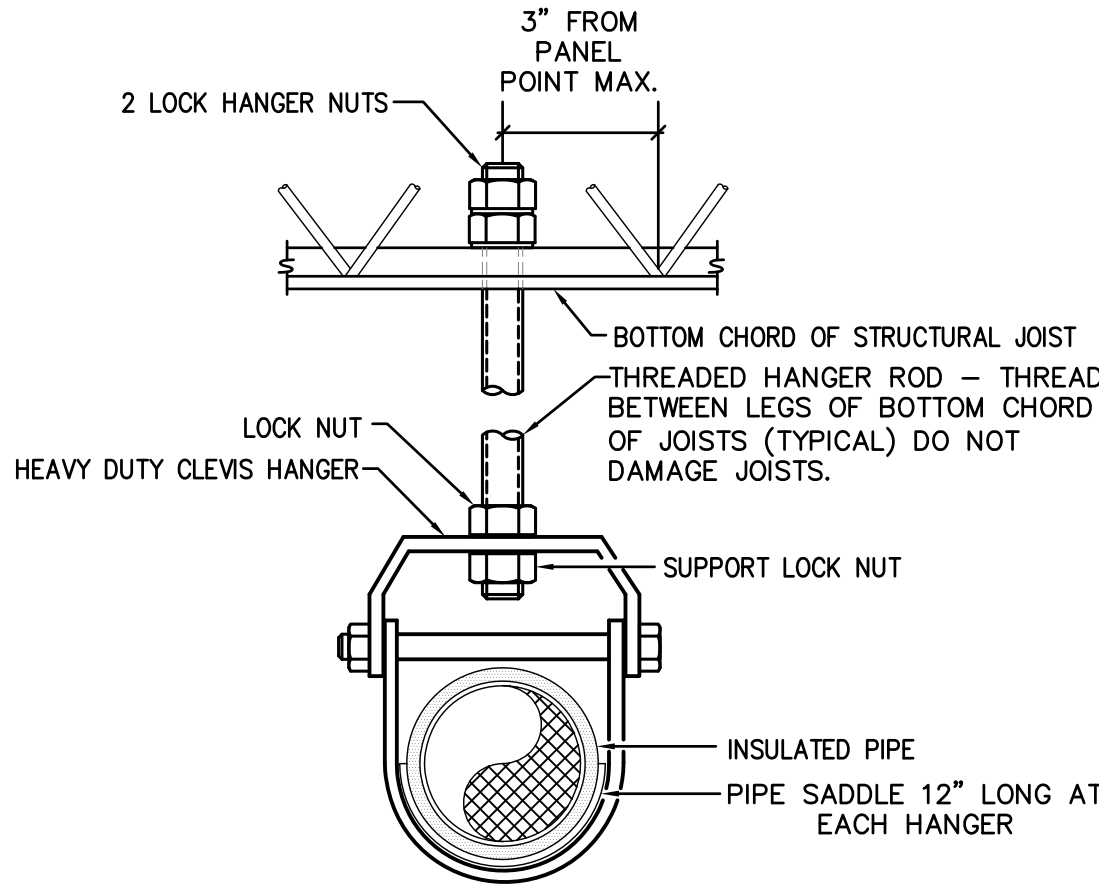
EQUIPMENT COVERS SHALL BE FABRICATED IN SECTIONS OF METAL, LINED WITH FOAMGLASS INSULATION 2" THK. APPLY PITTCOTE 404 REINFORCED WITH WHITE OPEN WEAVE MEMBRANE WITH MAXIMUM MESH OPENING 10 X 10 PER INCH TO LINE INSIDE OF COMPARTMENT OR ANY EXPOSED INSULATION. THE COVER SHOULD ENCLOSE FLANGES OR OTHER CONNECTIONS AS WELL AS THE BODY OF THE EQUIPMENT AND SHOULD BE CONSTRUCTED STRONG ENOUGH TO WITHSTAND VIBRATION AND HANDLING.

MATERIALS: METAL WITH INSULATION ADHERED TO THE INNER SURFACE, RIVETS OR SHEET METAL SCREWS AND CAULKING.

- (1) PUMP OR EQUIPMENT SURFACES AND FLANGES.
- (2) METAL CASING LINED WITH INSULATION.
- (3) SECTIONS OF THE FABRICATED COVER.
- (4) SLIP JOINT OR LAP SEAM SECURED WITH MECHANICAL FASTENERS.
- (5) CUT-OUTS FOR PIPES AND SHAFT. PROVIDE SEVERAL LAYERS OF RUBATEX FOAM INSULATION TO CREATE AIRTIGHT SEAL AT ALL MATING HALVES AND PENETRATIONS. SEAL AIRTIGHT.
- (6) CAULKING WHERE REQUIRED.
- (7) RIVETS OR SHEET METAL SCREWS.
- (8) STAINLESS STEEL PIANO HINGE OR STAINLESS STEEL LATCHES.
- (9) STAINLESS STEEL LATCHES. (TYPICAL OF BOTH ENDS).
- (10) ALUMINUM ANGLE FRAMING ENTIRE BOX AT ALL EDGES AND JOINING EDGES. THESE SHALL ALSO SERVE AS REINFORCEMENT FOR LATCH AND HINGE SUPPORT.

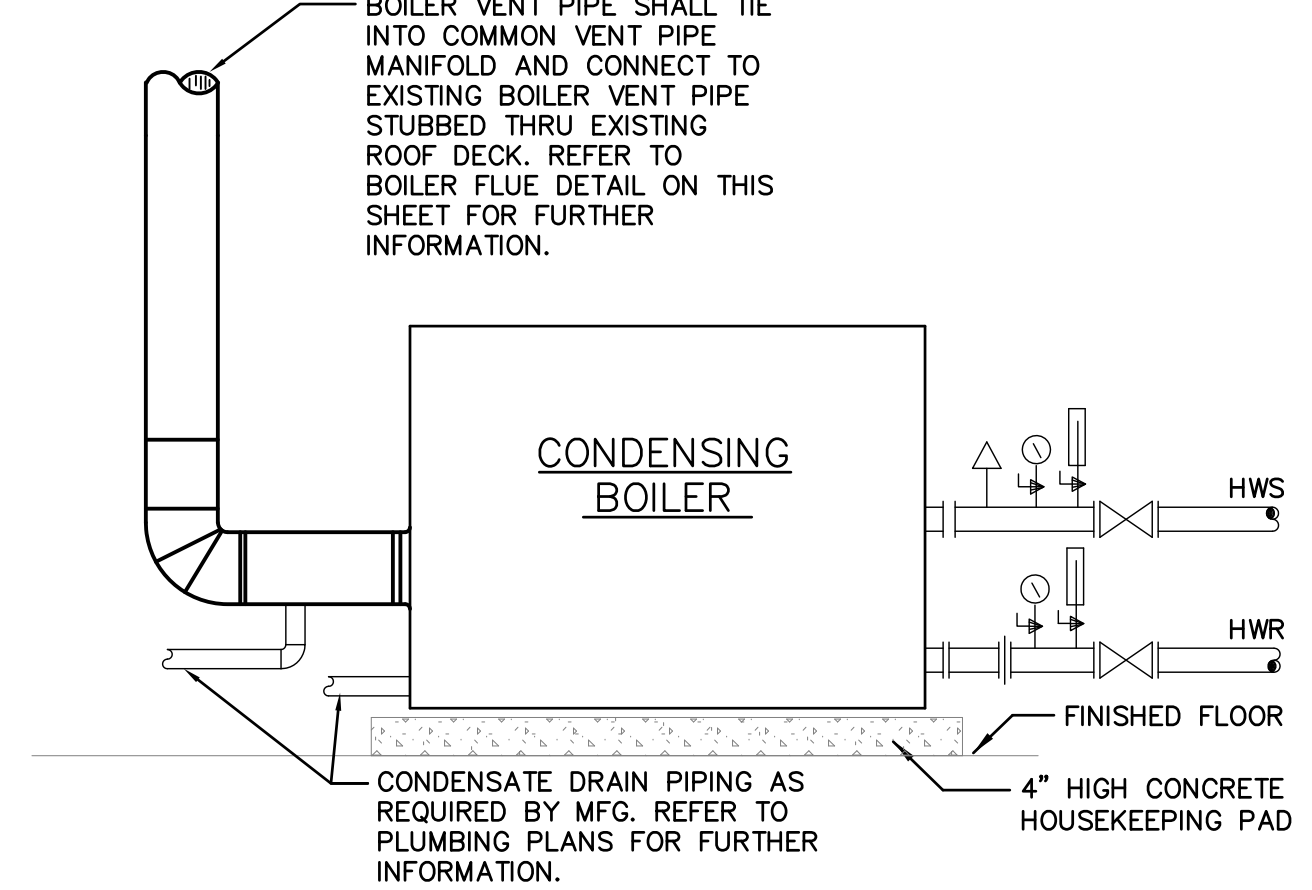
TYPICAL INLINE REMOVABLE/REUSABLE PUMP  
INSULATION COVER

NO SCALE



TYPICAL CLEVIS HANGER DETAIL

NO SCALE

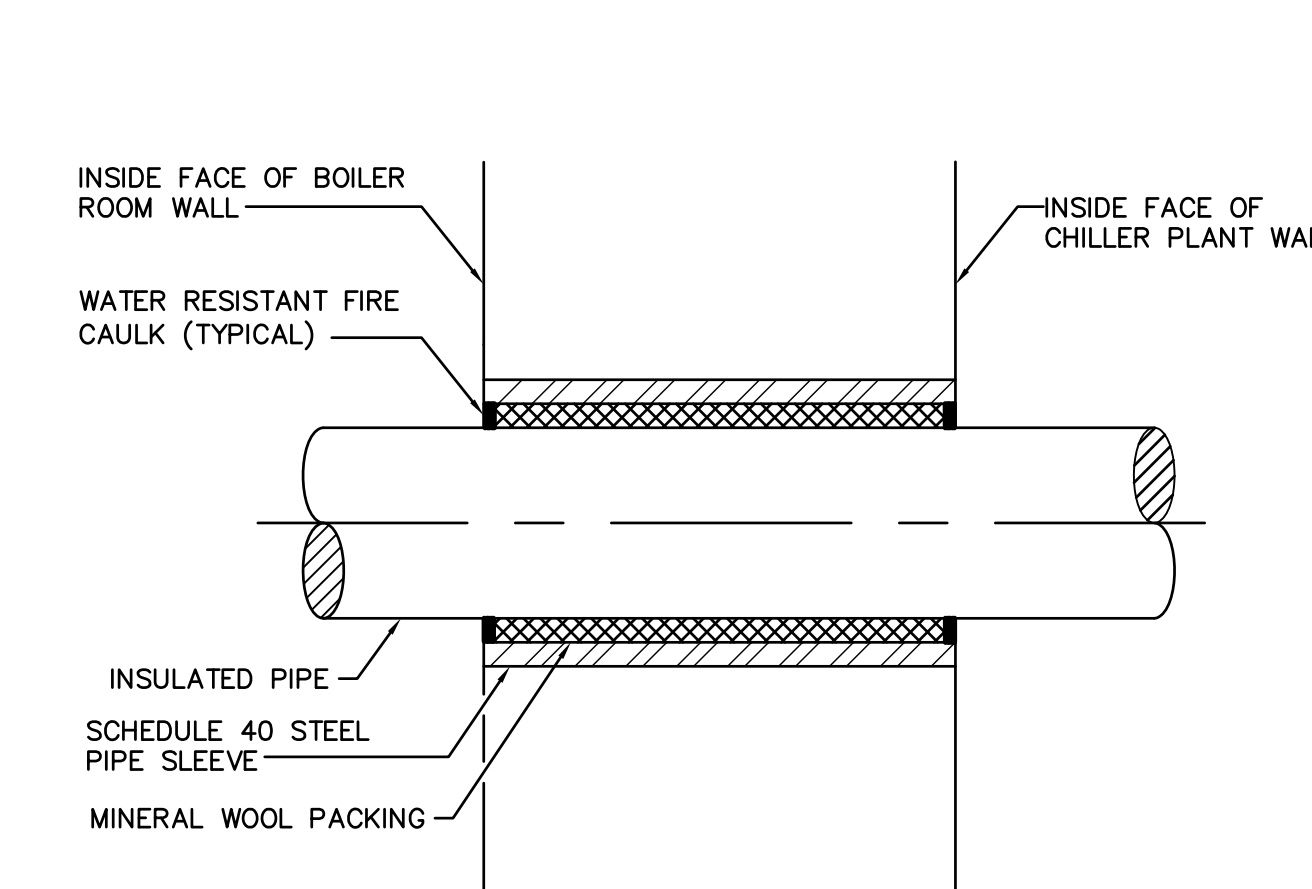


- NOTES:
- (1) REFER TO PLUMBING DETAILS FOR CONNECTION OF GAS PIPING TO BOILER.
  - (2) COMPONENTS OF BOILER SHOWN ON OPPOSITE SIDES FOR CLARITY. REFER TO MANUFACTURER FOR FINAL INSTALLATION.
  - (3) COMBUSTION AIR FOR GAS BOILER SHALL BE PROVIDED BY EXISTING LOUVERS INSIDE OF BOILER ROOM. REFER TO FLOOR PLANS FOR FURTHER INFORMATION.

TYPICAL GAS FIRED BOILER PIPING DIAGRAM

NO SCALE

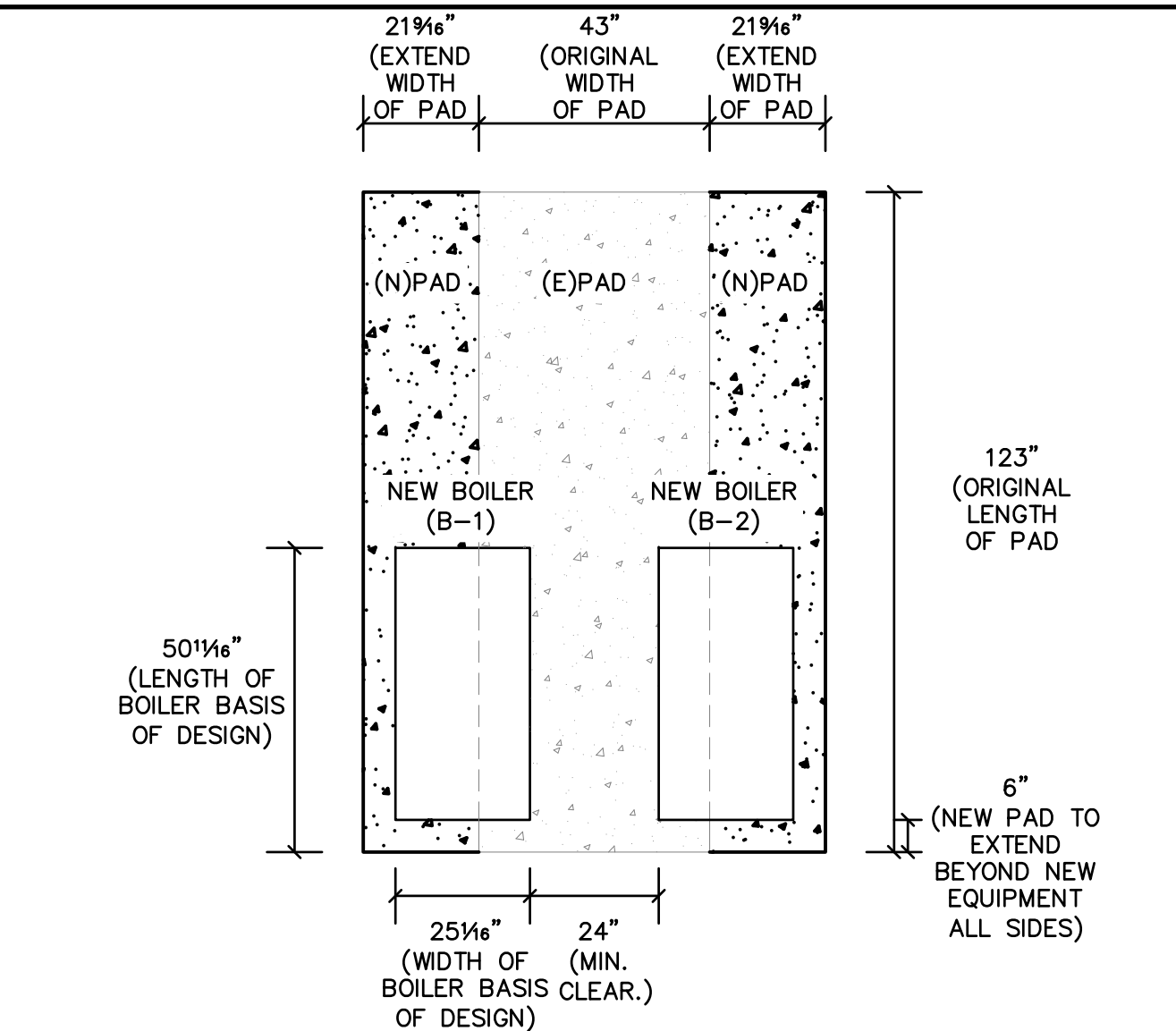
TYPICAL OF BOILER (B-1) & BOILER (B-2)



NOTE:  
CONTRACTOR SHALL SUBMIT U.L. APPROVED PENETRATION DETAIL FOR PENETRATIONS IN RATED WALLS AND FLOORS.

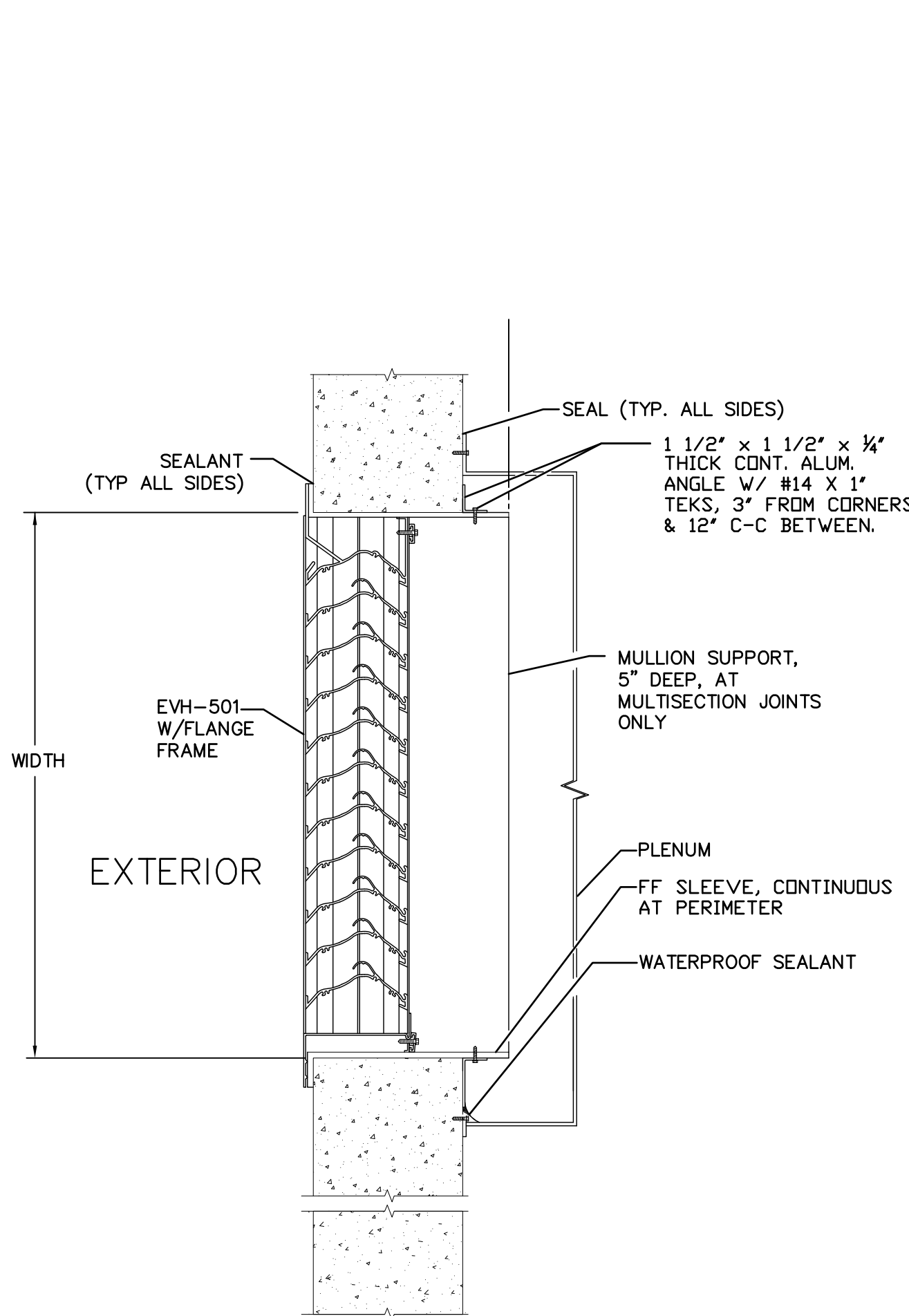
TYPICAL WALL SLEEVE DETAIL

NO SCALE



BOILER PAD EXTENSION DETAIL

NO SCALE



GREENHECK EVH-501 LOUVER W/FLANGE FRAME  
INSTALLATION DETAIL

NO SCALE