

Addendum 2 for RFB927940-01

Project Name: WRC Decentralization Phase 4 & Fire Alarm Phase 3 Bid Issuance #1
DAS RFB #: 927940-01
DAS Project #: 9279.40
Date: 05/15/2025

Bids Due: May 20, 2025, at 2:00pm

TO: PROSPECTIVE BIDDERS:

THIS ADDENDUM FORMS A PART OF THE BIDDING AND CONTRACT DOCUMENTS AND MODIFIES THE BIDDING DOCUMENTS DATED 03-14-2025, WITH AMENDMENTS AND ADDITIONS NOTED BELOW. THIS ADDENDUM SUPERSEDES AND SUPPLEMENTS ALL PORTIONS OF THE ORIGINAL BIDDING AND CONTRACT DOCUMENTS WITH WHICH IT CONFLICTS. ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE IMPACS ELECTRONIC PROCUREMENT SYSTEM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.

GENERAL NOTES

Added - Specification section 08 5113 – Aluminum Windows – (Clarification this is for Bid Package #23-1)

QUESTIONS AND ANSWERS FROM PRE-BID MEETING

Q1. Does the feeder in the tunnel need to be in rigid conduit?

A1. Electrical conduits installed in the tunnel to be rigid conduit.

Q2. For penetrations through non-fire-rated walls what is the expectation for finish?

A2. Penetrations through non-fire-rated walls to be finished with paintable caulk.

Q3. I would like a couple of clarifications on page 00-E010 note E19 I shows the medium voltage loop entering the tunnel in two different locations, one near the new MDP and the other near the Med Center and is accompanied by a note E20 to bore a 4" conduit to this location for the medium voltage loop. It appears that that one of these would be redundant.

A3. Keynote #19 applies to both the medium voltage feed and the 480-volt feed for DP-MC. DP-MC and medium voltage feed will enter the tunnel in different locations but exit the tunnel in the same location. Change keynote #19 to state "EXCAVATE NEXT TO TUNNEL TO TRANSITION CONDUITS OUT OF OR INTO TUNNEL. INSTALL MEDIUM VOLTAGE OR 480 VOLT CONDUITS IN TUNNEL. PROVIDE WATER TIGHT LINK SEALS ON TUNNEL WALL TO SEAL CONDUITS." (4) 4" conduits only need to be stubbed into the tunnel for future work.(Keynote E21)

Q4. Does the chiller fit in the rooms? Or will they be able to make it to the rooms?

A4. The chillers have remote evaporators that will be located in the mechanical rooms. The chillers are outdoor units as shown on the plans.

Q5. For the line support from exterior chillers to building what will the ground supports be?

A5. See detail B3 on sheet 00-C501.

Q6. Can concrete be removed from the bid package?

A6. No, Concrete will stay in the bid package #23-1 and any concrete related to electrical (Ex. Transformer pad, housekeeping pad, replacement of paving due damage by electrical contractor) will be in the bid package #26-1.

CHANGES TO SPECIFICATIONS AND DRAWINGS

SPECIFICATIONS:

- **SECTION 08 5113 – ALUMINUM WINDOWS**
 - **ADD** section in its entirety.

SUBSTITUTION REQUESTS:

- 23 3300 – Air Duct Accessories - Manuf.: Anemostat Arrow – Approved. Tamco – **Approved.**
- 23 3416 – Fans – Manuf.: FloAire – **Approved.**
- 23 5216 – Fire Tube Condensing Hot Water Boilers – Manuf.: RBI – **Not Approved.**
- 23 7433 – Direct Fired Makeup Air Unit – Manuf.: Flo-Aire – Approved. WeatherRite – **Approved.**
- 23 8239 – Unit Heater - Manuf.: Vulcan – Approved; VTS – **Approved.**
- 23 8240 – Electric Unit Heater - Manuf.: Brasch – **Approved.**
- 26 5100 – Interior Lighting - Manuf.: Metalux - Model No.: SNX – **Approved.**

DRAWINGS:

- **10-AD00 – BASEMENT DEMOLITION AND FLOOR PLAN**
 - **ADD** demolition of window (by Bid Package #01-1) in Storage B38A
 - **ADD** window infill (by Bid Package #23-1) in Storage B38A
- **10-M100- BASEMENT MECHANICAL PIPING PLAN**
 - **ADD** Piping Tags for Chilled Water in mechanical room.
 - **ADD** Make Up Water to chilled water system and Keynote 10-M122.
 - **REVISE** Outdoor Air Duct Size
 - **REVISE** Refrigerant Piping Routing.
 - **REMOVE** CUH-1 Tag shown on existing CUH.
- **10-M600 MECHANICAL SCHEDULES AND DETAILS**
 - **REVISE** Lintel Detail

- **REVISE** Mechanical Pump Schedule
- **REVISE** Air Separator Schedule
- **REVISE** Mechanical Piping Expansion Tank Schedule
- **ADD** Note 10 to Air Cooled Chiller Schedule
- **12-AD00 – BASEMENT DEMOLITION AND FLOOR PLAN**
 - **ADD** demolition of west window (by Bid Package #01-1) in Storage B22
 - **ADD** window infill (by Bid Package #23-1) in Storage B22
- **12-M100 BASEMENT MECHANICAL PIPING PLAN**
 - **ADD** Enlarged Chiller Plan
 - **REVISE** Exhaust System Ductwork and Keynote 12-M125.
- **12-M600 MECHANICAL SCHEDULES AND DETAILS**
 - **REVISE** Mechanical Pump Schedule
 - **REVISE** Air Separator Schedule
 - **REVISE** Mechanical Piping Expansion Tank Schedule
 - **ADD** Note 10 to Air Cooled Chiller Schedule
- **16-A102 – SECOND FLOOR PLAN AND THIRD FLOOR PLAN**
 - **REVISE** typical window demolition details
 - **REVISE** typical window infill details
 - **ADD** typical window infill elevation
 - **ADD** typical existing window condition photo
- **16-M100 - BASEMENT MECHANICAL PIPING PLAN**
 - **ADD** sheet in its entirety. (by Bid Package #23-1)
- **16-M400 – ENLARGED MECHANICAL PLANS AND SCHEMATICS**
 - **REVISE** Boiler Flue and Vent routing.
- **16-M600 - MECHANICAL SCHEDULES**
 - **REPLACE** sheet in its entirety.

ATTACHMENTS

- Specification section 08 5113 – Aluminum Windows
- Drawings 10-AD00, 10-M100, 10-M600, 12-AD00, 12-M100, 12-M600, 16-A102, 16-M100, 16-M400, 16-M600

END OF ADDENDUM

**SECTION 08 5113
ALUMINUM WINDOWS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Extruded aluminum fixed window system, for installation of metal window infill panels.

1.2 RELATED REQUIREMENTS

- A. Section 07 4243 - Metal Window Panels: Metal window infill panels for exterior.
- B. Section 07 9000 - Sealing joints between window frames and adjacent construction.

1.3 REFERENCE STANDARDS

- A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights; 2017.
- B. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site; 2015.
- C. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.
- D. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2021.
- E. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
- F. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
- G. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.
- H. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.
- I. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2016).

1.4 SUBMITTALS

- A. Product Data: Provide data on component dimensions, system materials, product characteristics, performance criteria, and system limitations.
- B. Performance Validation: Provide specified performance validation before submitting shop drawings or starting fabrication.
- C. Shop Drawings: Indicate opening dimensions, elevations of different types, framed opening tolerances, anchorage locations and details, and installation requirements.

WRC Birches, Powerhouse,

Elmcrest, & Med Center

Decentralization P4 & Fire Alarm

P3

IDAS Project # 9279.40

SH Project # 2240007040

Issued for Addendum 02

05-15-2025

Aluminum Windows

08 5113 - 1

D. Samples:

1. Finish samples: submit (2) physical samples of 10" x 10".

E. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:

1. Evidence of AAMA Certification.

2. Evidence of WDMA Certification.

3. Evidence of CSA Certification.

4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

F. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.

G. Manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of AAMA CW-10.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.7 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

B. Maintain this minimum temperature during and 24 hours after installation of sealants.

1.8 WARRANTY

A. Correct defective work within a two year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Gerkin Windows & Doors 5500 Aluminum Fixed Window.

B. Other Acceptable - Aluminum Windows Manufacturers:

1. Kawneer Company, Inc.; www.kawneer.com.

2. Wausau Window and Wall Systems; 2250i, fixed: www.wausauwindow.com/#sle.

3. Architect pre-approved equivalent.

2.2 BASIS OF DESIGN - CW PERFORMANCE CLASS WINDOWS

- A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 having Performance Class of CW, and Performance Grade at least as high as specified design pressure.
- B. Provide products tested for compliance with AAMA/WDMA/CSA 101/I.S.2/A440 having Performance Class of CW, and Performance Grade as indicated under performance requirements.

2.3 ALUMINUM WINDOWS

- A. Aluminum Windows: Extruded aluminum frame and sash, factory fabricated, factory finished, with related flashings and anchorage and attachment devices.
 - 1. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors; fasteners and attachments concealed from view; reinforced as required for operating hardware and imposed loads.
 - 2. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
 - 3. Movement: Accommodate movement between window and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
 - 4. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
- B. Performance Requirements:
 - 1. Performance Validation: Windows shall comply with AAMA/WDMA/CSA 101/I.S.2/A440 performance requirements as indicated by having AAMA, WDMA, or CSA certified label, or an independent test report for indicated products itemizing compliance and acceptable by authorities having jurisdiction.
- C. Fixed, Non-Operable Type:
 - 1. Construction: Thermally broken.
 - 2. Finish: White.

2.4 PERFORMANCE REQUIREMENTS

- A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:
 - 1. Performance Class (PC): CW.
- B. Water Leakage: No uncontrolled leakage on interior face when tested in accordance with ASTM E331 at differential pressure of 12.11 psf.
- C. Air Leakage: 0.1 cfm/sq ft maximum leakage per unit area of outside window frame dimension when tested at 1.57 psf pressure difference in accordance with ASTM E283/E283M.

2.5 COMPONENTS

- A. Frames: 2 inch wide by 2 3/8 inch deep profile, of 0.063 inch thick section; thermally broken with interior portion of frame insulated from exterior portion; flush glass stops of snap-on type.
- B. Reinforced Mullion: 2 inch profile of extruded aluminum with integral reinforcement of shaped steel structural section.

- C. Subframe: Provide 2 3/8" thermally broken receptor system at head and jambs as required to accommodate installation in existing openings
- D. Insulated Infill Panel: As specified in Section 07 4243 - Metal Window Panels
- E. Fasteners: Stainless steel.
- F. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

2.6 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.
- B. Concealed Steel Items: Profiled to suit mullion sections; galvanized in accordance with ASTM A123/A123M.

2.7 FINISHES

- A. Pigmented Organic Coatings: AAMA 2603; polyester or acrylic baked enamel finish.
- B. Finish Color: White.

PART 3 EXECUTION

3.1 INSTALLATION

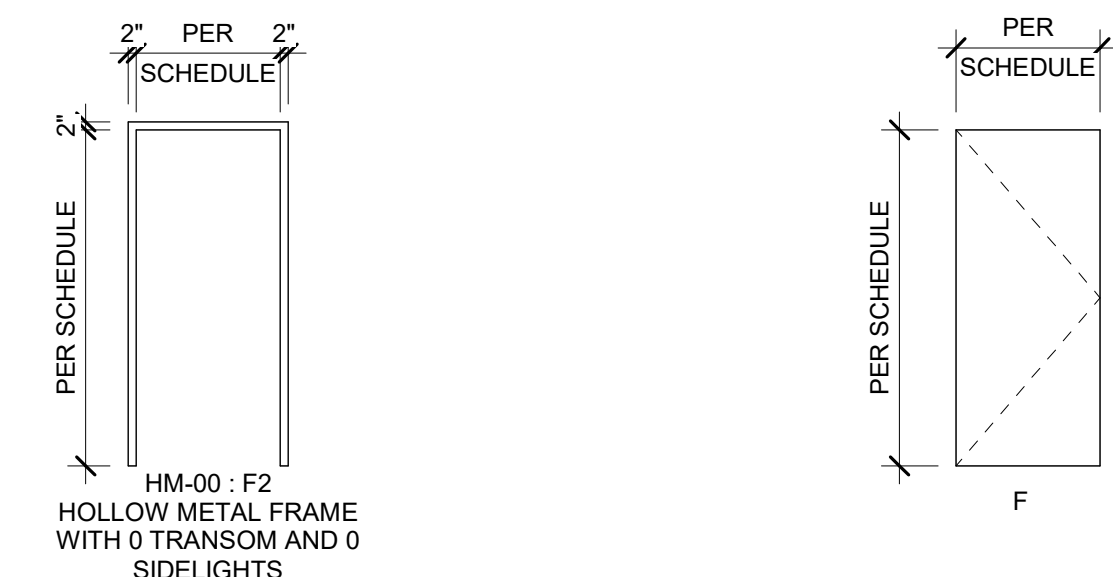
- A. Install windows in accordance with manufacturer's instructions.
- B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
- C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.
- D. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- E. Install metal window infill panels in accordance with requirements; see Section 07 4243.

3.2 CLEANING

- A. Remove protective material from factory finished aluminum surfaces.
- B. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.
- C. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

END OF SECTION

Door Schedule											
MARK	ROOM NAME	OPENING SIZE		DOOR TYPE	DOOR		FRAME		HWWR	FIRE RATING	REMARKS
		WIDTH	HEIGHT		MATERIAL	THICKNESS	TYPE	MATERIAL			
B39A	CHILLER	3'-0"	8'-8"	F	HM	0'-1 3/4"	HM-00-V2	HM	01	45 MIN	



C2 DOOR FRAME ELEVATION 1/4" = 1'-0" 0' 6"

D2 DOOR PANEL ELEVATION 1/4" = 1'-0" 0' 6"

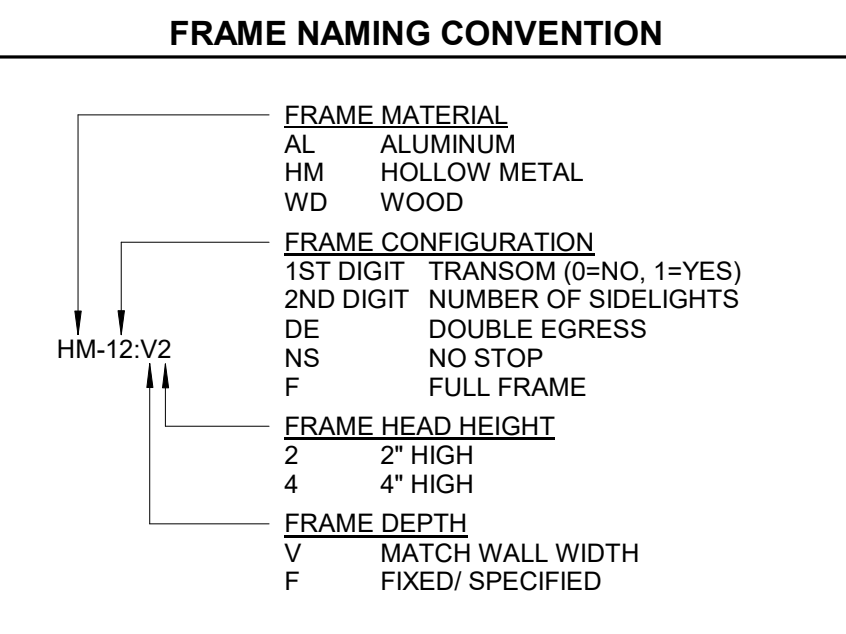
DOOR HARDWARE GROUPS

GROUP 01
SINGLE FIRE RATED DOOR. FOR USE ON DOOR NO. B39A

3 EA.	HEAVY DUTY HINGES	TA795, 4-1/2"	US26D	MCK
1 EA.	STOREROOM LOCKSET	PROVIDED BY OWNER	AL	LCN
1 EA.	CLOSER	4040XP DEL EDA	US26D	RO
1 EA.	OVERHEAD STOP	599S	US32D	IV
1 EA.	KICKPLATE	8400 30" X 34"	BL	PE
1 SET	SMOKE GASKET	PK52BL		

MANUFACTURER ABBREVIATIONS

IV - IVES
LCN - LCN CLOSERS
MCK - MCKINNEY
PE - PEMKO
RO - ROCKWOOD
SA - SARGENT



WALL RATING INDICATORS AND CODES

PLAN INDICATOR LINE STYLE	SEPARATION DESIGNATION	RATING	DESCRIPTION	USE	DOORS	HVAC
---	FB-1-HP	1 HR	FIRE BARRIER	HAZARD PROTECTION	45 MIN	ALLOWED W/ FIRE DAMPERS

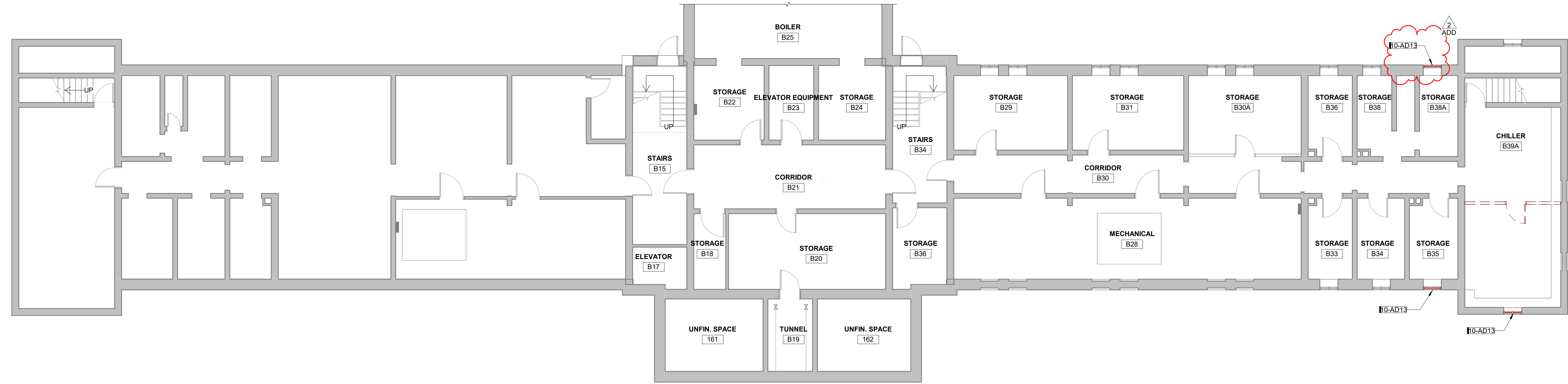
CODE PLAN GENERAL NOTES

- FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING IN THE CONCEALED SPACE. SUCH IDENTIFICATION SHALL BE LOCATED WITHIN 15' OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30' MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION AND INCLUDE LETTERING NOT LESS THAN 3" TALL AND A MINIMUM 3/8-INCH STROKE IN A CONTRASTING COLOR STATING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS".

KEYNOTES

KEY	NOTE
10-A13	INFILL WITH NEW LOUVER TO FULL EXTENT OF EXISTING WINDOW OPENING - REFER TO MECHANICAL DRAWINGS FOR LOUVER
10-A14	INFILL WITH NEW FACE BRICK (OWNER-PROVIDED, CONTRACTOR-INSTALLED) AND CMU BACKUP PER DETAIL E2. NEW MECHANICAL PENETRATIONS TO BE CORE DRILLED THROUGH NEW MASONRY AND SEALED. SEE MECHANICAL FOR PENETRATION LOCATIONS
10-A20	PROVIDE NEW 1-HOUR FIRE-RATED CEILING BETWEEN BASEMENT AND FIRST FLOOR. 3 5/8" METAL STUD FRAMING WITH 3 LAYERS OF 5/8" TYPE X GYPSUM BOARD PER UL DESIGN #504. FIRESTOP ALL NEW PENETRATIONS.
10-A22	PROVIDE SPRAY APPLIED FIREPROOFING TO ACHIEVE 1-HOUR RATING AT EXPOSED STEEL BEAM
10-AD13	DEMOLITION OF EXISTING WINDOW WILL BE BY OWNER'S ABATEMENT CONTRACTOR

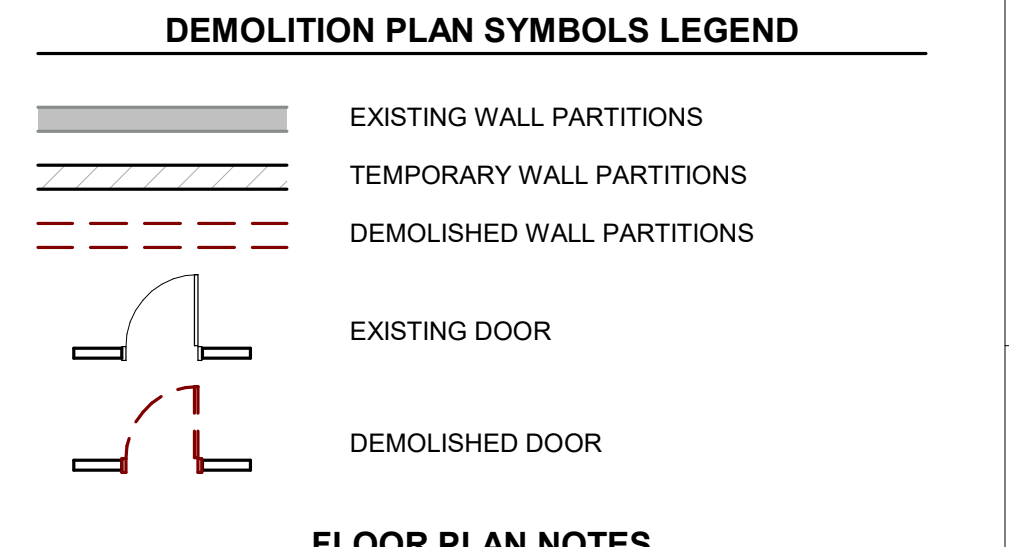
- ARCHITECTURAL DEMOLITION NOTES**
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
 - TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN. PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES, COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
 - OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
 - COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
 - OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
 - MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
 - PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
 - ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
 - ALL NEW PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
 - COORDINATE WITH OTHER TRADES CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION.
 - ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
 - ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
 - THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
 - BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
 - TEMPORARILY REMOVE OR SUPPORT FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.



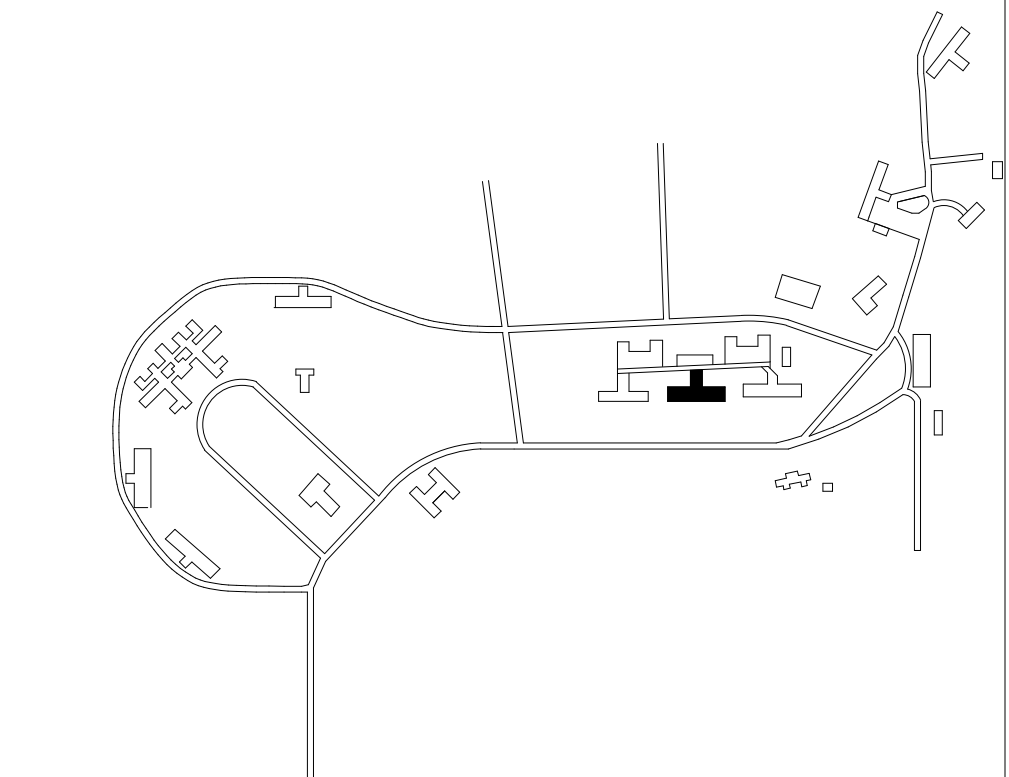
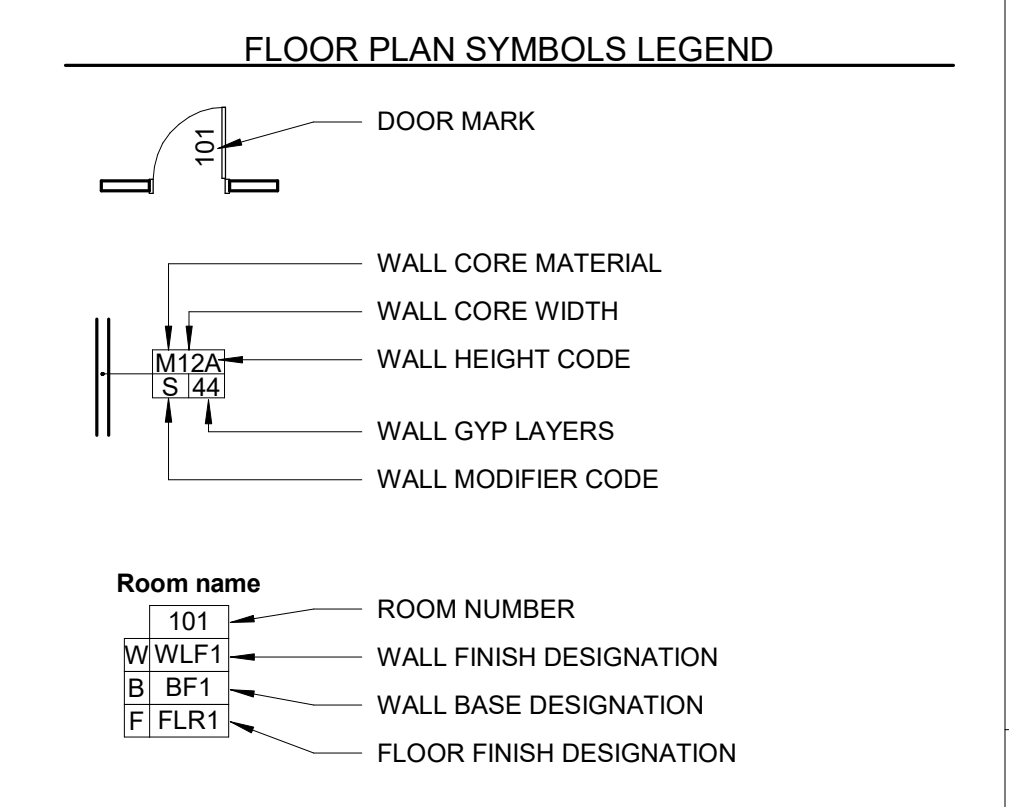
A4 BASEMENT DEMOLITION PLAN 3/8" = 1'-0" 0' 12"



A6 BASEMENT FLOOR PLAN 3/8" = 1'-0" 0' 12"



- FLOOR PLAN NOTES**
- WATER-RESISTANT GYPSUM BOARD SHALL BE USED FOR STUD PARTITIONS IN TOILET ROOMS, JANITOR'S CLOSETS, FIRE SERVICE ROOMS, MECHANICAL ROOMS, AND ANY ADDITIONAL LOCATIONS DESIGNATED IN CONTRACT DOCUMENTS.
 - WHERE STRUCTURAL ELEMENTS INTERFERE WITH FIRE-RATED PARTITIONS, FRAME TOP OF WALL AROUND STRUCTURAL ELEMENT.
 - REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
 - ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.
 - ALL DOORS IN STUD WALL CONSTRUCTION ARE TO BE LOCATED WITH EDGE OF FRAME 4" FROM FACE OF ADJACENT PARTITION UNLESS NOTED OTHERWISE. DIMENSIONS LOCATING DOORS NOT DIRECTLY ADJACENT TO WALLS ARE GIVEN TO OUTSIDE EDGE OF FRAME.



WRC Decentralization Phase 4 & Fire Alarm Phase 3 (9279.40)
10 - Elmcrest

SHIVE-HATTERY
ARCHITECTURE + ENGINEERING

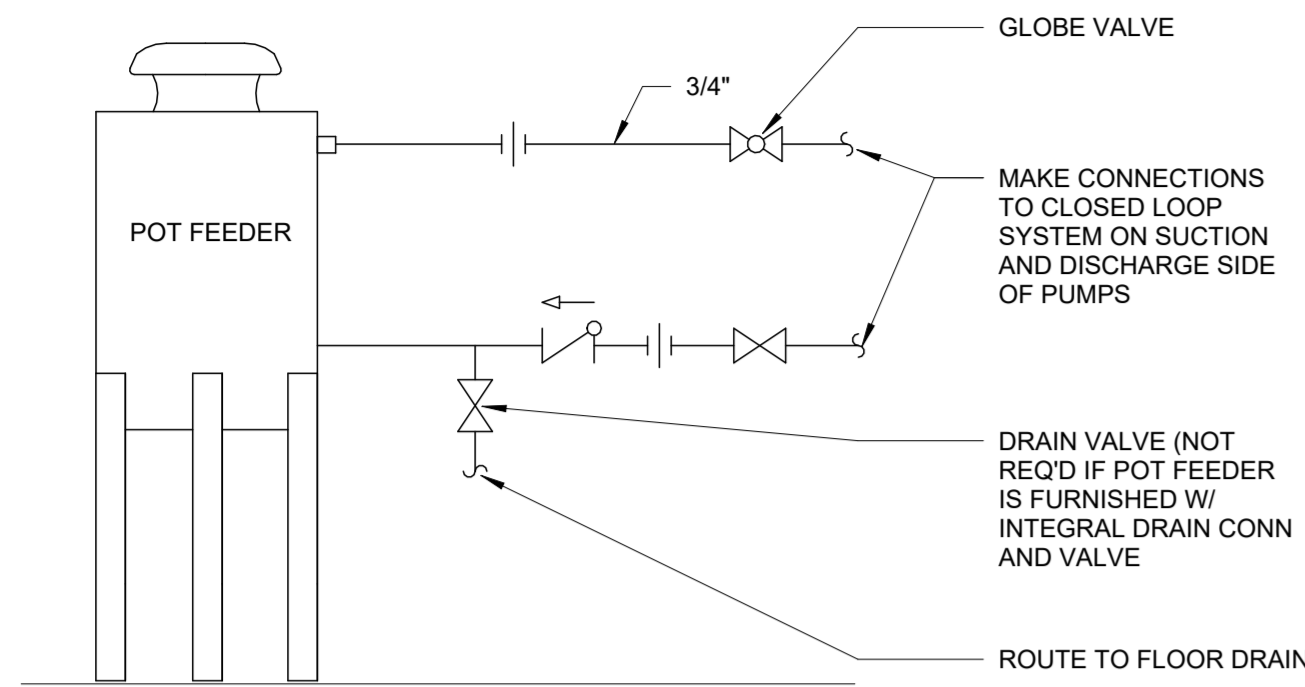
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50396
319.223.8104 | SHIVE-HATTERY.COM

Iowa Department of Administrative Services
1251 354th Street, Woodward, IA 50276

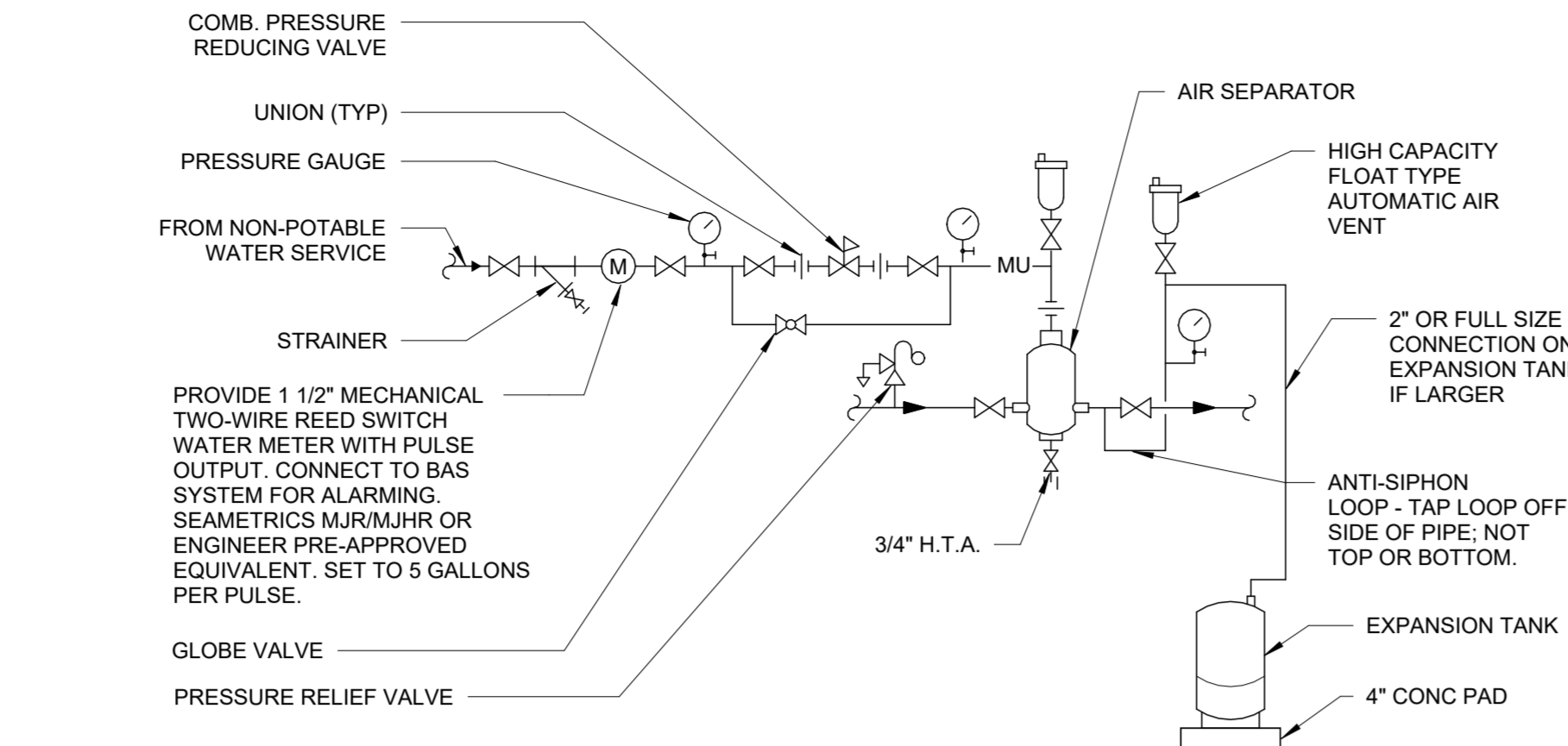
TITLE	TAL	ADD	2	05-14-25	ADDENDUM 2
DRAWN BY	CLM	ISSUED FOR CONSTRUCTION	2025-03-14	2240007040	Field Book
APPROVED BY	CLM	ISSUED FOR CONSTRUCTION	2025-03-14	2240007040	Field Book
ISSUE DATE					
PROJECT NUMBER					
FIELD BOOK					

BASEMENT DEMOLITION AND FLOOR PLAN

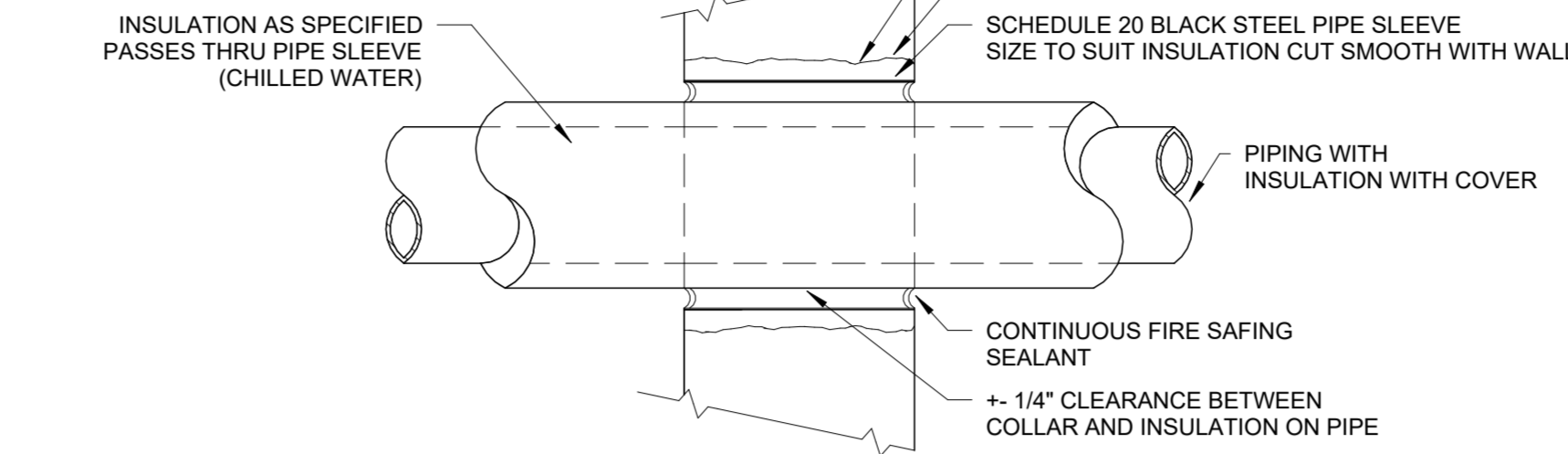
10-AD00



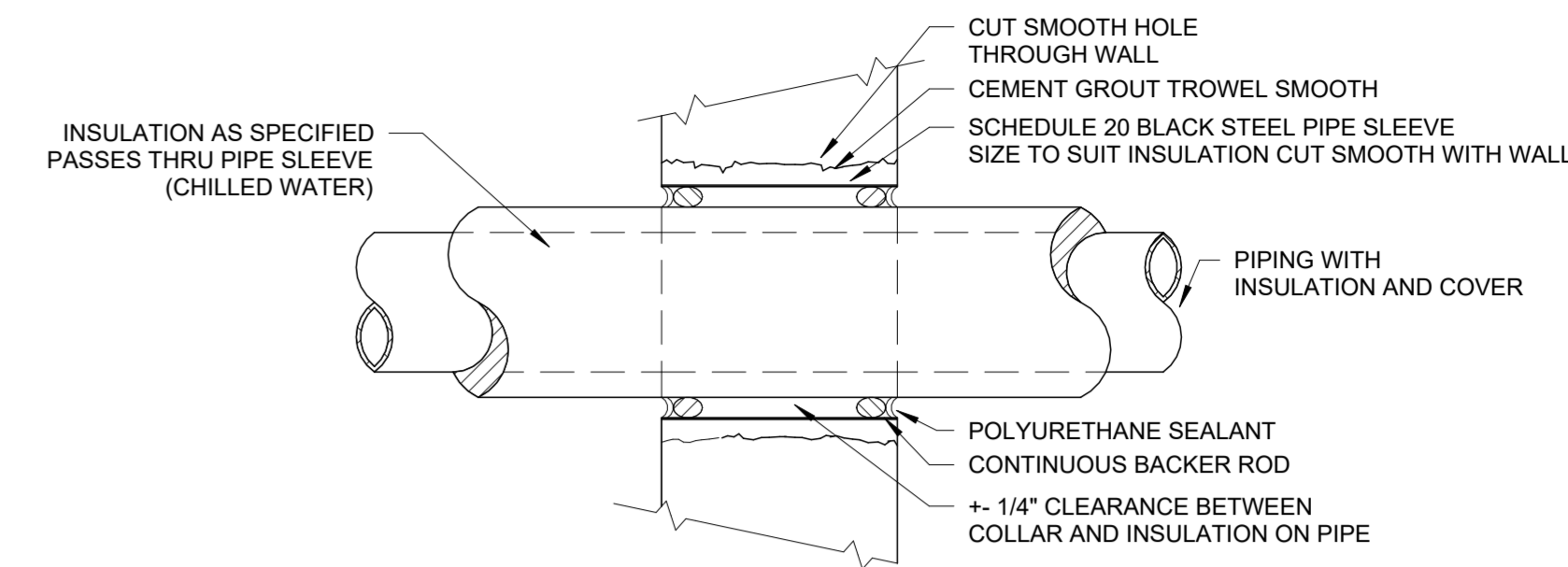
A2 POT FEEDER PIPING DETAIL
NOT TO SCALE



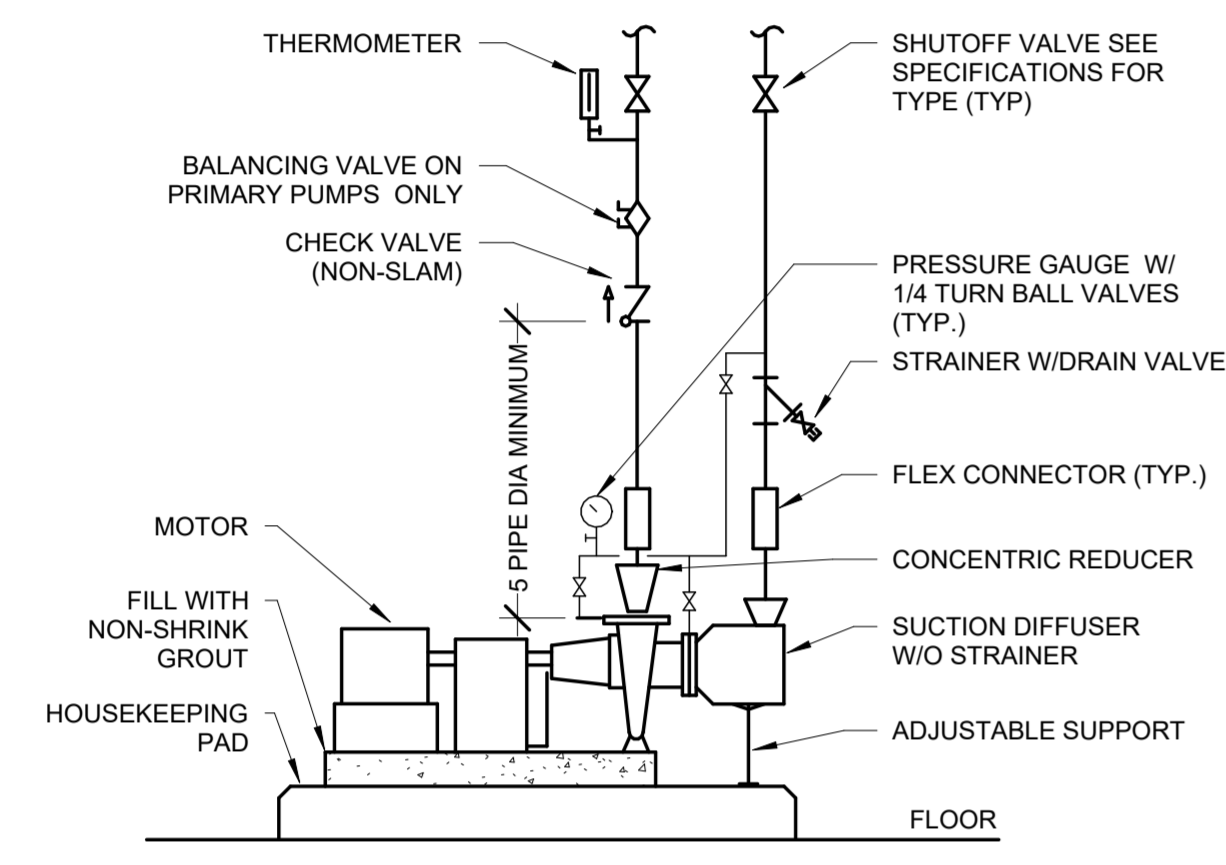
B2 AIR SEPARATOR/BLADDER TYPE EXP. TANK DETAIL
NOT TO SCALE



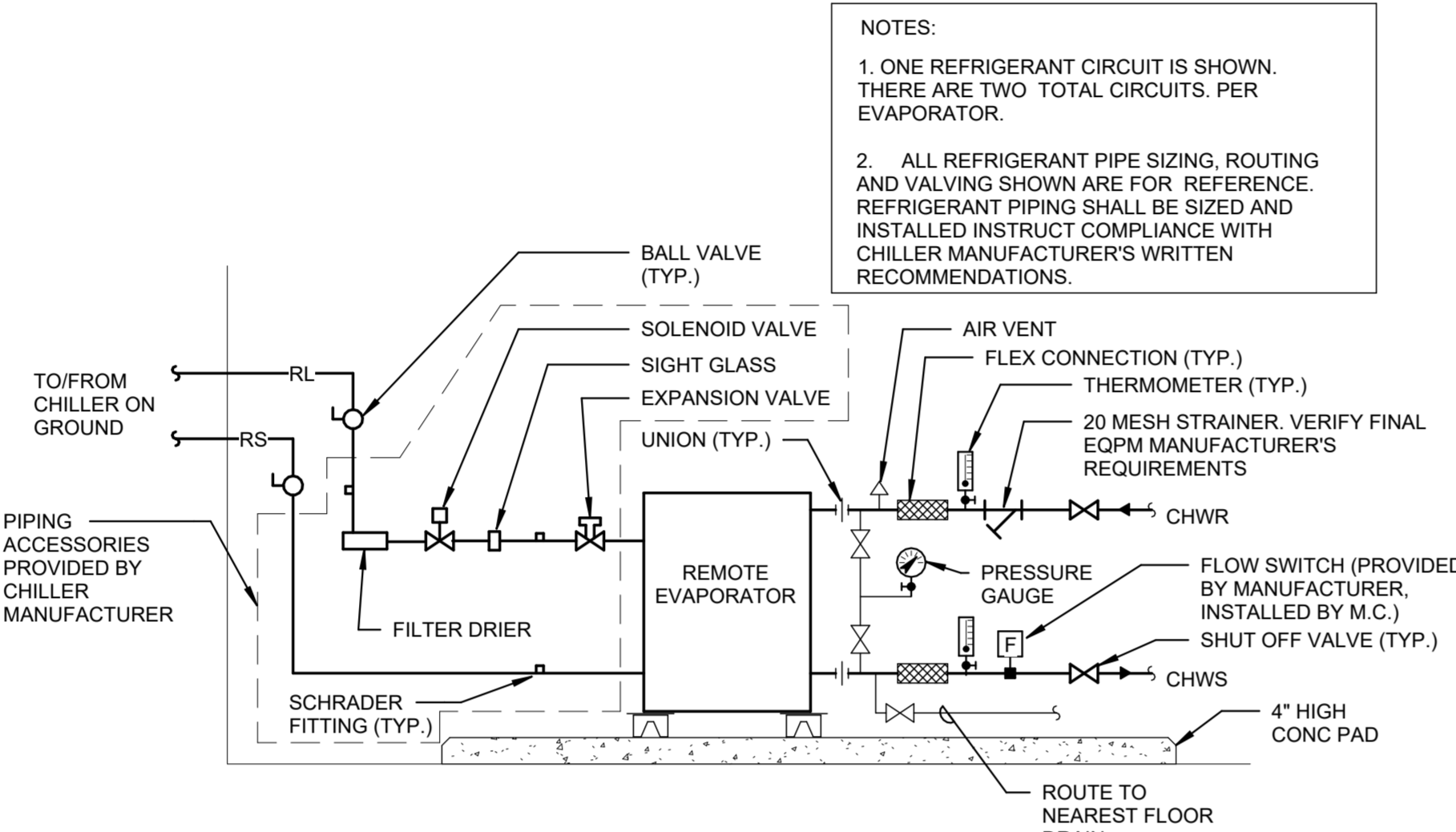
D2 INTERIOR FIRE RATED WALL PIPE PENETRATION DETAIL
NOT TO SCALE



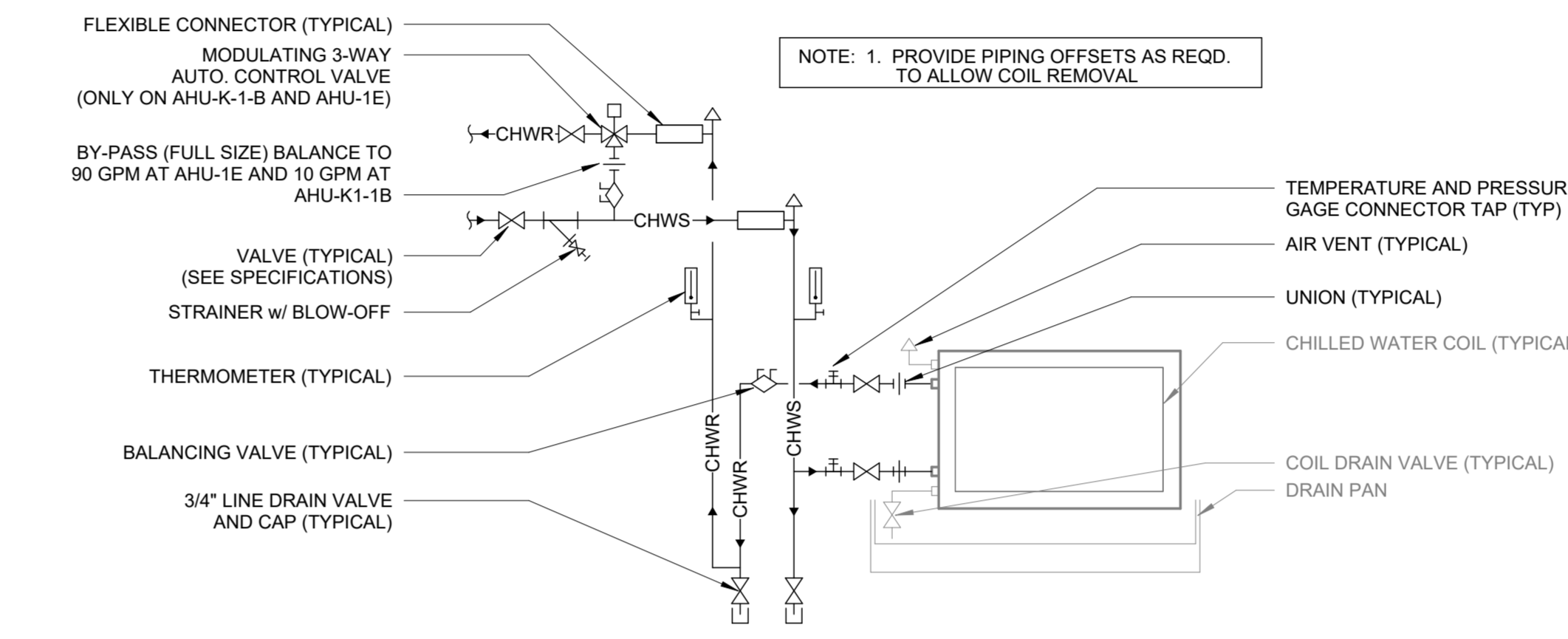
E2 EXTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE



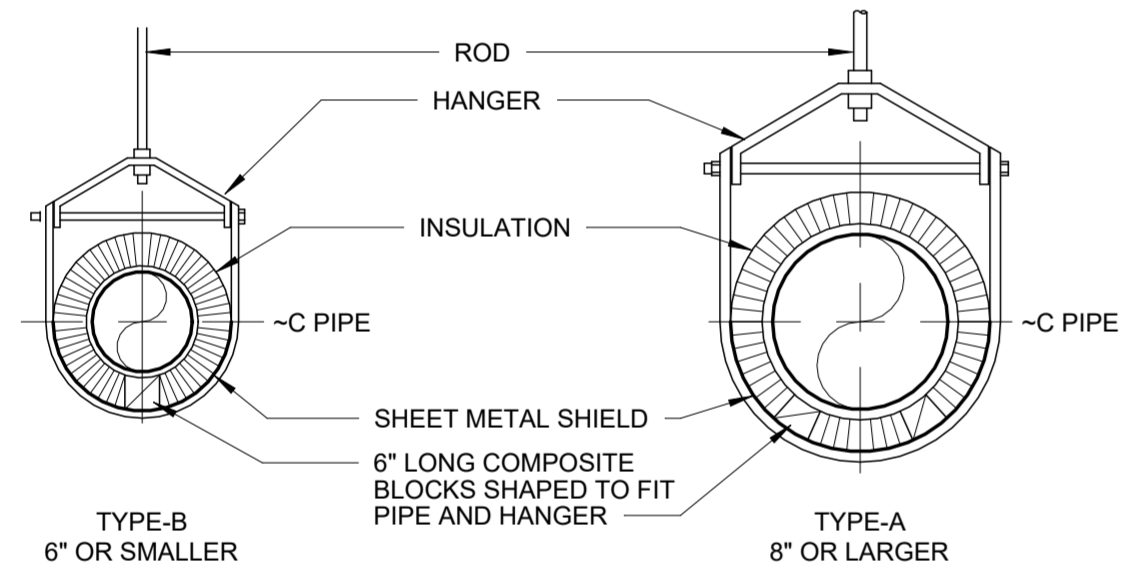
A3 BASE MOUNTED PUMP DETAIL
NOT TO SCALE



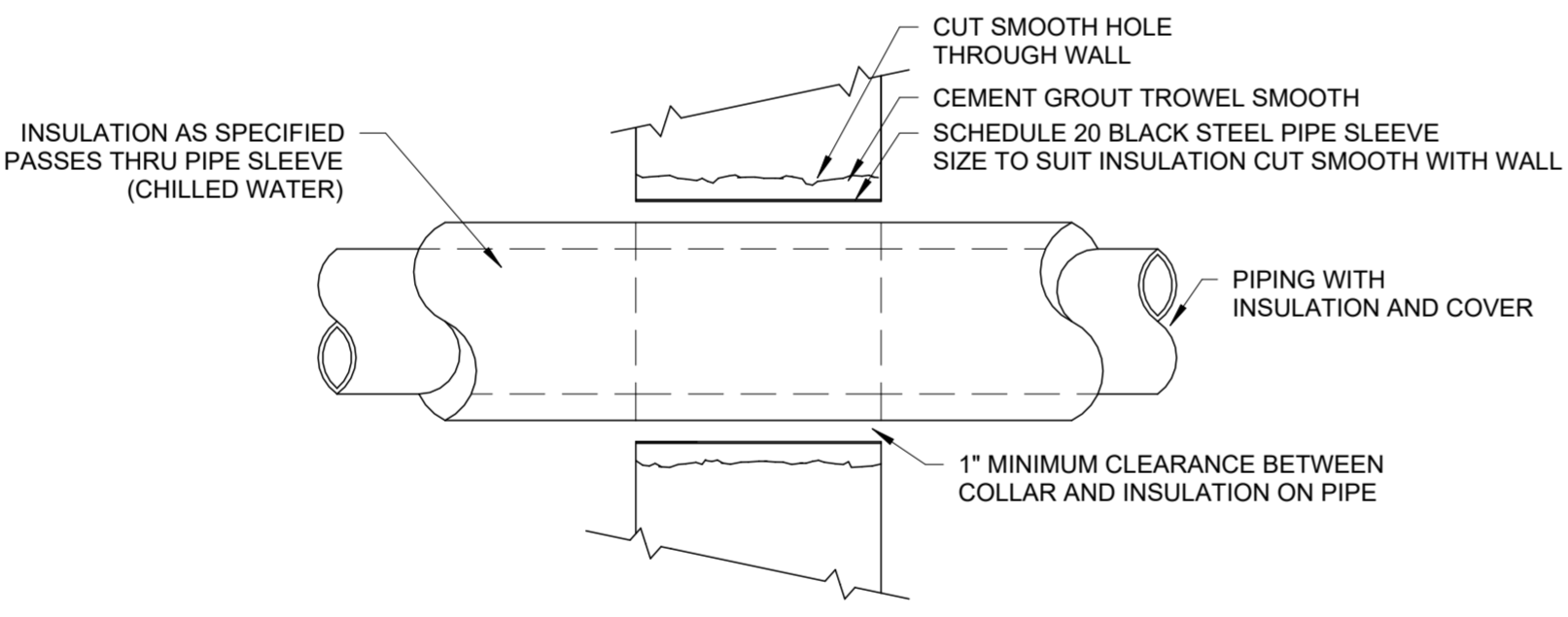
B4 REMOTE EVAPORATOR DETAIL
NOT TO SCALE



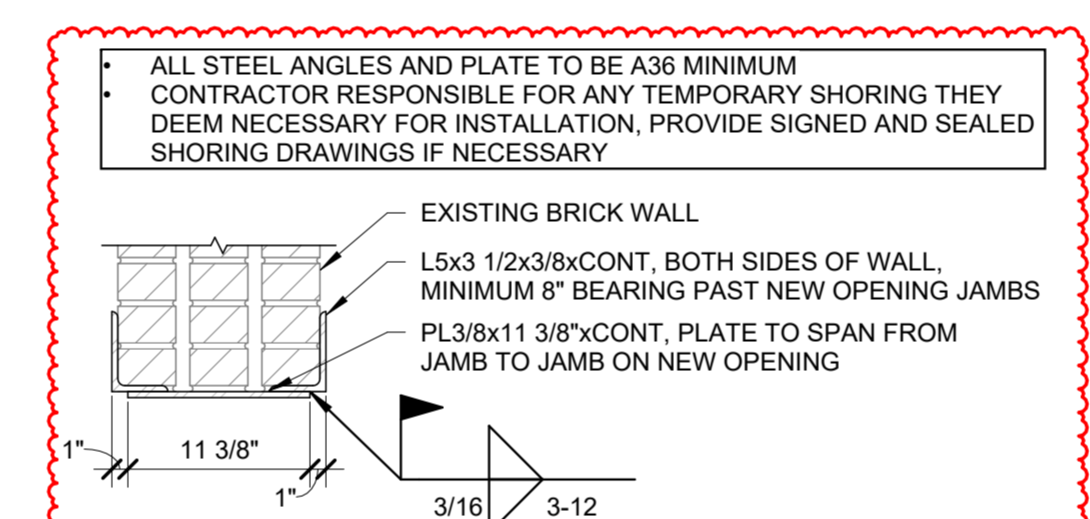
E3 AHU COIL PIPING DETAIL
NOT TO SCALE



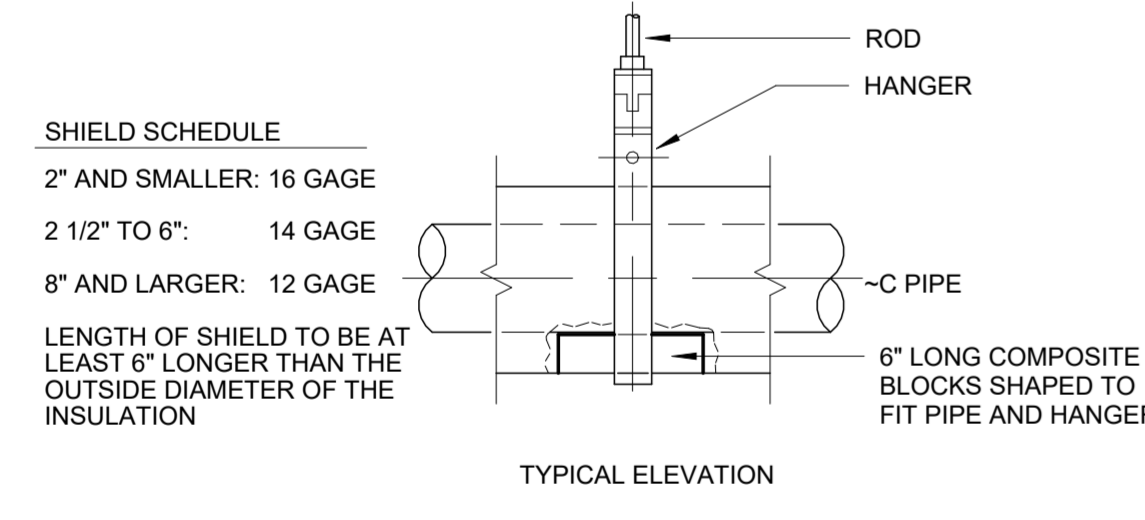
A5 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



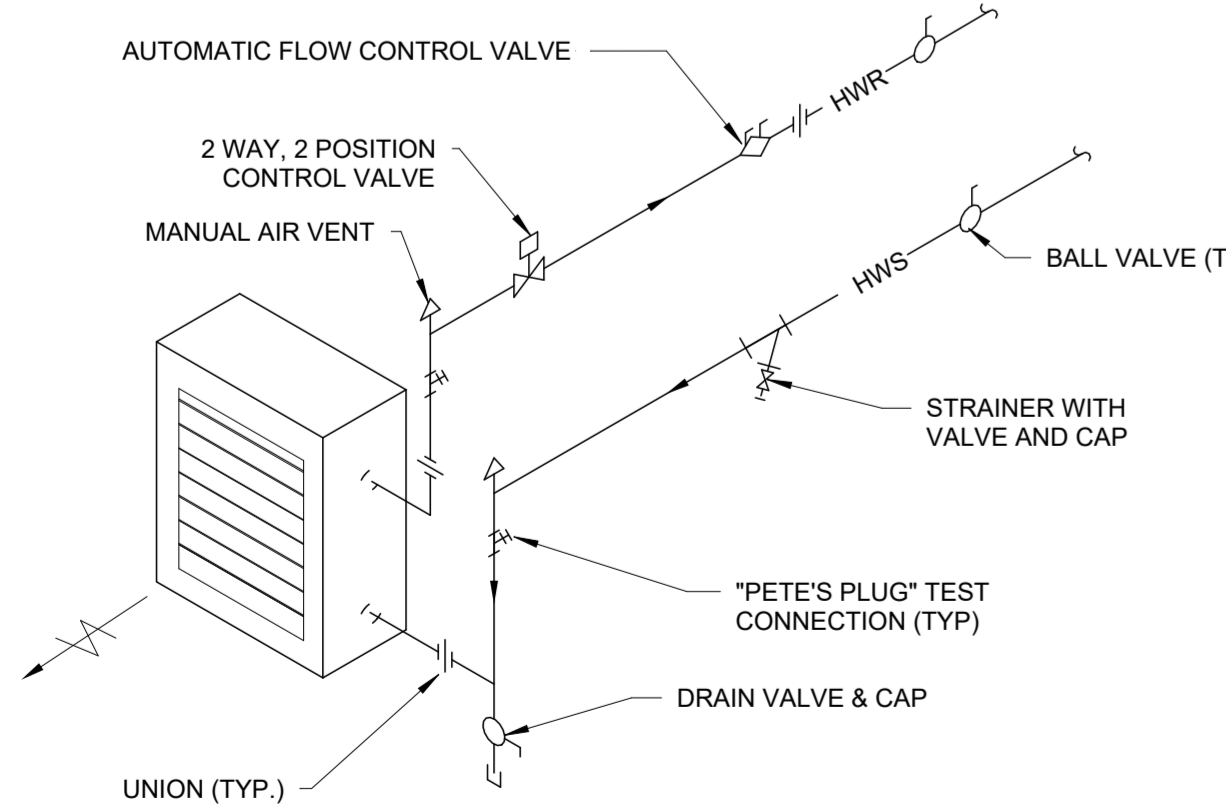
B5 INTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE



D4 LINTEL DETAIL
NOT TO SCALE



A5 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



A6 UNIT HEATER PIPING DETAIL
NOT TO SCALE

UNIT HEATER SCHEDULE - HOT WATER												
MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	FAN MOTOR DATA (HP, VOLTS, PHASE)	REMARKS
UH-1	CHILLER MECHANICAL ROOM	730	190	170	60	93	26.5		1	7'-6"	1/12, 120, 1	MODINE HC-47, 1, 2, 3, 4

AIR COOLED CHILLER SCHEDULE															
MARK	AREA SERVED	SYSTEM SERVED	CAPACITY (TONS)	MINIMUM LOAD (%)	AMBIENT AIR TEMPERATURE (°F)	MINIMUM AMBIENT AIR TEMPERATURE (°F)	MAXIMUM ALLOWABLE SOUND PRESSURE (AT 30 FEET)	EFFICIENCY	EVAPORATOR DATA (LWT (°F), MAX PD (FT))	NUMBER OF COMPRESSORS	FOULING FACTOR	ELECTRICAL DATA (VOLTS, PHASE, MCA, MOCP)	REFRIGERANT (LBS, TYPE)	DESIGN BASIS	REMARKS
CHLR-10-1	ELMCREST	CHILLED WATER	185	30	95	32	63, 125, 250, 500, 1000, 2000, 4000, 8000	EER @100%: 10.37, IPLV: 18.4	45, 53, 57, 62, 62, 61, 53, 48	240	442	400, 3, 395	450 A	DAIKIN AGZ012F	

LOUVER SCHEDULE							
MARK	AIR FLOW (CFM)	H	W	D	MAX FREE AREA (%)	FREE AREA VELOCITY (FPM)	DESIGN BASIS
L-10-1	1250	18"	34"	6"	49	770	GREENHECK ESD-635
L-10-2	1250	18"	34"	6"	49	770	GREENHECK ESD-635

MECHANICAL PIPING EXPANSION TANK SCHEDULE							
MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE RELIEF AT (PSI)	FILL AT (PSI)	REMARKS
CHET-10-1	CHW	DIAPHRAGM	200	200	125	30	GRUNDFOS GNT400, 002 ADD

AIR SEPARATOR SCHEDULE							
MARK	SYSTEM SERVED	SIZE (IN)	CAPACITY (GPM)	STRAINER (Y/N)	MAX PD (FT)	MINIMUM AIR REMOVAL (%)	REMARKS
AS-10-1	CHW	5"	130	N	1	99.7	GRUNDFOS GSPA-5, 002 ADD

FAN SCHEDULE											
MARK	AREA SERVED	FAN TYPE	CFM	ESP (IN WG)	BHP	HP	RPM	DRIVE	VOLTS	PHASE	DESIGN BASIS
EF-10-1	REFRIGERANT PURGE	INLINE	1250	0.5	0.17	1	1721	DIRECT	120	1	GREENHECK AX-41-31-0317-VG

MECHANICAL PUMP SCHEDULE											
MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	PLEV (%)	HP	BHP	RPM	VOLTS/PHASE	DESIGN BASIS
CHP-10-1	PRIMARY CHW	END SUCTION	442	36	47.6	82.2	7.5	5.57	1755	460, 3	GRUNDFOS NBS 040-070-4P, 1.2, 3
CHP-10-2	PRIMARY CHW	END SUCTION	442	36	47.6	82.2	7.5	5.57	1755	460, 3	GRUNDFOS NBS 040-070-4P, 1.2, 3
CHP-10-4	SECONDARY CHW	END SUCTION	401	81	91.3	73.4	15	11.04	1765	460, 3	GRUNDFOS NBS 030-135-4P, 1.2, 3
CHP-10-3	SECONDARY CHW	END SUCTION	401	81	91.3	73.4	15	11.04	1765	460, 3	GRUNDFOS NBS 030-135-4P, 1.2, 3

UNIT HEATER SCHEDULE - HOT WATER															
MARK	AREA SERVED	SYSTEM SERVED	CAPACITY (TONS)	MINIMUM LOAD (%)	AMBIENT AIR TEMPERATURE (°F)	MINIMUM AMBIENT AIR TEMPERATURE (°F)	MAXIMUM ALLOWABLE SOUND PRESSURE (AT 30 FEET)	EFFICIENCY	EVAPORATOR DATA (LWT (°F), MAX PD (FT))	NUMBER OF COMPRESSORS	FOULING FACTOR	ELECTRICAL DATA (VOLTS, PHASE, MCA, MOCP)	REFRIGERANT (LBS, TYPE)	DESIGN BASIS	REMARKS
UH-1	CHILLER MECHANICAL ROOM	CHILLED WATER	185	30	95	32	63, 125, 250, 500, 1000, 2000, 4000, 8000	EER @100%: 10.37, IPLV: 18.4	45, 53, 57, 62, 62, 61, 53, 48	240	442	400, 3, 395	450 A	DAIKIN AGZ012F	

JOB	ADD	DATE	BY	JOB	DATE	BY	PROJECT NUMBER	FIELD BOOK
ADD	002	05-10-2025	ADDENDUM #2	CONSTRUCTION	2025-03-14		2240007940	

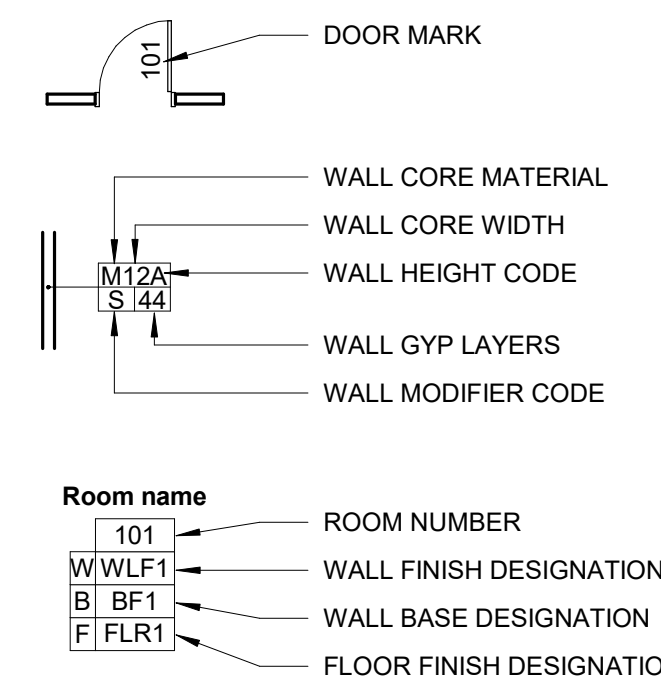
WALL RATING INDICATORS AND CODES						
PLAN INDICATOR LINE STYLE	SEPARATION DESIGNATION	RATING	DESCRIPTION	USE	DOORS	HVAC
	FB-1HP	1HR	FIRE BARRIER	HAZARD PROTECTION	45 MIN*	ALLOWED W/ FIRE DAMPERS

*RATING FOR NEW USE ONLY REQUIRES 1 HOUR FIRE BARRIER WALLS AND 45 MINUTE DOORS; EXISTING DOOR IS LABELED AS 90 MINUTE DOOR AND WILL REMAIN.

CODE PLAN GENERAL NOTES

- FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING IN THE CONCEALED SPACE. SUCH IDENTIFICATION SHALL BE LOCATED WITHIN 15' OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30' MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION AND INCLUDE LETTERING NOT LESS THAN 3" TALL AND A MINIMUM 3/16-INCH STROKE IN A CONTRASTING COLOR STATING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS".

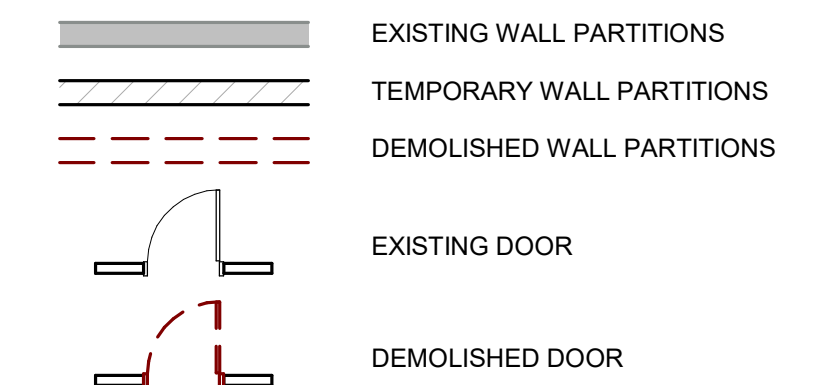
FLOOR PLAN SYMBOLS LEGEND



ARCHITECTURAL DEMOLITION NOTES

- FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
- TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
- OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
- COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
- OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
- MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
- PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
- ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
- ALL NEW PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
- COORDINATE WITH OTHER TRADES CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION.
- ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
- ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
- THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
- BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
- TEMPORARILY REMOVE OR SUPPORT FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.

DEMOLITION PLAN SYMBOLS LEGEND



FLOOR PLAN NOTES

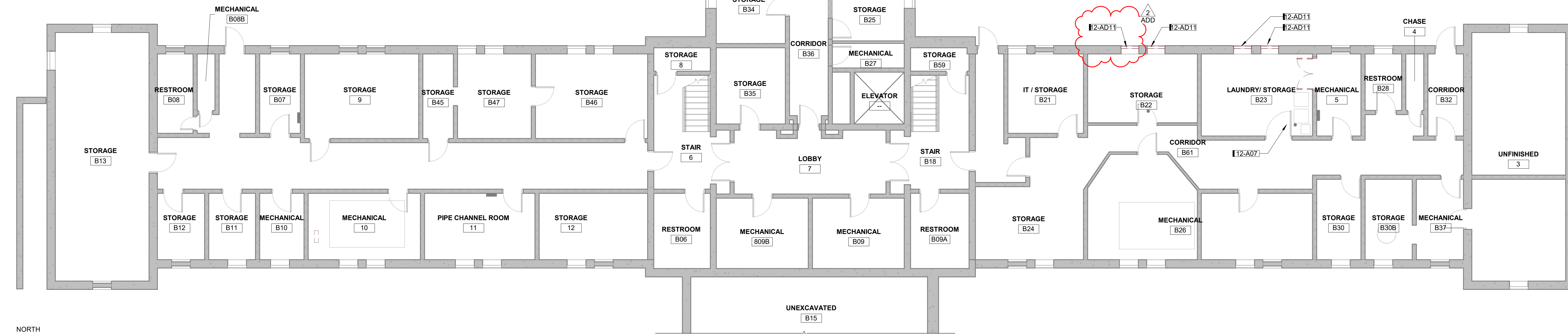
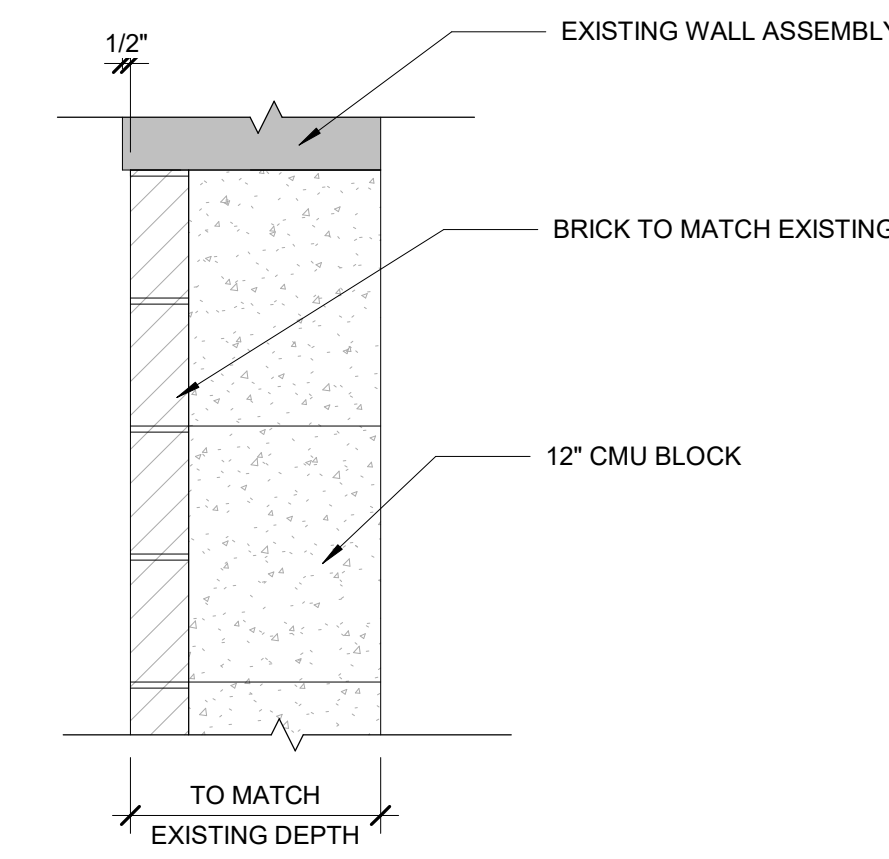
- WATER-RESISTANT GYPSUM BOARD SHALL BE USED FOR STUD PARTITIONS IN TOILET ROOMS, JANITOR'S CLOSETS, FIRE SERVICE ROOMS, MECHANICAL ROOMS, AND ANY ADDITIONAL LOCATIONS DESIGNATED IN CONTRACT DOCUMENTS.
- WHERE STRUCTURAL ELEMENTS INTERFERE WITH FIRE-RATED PARTITIONS, FRAME TOP OF WALL AROUND STRUCTURAL ELEMENT.
- REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
- ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.
- ALL DOORS IN STUD WALL CONSTRUCTION ARE TO BE LOCATED WITH EDGE OF FRAME 4" FROM FACE OF ADJACENT PARTITION UNLESS NOTED OTHERWISE. DIMENSIONS LOCATING DOORS NOT DIRECTLY ADJACENT TO WALLS ARE GIVEN TO OUTSIDE EDGE OF FRAME.

KEYNOTES

KEY	NOTE
12-A07	MAINTAIN EXISTING FIRE RATING AT EXISTING DOOR.
12-A13	INFILL WITH NEW LOUVER TO FULL EXTENTS OF EXISTING WINDOW OPENING - REFER TO MECHANICAL DRAWINGS FOR LOUVER.
12-A14	INFILL WITH NEW FACE BRICK (OWNER-PROVIDED, CONTRACTOR-INSTALLED) AND CMU BACKUP PER DETAIL E2 NEW MECHANICAL PENETRATIONS TO BE CORE DRILLED THROUGH NEW MASONRY AND SEALED. SEE MECHANICAL FOR PENETRATION LOCATIONS.
12-A15	INFILL OPENING WITH 8" CMU TO PROVIDE 1-HOUR FIRE RATING.
12-A21	MAINTAIN 1-HOUR FIRE RATING AT FLOOR/CEILING BETWEEN BASEMENT AND FIRST FLOOR. FIRESTOP ALL NEW PENETRATIONS.
12-AD11	DEMOLITION OF EXISTING WINDOW WILL BE BY OWNER'S ABATEMENT CONTRACTOR.

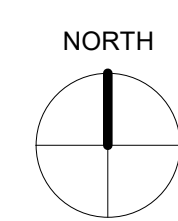
E2 EXTERIOR WALL ASSEMBLY INFILL

1" = 1'-0" 0 1'-6"



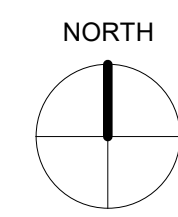
A3 BASEMENT DEMOLITION PLAN

1/8" = 1'-0" 0 12'



A6 BASEMENT FLOOR PLAN

1/8" = 1'-0" 0 12'



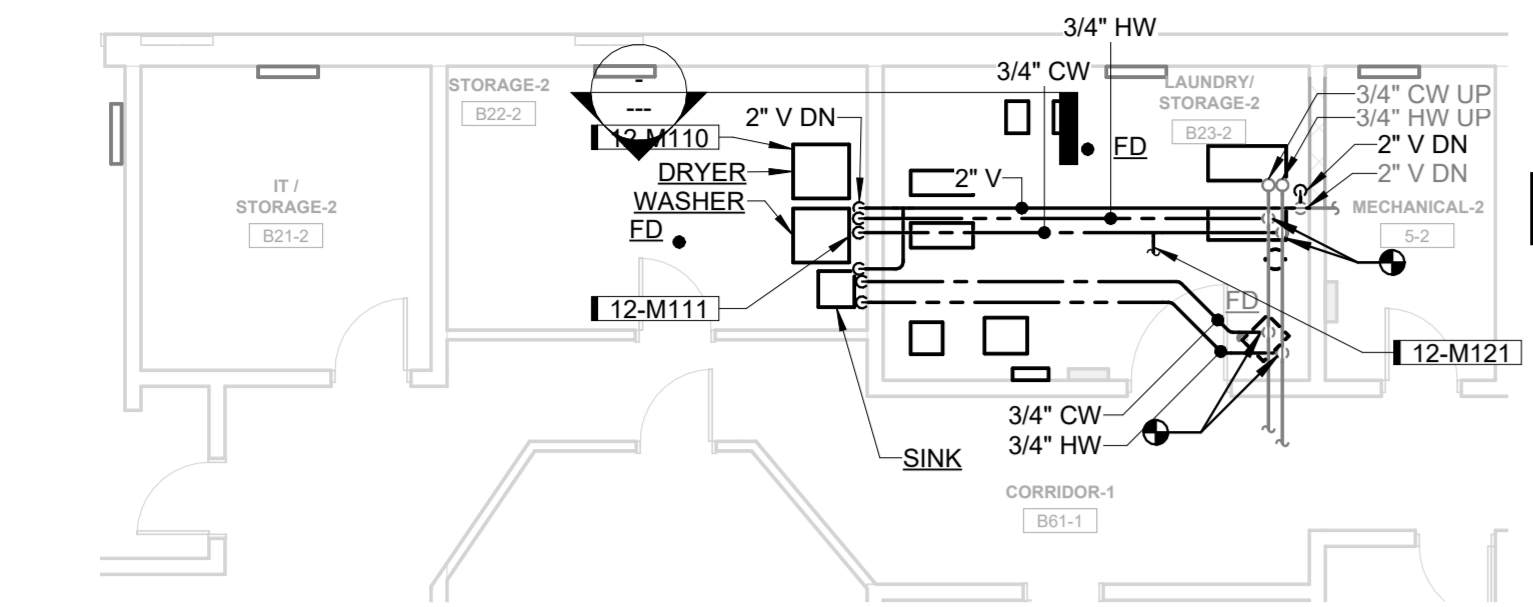
TITLE	ADD 2	05-14-25	ADDENDUM 2
DRAWN BY	CLM		
APPROVED BY			
ISSUED FOR	ISSUED FOR CONSTRUCTION	2025-03-14	
ISSUE DATE			
PROJECT NUMBER	224000740		
FIELD BOOK			

BASEMENT DEMOLITION AND FLOOR PLAN

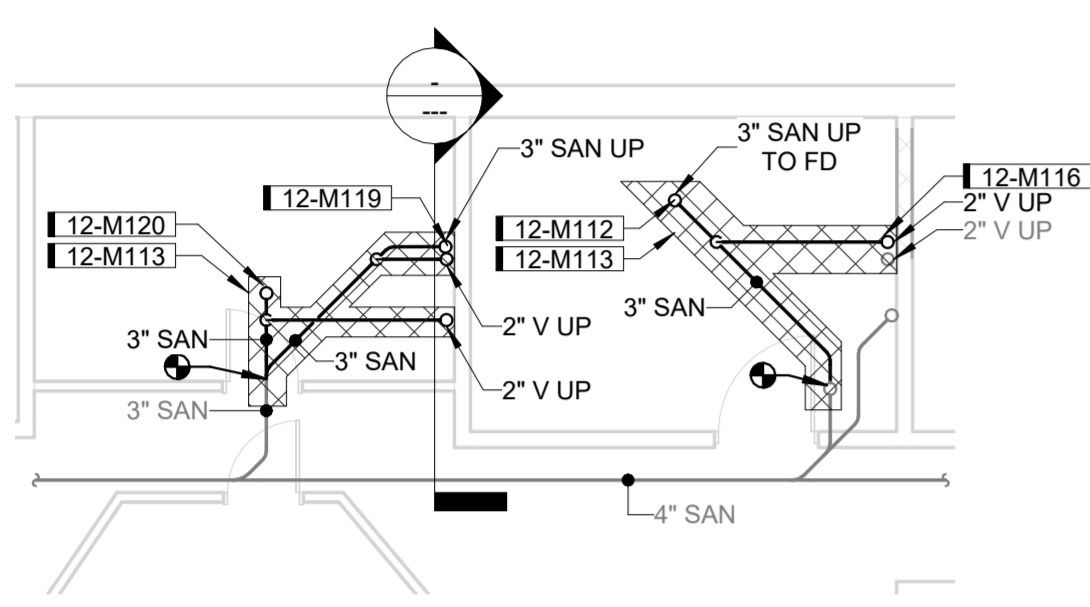
Drawn by	JOB #	ADD	05-14-25
Approved by	JOB #		
Issued for construction	ISSUED FOR CONSTRUCTION	2025-04-25	
Issue date	ISSUE DATE	2025-04-25	
Project number	PROJECT NUMBER	2240007040	
Field book	FIELD BOOK		

KEY	NOTE
12-M101	BALANCE EXISTING CHILLED WATER COIL TO 32 GPM.
12-M102	BALANCE EXISTING AHU-1MC CHILLED WATER COIL TO 115 GPM.
12-M103	ROUTE NEW 3" CHWS/R PIPE AS HIGH AS POSSIBLE ACROSS CORRIDOR AND ROUTE THROUGH WALL TO AHU-2MC. SEE COIL PIPING DETAIL ON SHEET 12-M600. BALANCE EXISTING AHU-2MC CHILLED WATER COIL TO 157 GPM.
12-M104	REFRIGERANT PIPING TO BE ROUTED FROM CHILLERS TO BUILDING AND ROUTED ALONG NORTH WALL. PIPING SHALL BE OFFSET ON WALL OVER EXISTING DOORWAY AND TO AVOID EXISTING WINDOWS AND GUTTERS.
12-M106	INSTALL REFRIGERANT DETECTION SYSTEM IN MECHANICAL ROOM. COORDINATE EXACT LOCATION WITH OWNER.
12-M107	INSTALL NEW 3" CHILLED WATER SUPPLY AND RETURN LINES IN APPROXIMATE LOCATIONS SHOWN. DESIGN INTENT IS TO FOLLOW ROUTING OF DEMOLISHED PORTION OF CHILLED WATER PIPING. ROUTING IS SCHEMATIC AND WILL REQUIRE OFFSETS TO FOLLOW EXISTING ROUTING. EXISTING HOLES IN WALLS MAY NEED TO BE INCREASED IN SIZE TO ACCOMMODATE PIPE SLEEVES AND INSULATION.
12-M108	CONNECT TO EXISTING 3" CHILLED WATER SUPPLY AND RETURN IN MECHANICAL ROOM AT APPROXIMATE LOCATION SHOWN TO MAINTAIN SERVICE TO ALL CONNECTED EQUIPMENT UTILIZING CHILLED WATER.
12-M109	INSTALL NEW CHEMICAL FEEDER AT APPROXIMATELY THIS LOCATION. SEE DETAIL ON 12-M600 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
12-M110	WASHING MACHINE AND DRYER EQUIPMENT TO BE RELOCATED TO THIS ROOM. COORDINATE LOCATION AND FINAL PIPE ROUTING WITH FACILITY PRIOR TO COMPLETING WORK.
12-M111	INSTALL NEW WASHING MACHINE BOX AT NEW WASHING MACHINE LOCATION. CONNECT NEW HW AND CW PIPING FOR RELOCATED WASHING MACHINE AT THIS LOCATION.
12-M112	NEW FLOOR DRAIN FOR CHILLER PUMPS TO BE INSTALLED AT THIS LOCATION.
12-M113	APPROXIMATE SAW CUT AND FLOOR PATCHING AREA FOR INSTALLATION OF NEW SANITARY PIPING. FIELD VERIFY PIPE ROUTING AND CONDITIONS PRIOR TO CUTTING. REINFORCE WITH #3 18" O.C. EACH WAY (DRILL AND GROUT 6" INBED) COORDINATE DEPTH OF TH SAW CUT AND METHOD OF SLAB REMOVAL. CONCRETE - 4000 PSI. MAXIMUM W.C. RATION = 0.42. PATCH VAPOR BARRIER TO MATCH EXISTING.
12-M114	REFRIGERANT PIPE SIZES ARE SHOWN ARE APPROXIMATIONS BASED ON THE BASIS OF DESIGN SYSTEM AND APPROXIMATE ROUTING SHOWN. FINAL REFRIGERANT PIPING SIZES SHALL BE DETERMINED IN ACCORDANCE WITH CHILLER MANUFACTURER'S REQUIREMENTS. A SINGLE SET OF REFRIGERANT PIPES FOR EACH CHILLER ARE SHOWN FOR CLARITY. TWO SETS OF REFRIGERANT PIPING ARE REQUIRED FOR EACH BASIS OF DESIGN CHILLER.
12-M116	ROUTE NEW SANITARY PIPING TO WALL. ROUTE PIPING ABOVE FLOOR BEFORE CONNECTING TO EXISTING SANITARY VENT. CONFIRM SANITARY VENT LOCATION BEFORE CUTTING FLOOR.
12-M117	INSTALL REDUCER AT LOUVER CONNECTION TO AVOID INTERFERENCE WITH EXISTING HEATING WATER PIPING.
12-M118	ROUTE NEW 4" DRYER EXHAUST DUCT THROUGH WINDOW INFILL PANEL. COORDINATE LOCATION WITH INFILL PANEL.
12-M119	NEW SANITARY PIPING TO BE ROUTED TO NEW WASHER AND DRYER LOCATION. ROUTE PIPING UP WALL TO SERVE WASHER DRAIN HOSE.
12-M120	DEMOLISH EXISTING FLOOR DRAIN AND INSTALL NEW FLOOR DRAIN AT APPROXIMATE LOCATION SHOWN.
12-M121	ROUTE TO CHILLED WATER MAKE UP WATER. SEE DETAILS ON SHEET 12-M600.
12-M122	NEW HW UNIT HEATER TO BE INSTALLED IN THIS LOCATION. HW PIPING TO ROUTE TO EXISTING HWS/R MAIN PIPING LOCATED IN CORRIDOR.
12-M123	NEW HW UNIT HEATER TO BE CONTROLLED BY EXISTING WALL MOUNTED THERMOSTAT.
12-M124	SUPPORT REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND REFRIGERANT PIPING SPECIFICATION. SEE CIVIL PLANS FOR ADDITIONAL DETAILS.
12-M125	INSTALL (2) 10" EXHAUST DUCTS THROUGH WALL WITH SLEEVED PENETRATIONS. DUCTS TO BE SEPARATED BY A MINIMUM OF 36" INCHES. OFFSET EXHAUST DUCTS A MINIMUM OF 12" HORIZONTALLY FROM ADJACENT WALL OR ANY OTHER WALL PENETRATIONS.

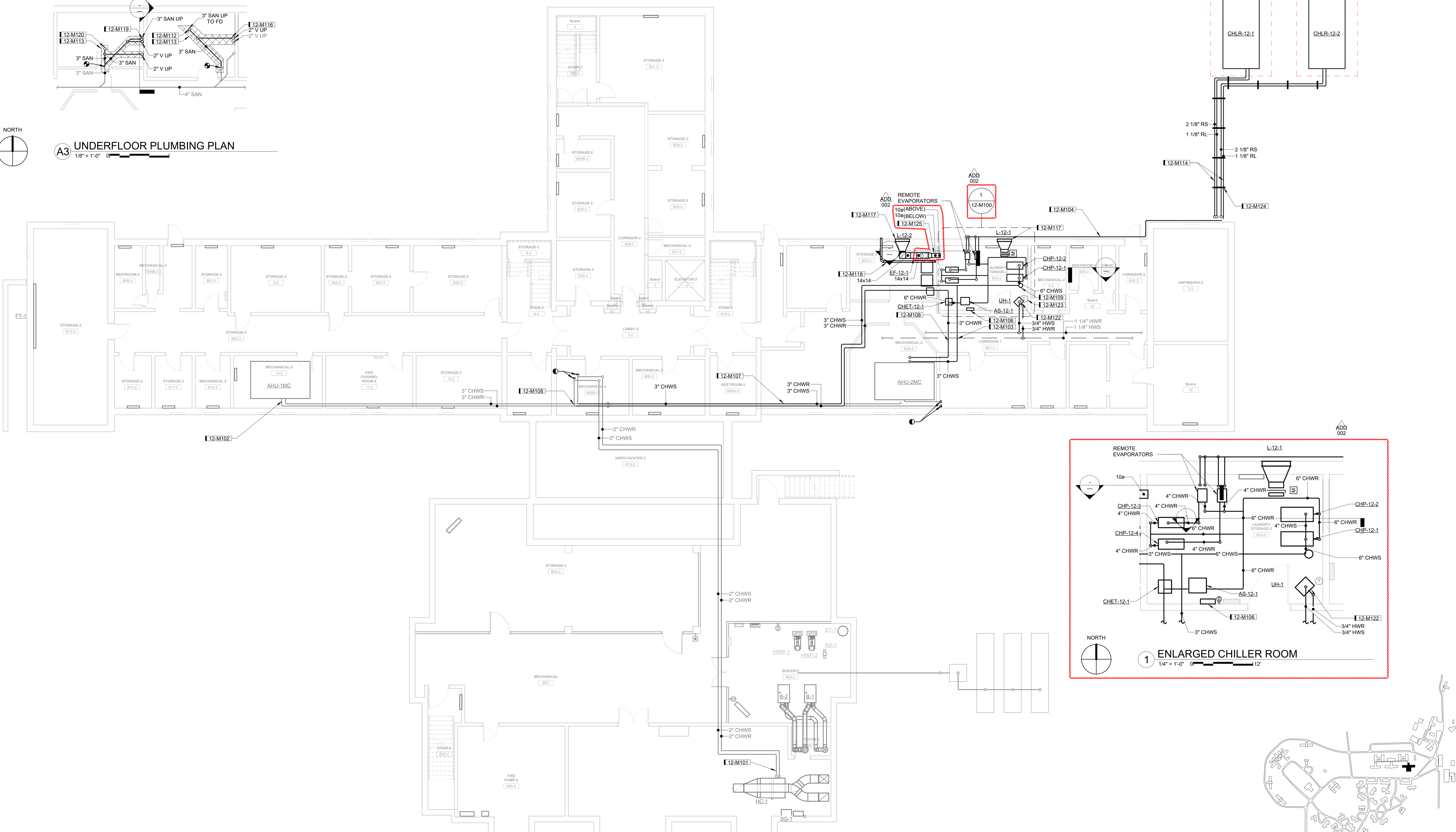
NOTE:
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



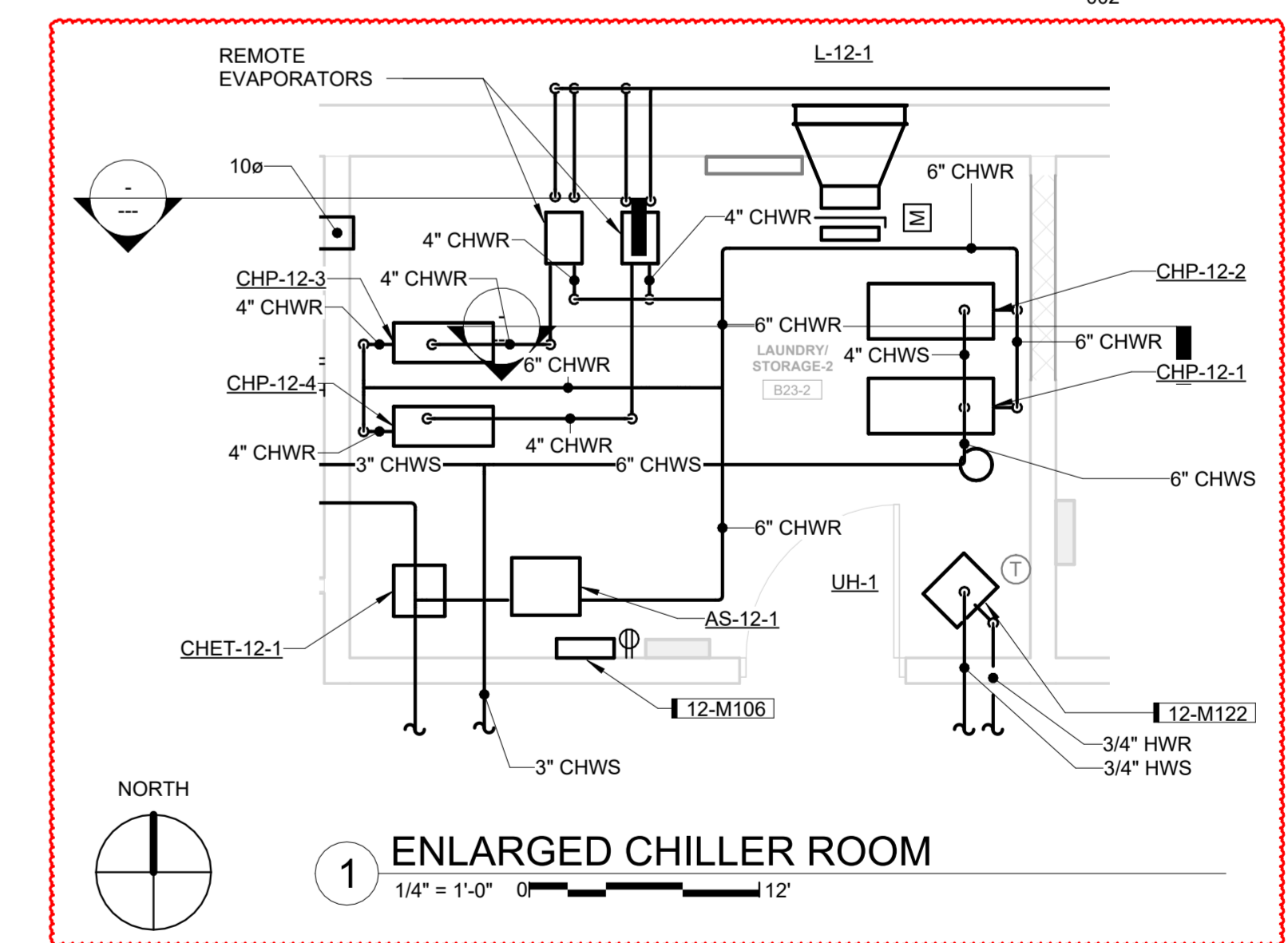
A2 BASEMENT PLUMBING PLAN
1/8" = 1'-0" 0 12'



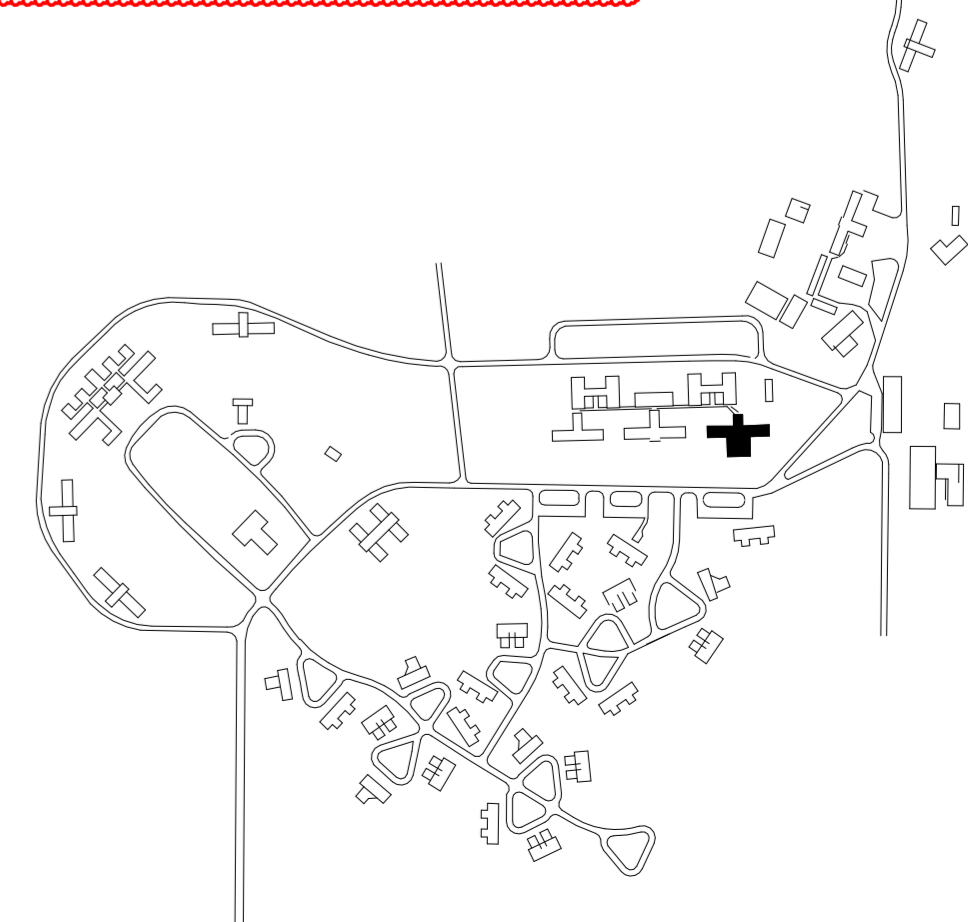
A3 UNDERFLOOR PLUMBING PLAN
1/8" = 1'-0" 0 12'



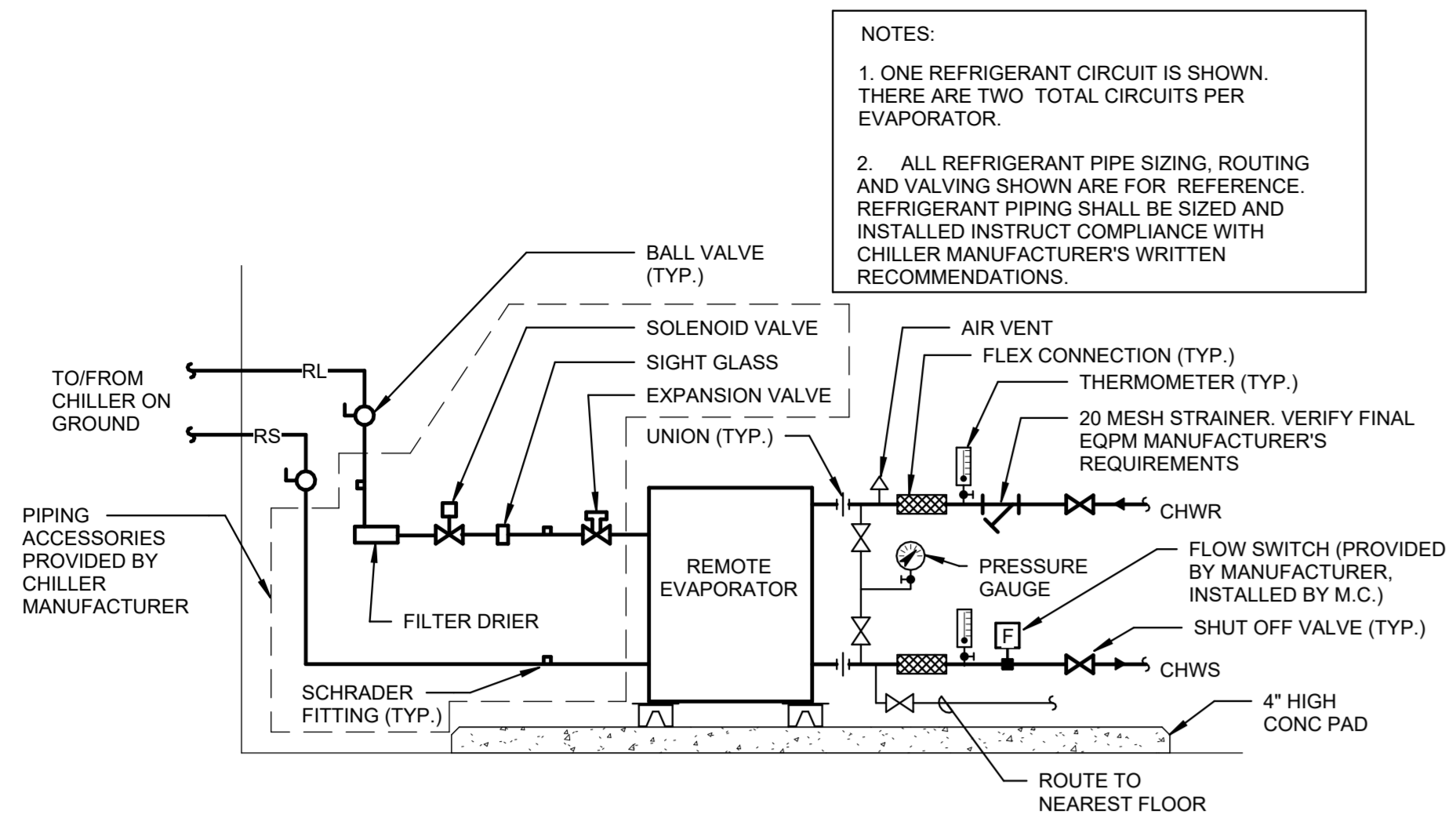
A6 BASEMENT MECHANICAL PIPING PLAN
1/8" = 1'-0" 0 12'



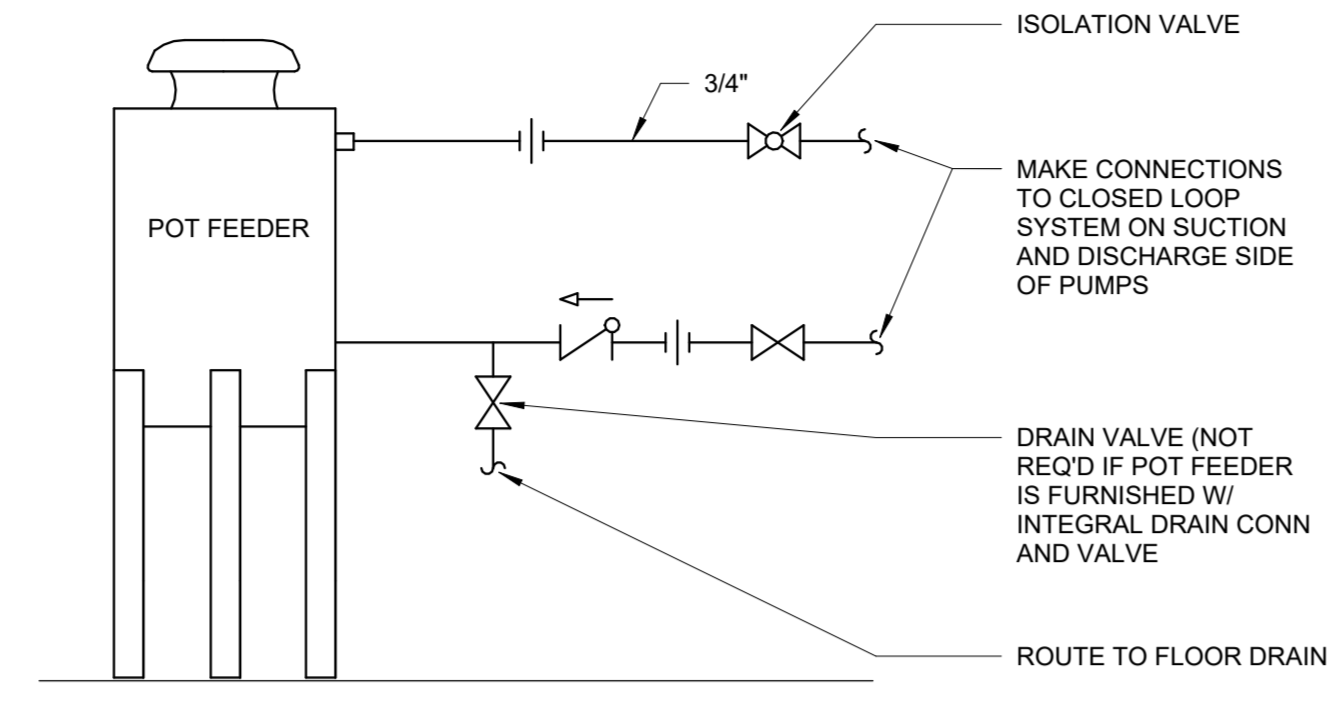
1 ENLARGED CHILLER ROOM
1/4" = 1'-0" 0 12'



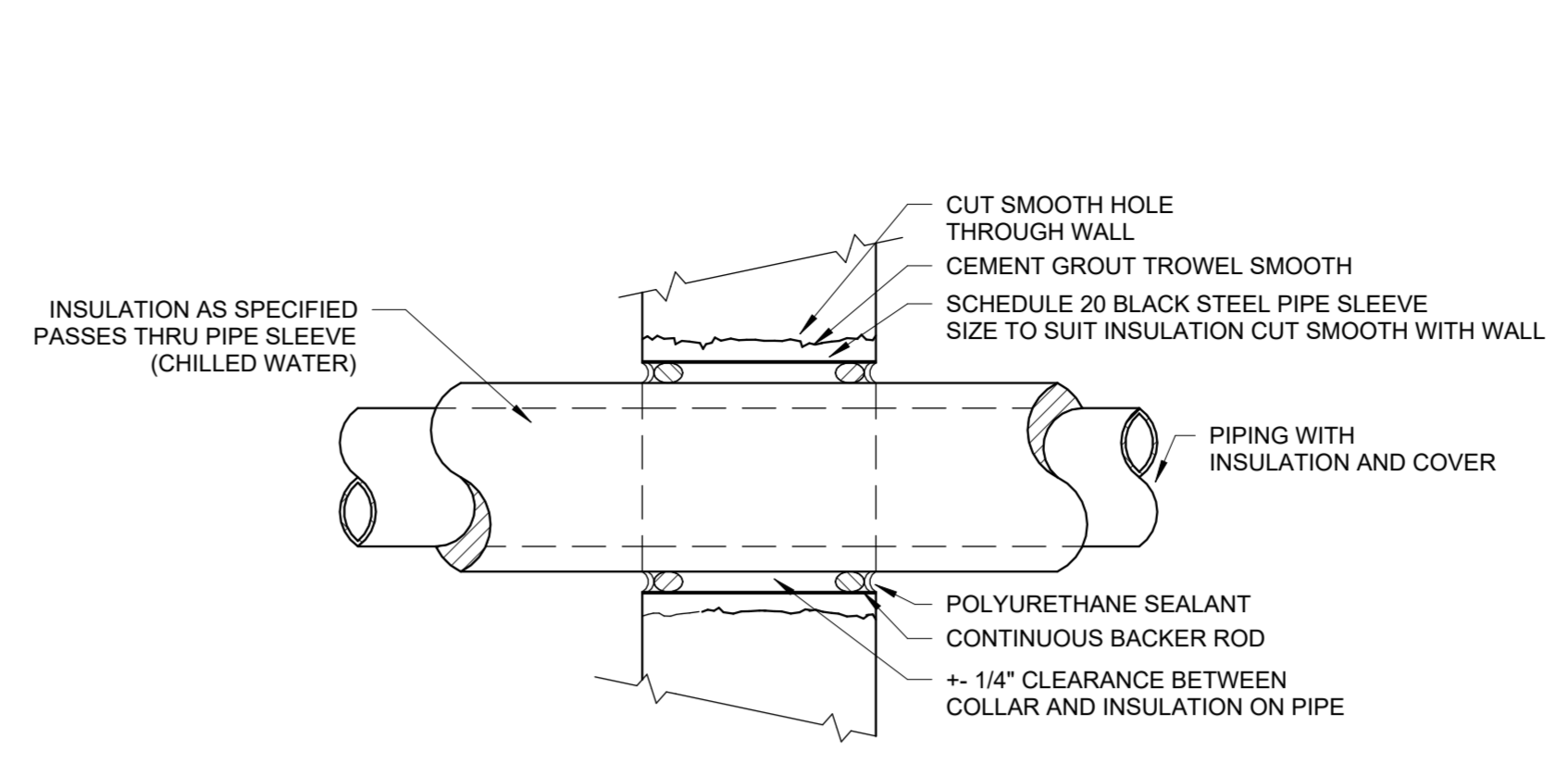
KEY PLAN



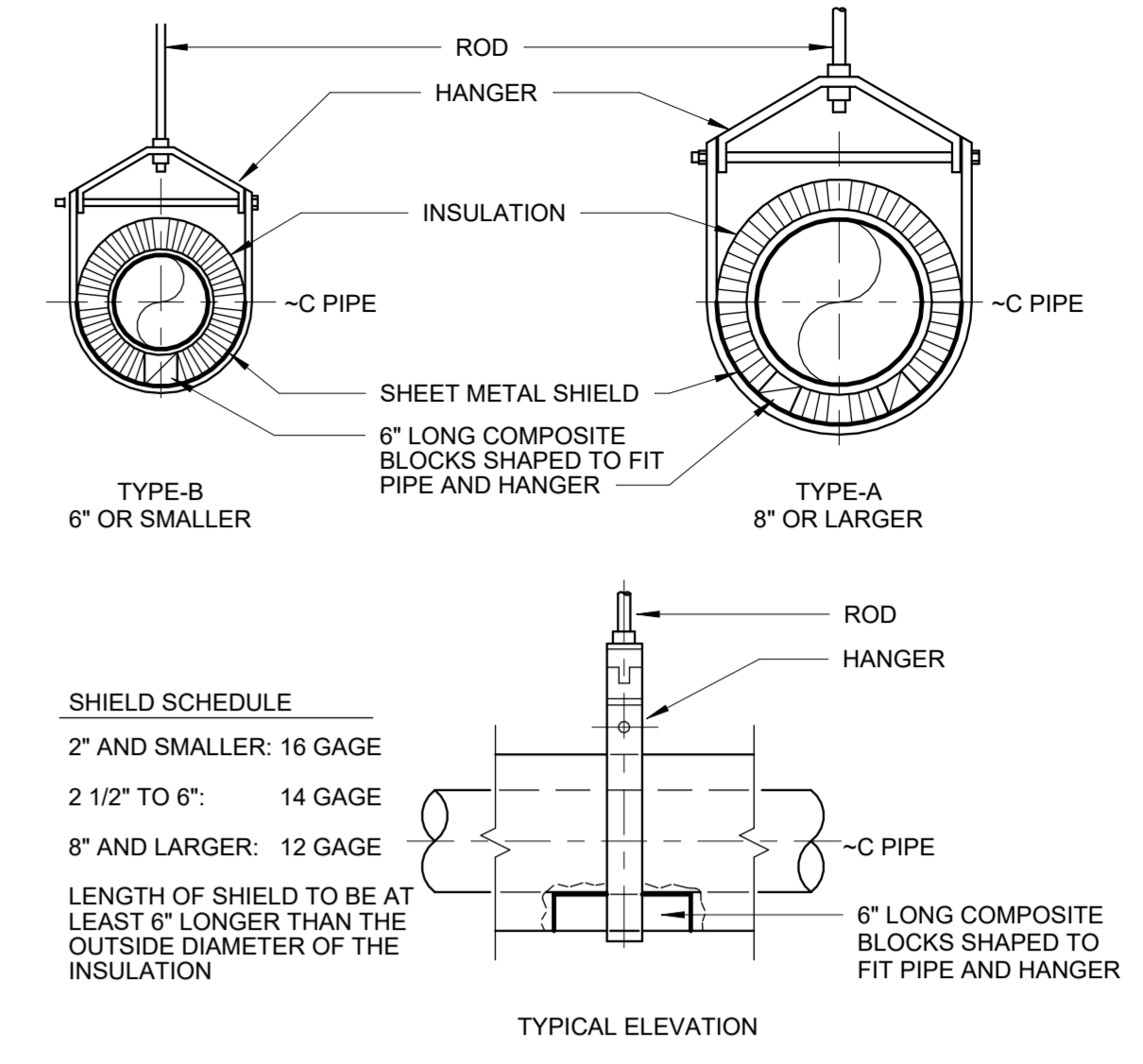
A2 Evaporative Chiller Piping Diagram
NOT TO SCALE



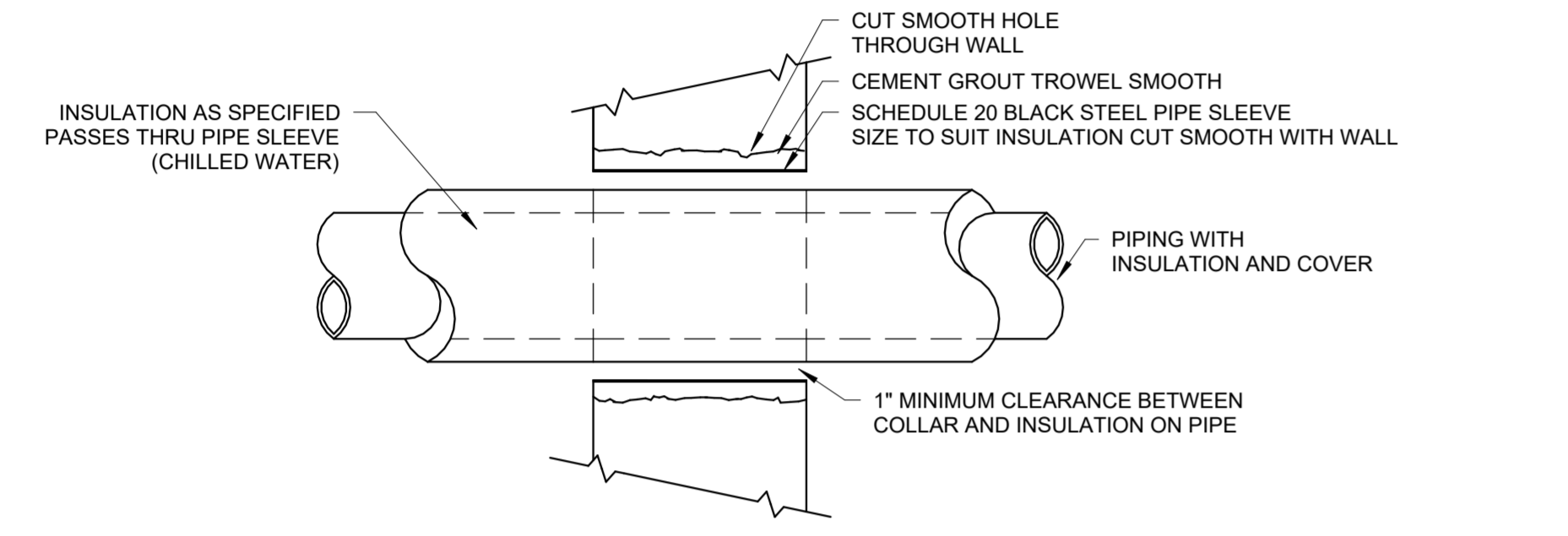
C2 Pot Feeder Detail
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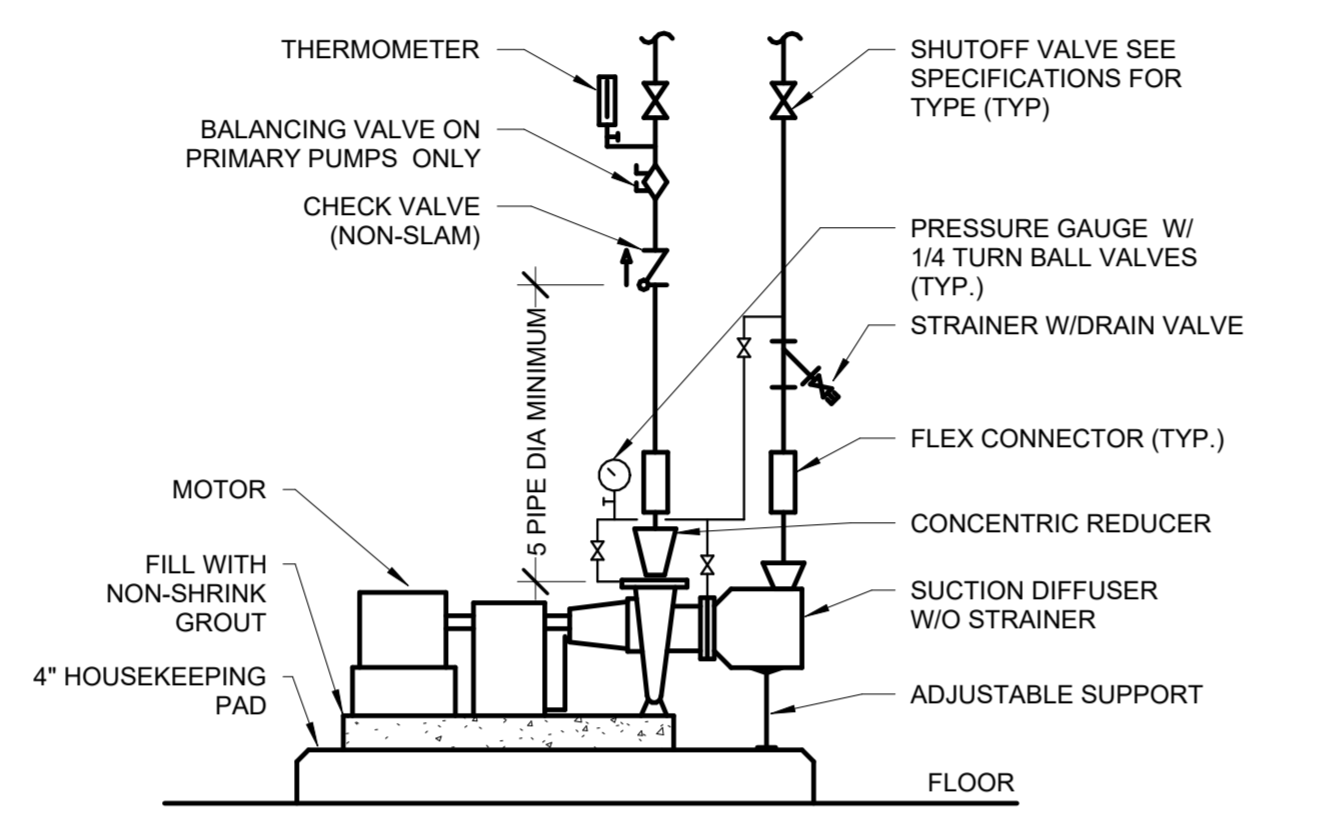
D2 Exterior Wall Pipe Penetration Detail
NOT TO SCALE



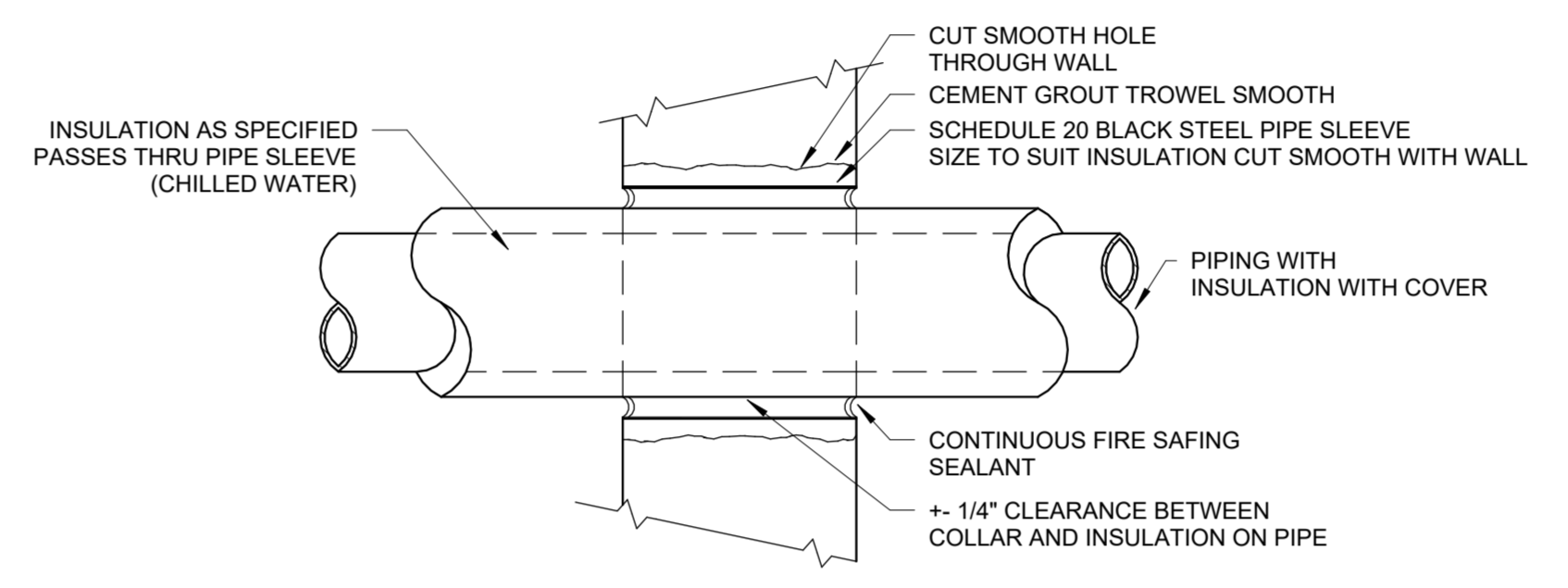
E2 Insulated Pipe Hanger Detail
NOT TO SCALE



A3 Interior Wall Pipe Penetration Detail
NOT TO SCALE



B3 Base Mounted Pump Detail
NOT TO SCALE



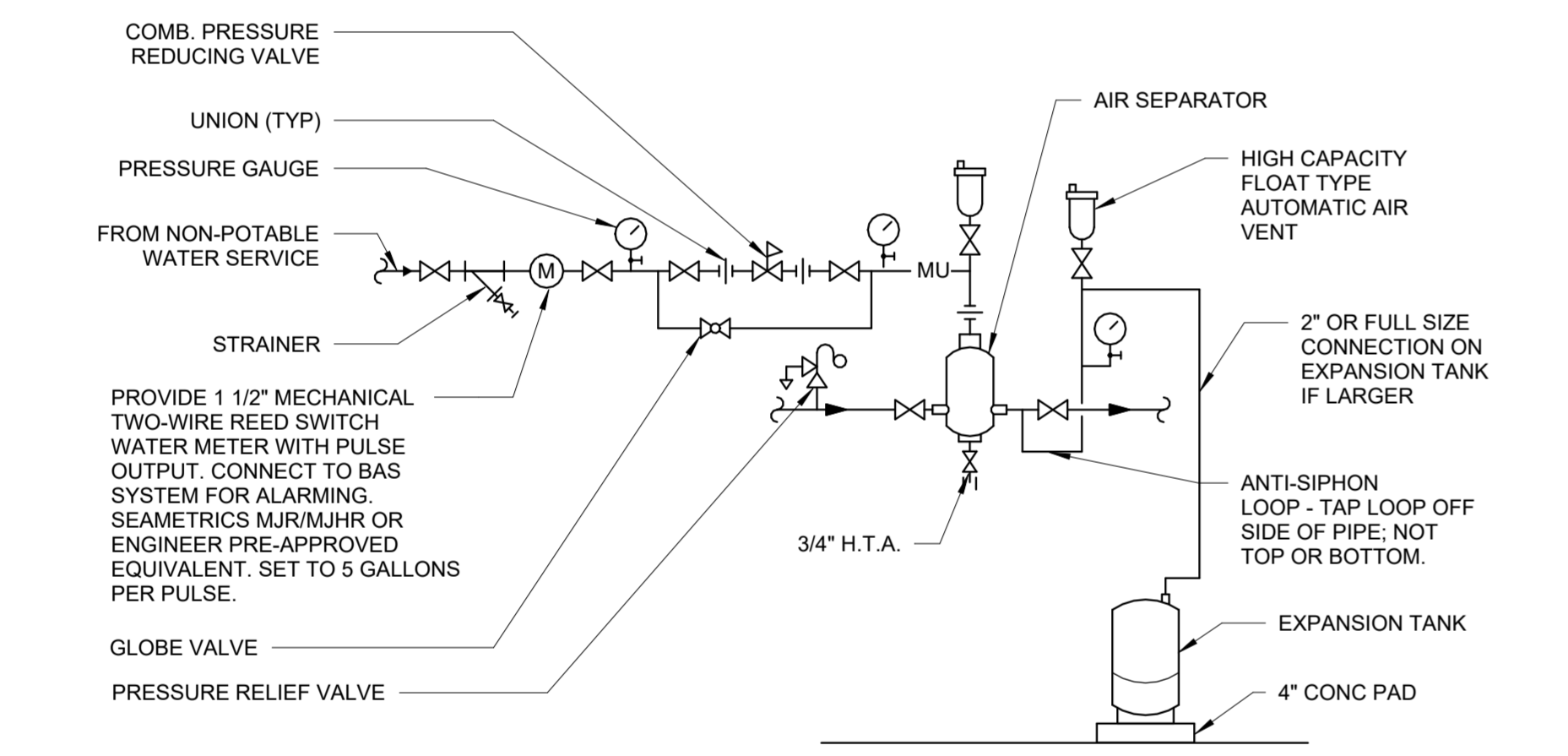
D3 Interior Fire Rated Wall Pipe Penetration Detail
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

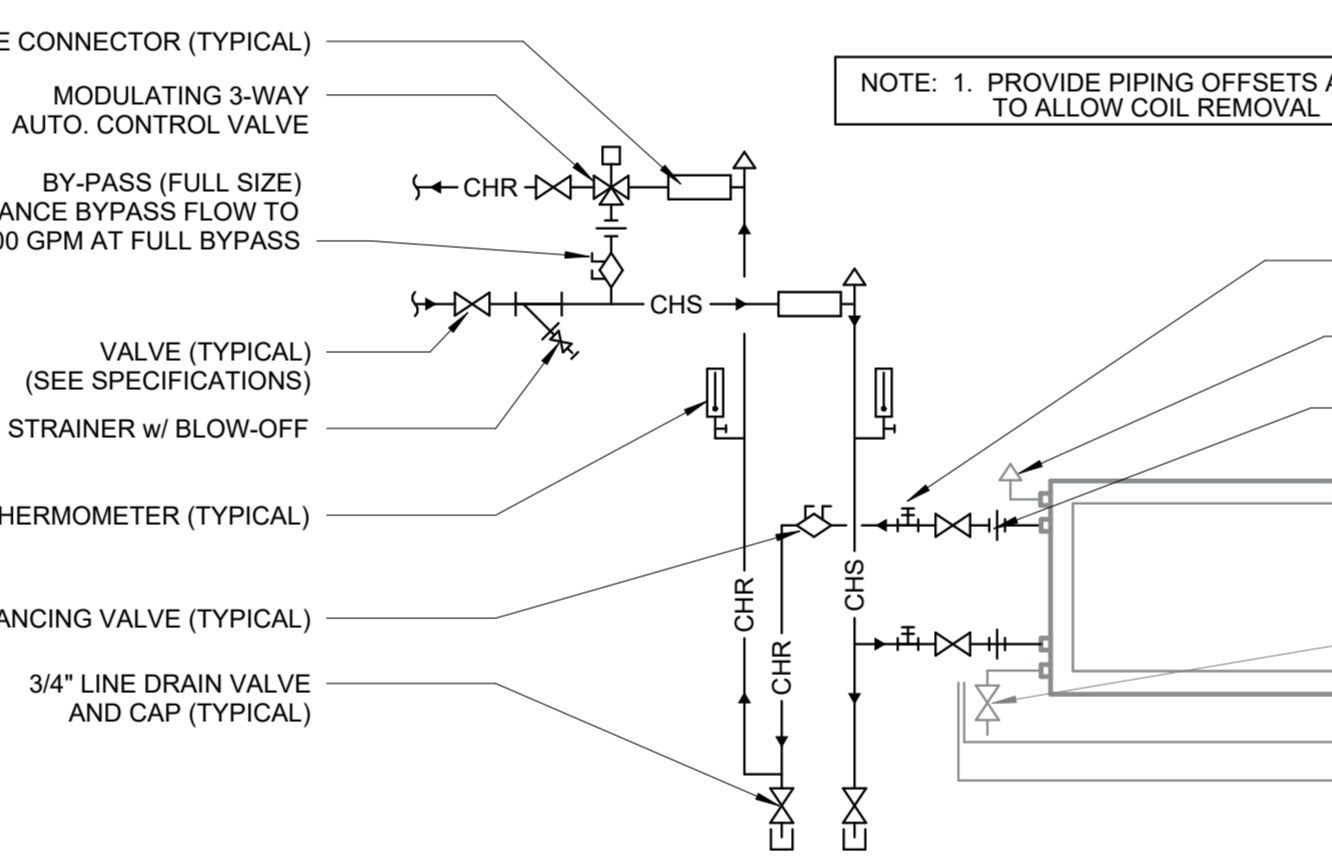
FLOOR DRAIN (FD):
FIXTURE: 3" ZURN Z-415-B SERIES, CAST IRON, MEMBRANE CLAMP, FLASHING COLLAR, WEEP HOLES, HUB OUTLET WITH GASKETED CONNECTION, 5" DIA ADJUSTABLE NICKEL BRONZE STRAINER, VANDAL-PROOF, SET TOP OF STRAINER FLUSH WITH FINISHED FLOOR, PROVIDE "DEEP SEAL P-TRAP"

BACKFLOW PREVENTER:
FIXTURE: WATTS, 009 SERIES, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES WITH INTERMEDIATE RELIEF VALVE, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-75, PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP

ECO-FLOOR CLEANOUT:
FIXTURE: ZURN, Z-1400 LEVEL-TROL SERIES FLOOR CLEANOUT, CAST IRON, INSIDE CAULK CONNECTION, ADJUSTABLE, THREADED ABS PLUG, SECURED SATIN NICKEL BRONZE TOP, SET TOP FLUSH WITH FINISHED CONCRETE, PROVIDE EXTRA HEAVY DUTY FLOOR CLEANOUT COVER FOR CLEANOUTS LOCATED IN MECHANICAL SPACES



A5 Air Separator/Bladder Type Exp. Tank Detail
NOT TO SCALE



B5 AHU 2MC Chilled Water Coil Piping Detail
NOT TO SCALE

LOUVER SCHEDULE

REMARKS:
1. LOUVER SHALL BE CUSTOM COLOR SELECTED BY ARCHITECT DURING SUBMITTAL PROCESS.
2. OR ENGINEER PRE-APPROVED EQUIVALENT.

MARK	AIR FLOW (CFM)	H	W	D	MAX FREE AREA (%)	FREE AREA VELOCITY (FPM)	PRESSURE DROP (WG)	DESIGN BASIS	REMARKS
L-12-1	1025	18"	34"	6"	49	620	0.06	GREENHECK ESD-635	
L-12-2	1025	18"	34"	6"	49	620	0.05	GREENHECK ESD-635	

AIR SEPARATOR SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

MARK	SYSTEM SERVED	SIZE (IN)	CAPACITY (GPM)	STRAINER (YES/NO)	MAX PD (FT)	MINIMUM AIR RENEWAL (%)	DESIGN BASIS	REMARKS
AS-12-1	CHW	0'-6"	530	N	1.25	99.7	GRUNDFOS GSPA-5	

MECHANICAL PIPING EXPANSION TANK SCHEDULE

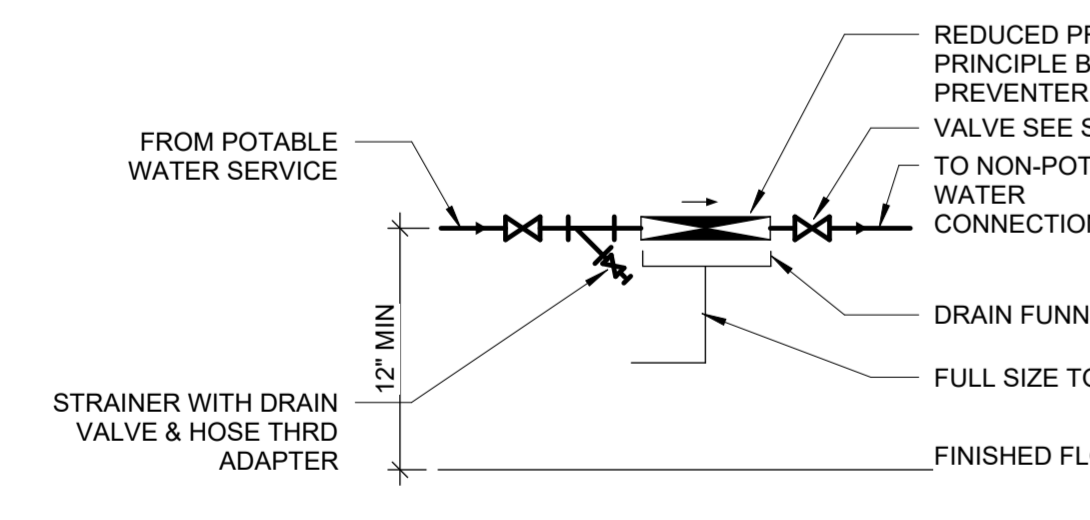
REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE (PSI)	FILL AT (PSI)	DESIGN BASIS	REMARKS
CHET-12-1	CHILLED WATER	BLADDER	25	20.2	125	30	GRUNDFOS GNTA40	

MECHANICAL PUMP SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. VFD TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	PLEV (%)	MOTOR DATA			ELECTRICAL DATA		DESIGN BASIS	REMARKS	
							HP	BHP	RPM	VOLTS	PHASE			
CHP-12-1	PRIMARY CHW	END SUCTION	190	36	48.7	73.9	5	3.07	1755	002	480	3	GRUNDFOS 030-070-4P	
CHP-12-2	PRIMARY CHW	END SUCTION	190	36	48.7	73.9	5	3.07	1755	002	480	3	GRUNDFOS 030-070-4P	
CHP-12-3	SECONDARY CHW	END SUCTION	304	100	136	74.8	15	12.03	1765	480	3	GRUNDFOS 025-110-4P		
CHP-12-4	SECONDARY CHW	END SUCTION	304	100	136	74.8	15	12.03	1765	480	3	GRUNDFOS 025-110-4P		



A6 Backflow Preventer Detail
NOT TO SCALE

UNIT HEATER SCHEDULE - HOT WATER

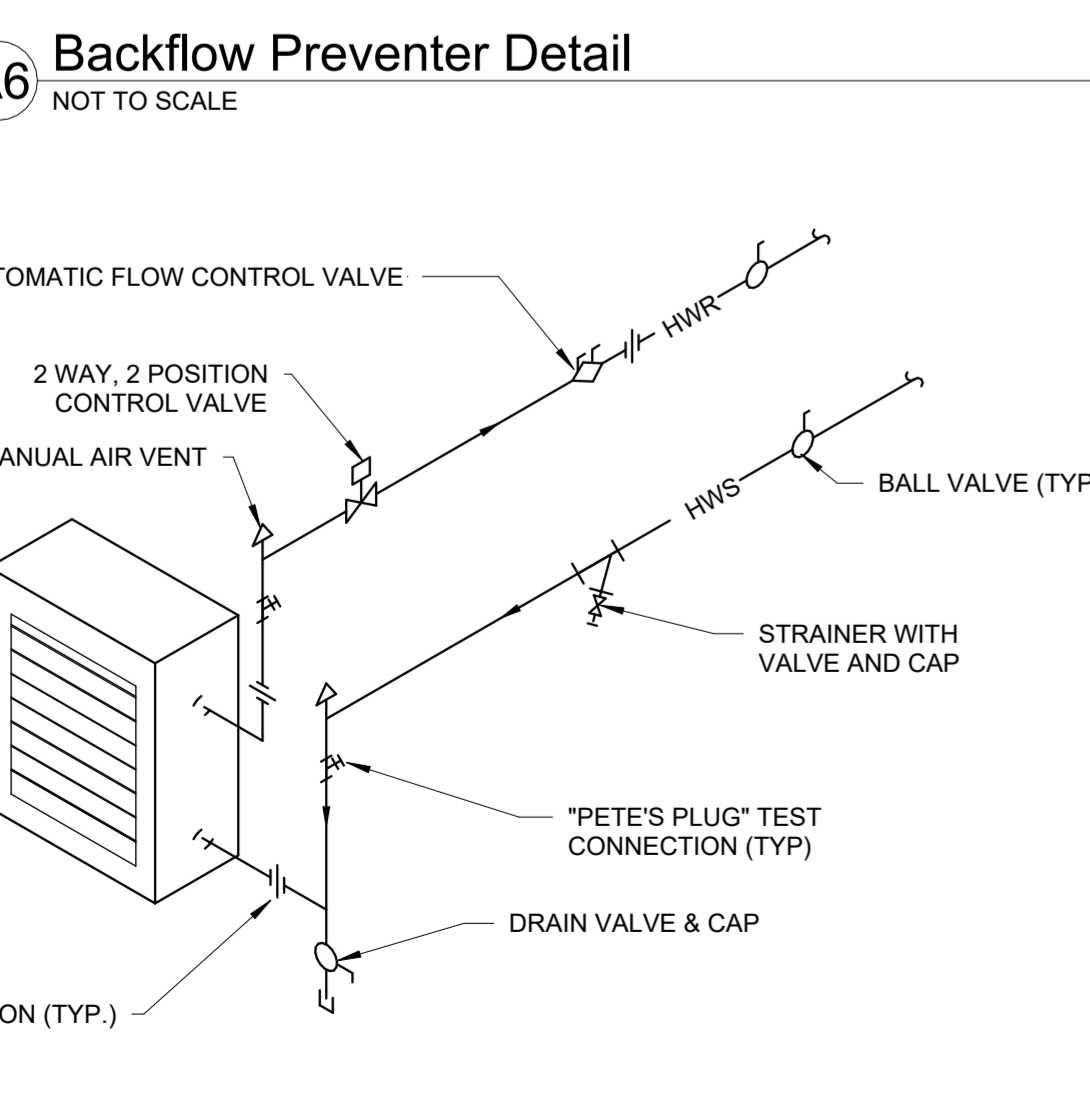
REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. TO BE INSTALLED WITH FACTORY MOUNTED DISCONNECT
3. PROVIDE ALL CUHS WITH 3-WAY VALVE. SEE DETAILS.
4. TO BE CONTROLLED VIA EXISTING THERMOSTAT

MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	FAN MOTOR DATA	DESIGN BASIS	REMARKS
UH-1	LAUNDRY ROOM	730	190	170	60	93	26.5	2.65	1	7'-6"	1/12 HP 120V 1 PHASE	MODINE HC-47	

FAN SCHEDULE

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT.
2. COORDINATE DAMPERS WITH SHEET METAL CONTRACTOR.
3. FAN SHALL BE CAPABLE OF OPERATING AT SCHEDULED CFM AND REDUCING FLOW TO 240 CFM. SEE CONTROL SEQUENCE.
4. ALL FANS SHALL HAVE FACTORY-MOUNTED DISCONNECT SWITCH.

MARK	AREA SERVED	FAN TYPE	CFM	ESP (IN WG)	MOTOR DATA			ELECTRICAL DATA		DAMPER TYPE	INLET SONES	DESIGN BASIS	REMARKS	
					BHP	HP	RPM	VOLTS	PHASE					
EF-12-1	MECHANICAL ROOM 60	CENTRIFUGAL	1025	0.5	0.31	0.5	1172	DIRECT	120	1	MOTORIZED	18	GREENHECK SQ-7M1-VG	



1 UNIT HEATER PIPING DETAIL
NOT TO SCALE

AIR COOLED CHILLER SCHEDULE

REMARKS:
1. PERFORMANCE BASED ON WATER.
2. MANUFACTURER TO PROVIDE SINGLE POINT POWER AND DISCONNECT SWITCH.
3. UNIT SHALL HAVE BRAZED PLATE REMOTE EVAPORATOR.
4. MAXIMUM REFRIGERANT IN A SINGLE CIRCUIT (INCLUDING FIELD PIPING) SHALL NOT EXCEED 105 LBS. EACH REMOTE EVAPORATOR HAS TWO CIRCUITS.
5. MINIMUM SCOR RATING OF THE CHILLER SHALL BE 65KA.
6. MAXIMUM CHILLER DIMENSIONS SHALL BE 110" LONG, 98" WIDE, AND 99" TALL.
7. EFFICIENCY RATINGS BASED ON AHR 550/590 CONDITIONS.
8. CHILLER SHALL HAVE MANUFACTURER'S HAIL GUARDS.
9. OR ENGINEER PRE-APPROVED EQUIVALENT.
10. CHILLER EFFICIENCIES IN SCHEDULE ARE FOR BASIS OF DESIGN. CHILLER SHALL HAVE MINIMUM EFFICIENCIES OF EER = 11 AND IPLV = 17.3

MARK	AREA SERVED	SYSTEM SERVED	CAPACITY (TONS)	AMBIENT AIR TEMPERATURE (°F)	MINIMUM AMBIENT AIR TEMPERATURE (°F)	MAXIMUM ALLOWABLE SOUND PRESSURE (AT 30 FEET)				EFFICIENCY	EVAPORATOR DATA				ELECTRICAL DATA		REFRIGERANT		DESIGN BASIS	REMARKS										
						63	125	250	500		1000	2000	4000	8000	EER @100%	DPLV/IP	MINIMUM GPM	CFM			EWT (°F)	LWT (°F)	MAX PD (FT)	NUMBER OF COMPRESSORS	FOULING FACTOR	VOLTS	PHASE	MCA	MOCP	REFRIGERANT
CHLR-12-1	MED CENTER	CHILLED WATER	95.3	95	32	43	51	55	58	60	57	51	46	11.9	19.39	120	190	56	44	7.4	4	0.0001	460	3	196	225	90	R32	DAKIN AGZ008F	
CHLR-12-2	MED CENTER	CHILLED WATER	95.3	95	32	43	51	55	58	60	57	51	46	11.9	19.39	120	190	56	44	7.4	4	0.0001	460	3	196	225	90	R32	DAKIN AGZ008F	

12-Med Center

MECHANICAL SCHEDULES AND DETAILS

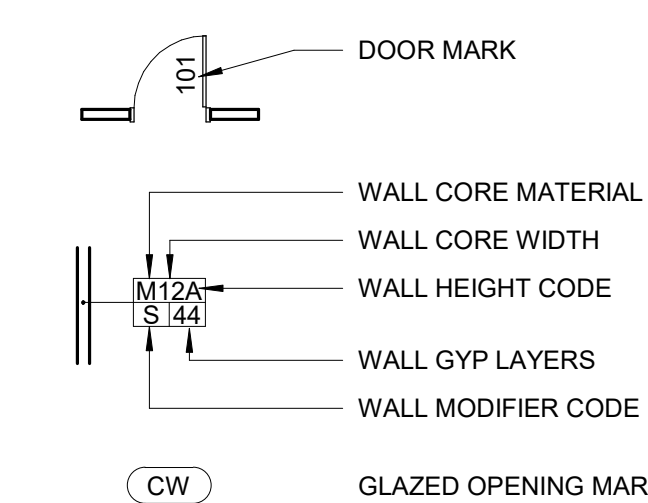
12-M600

12-M600

FLOOR PLAN NOTES

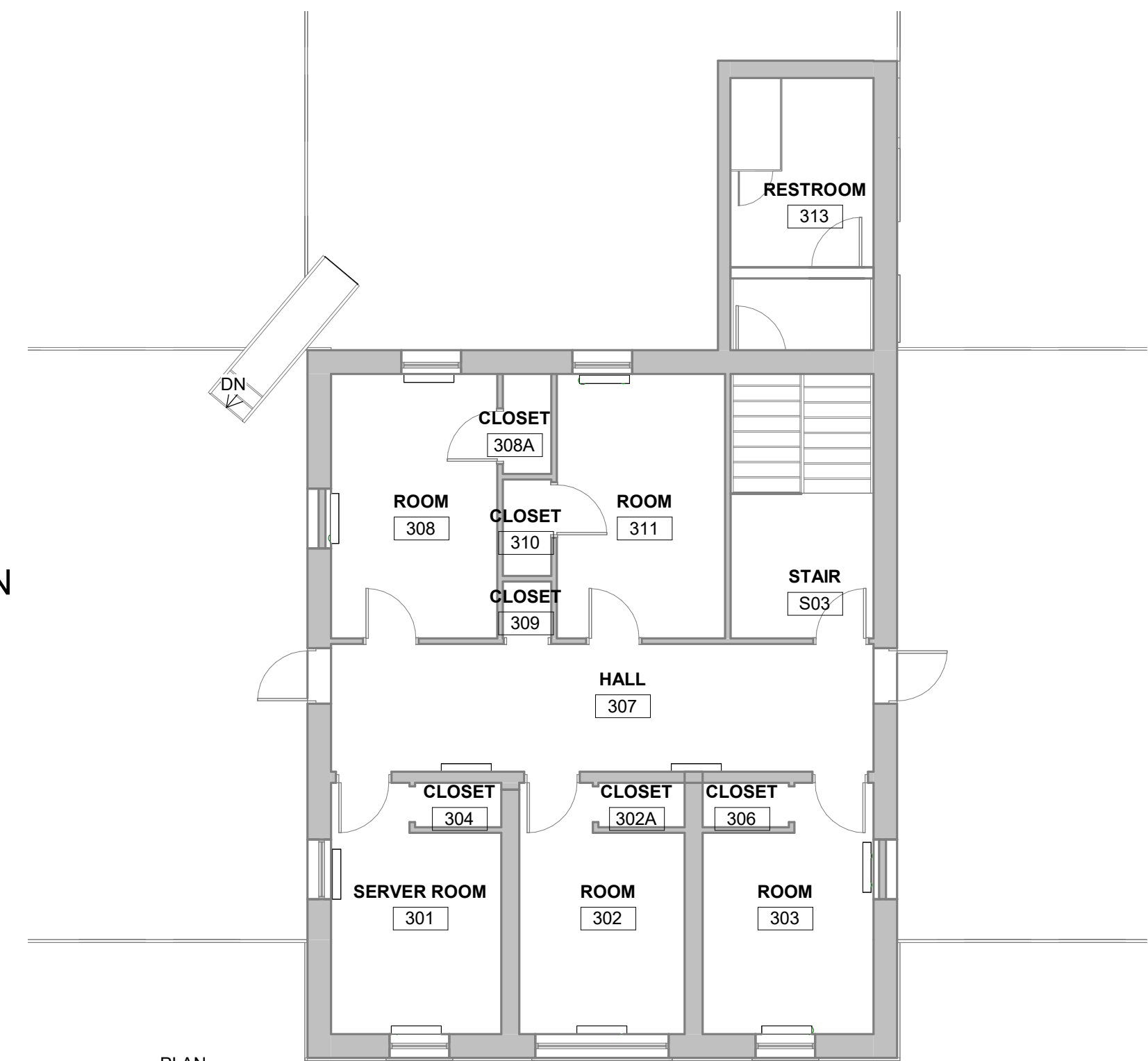
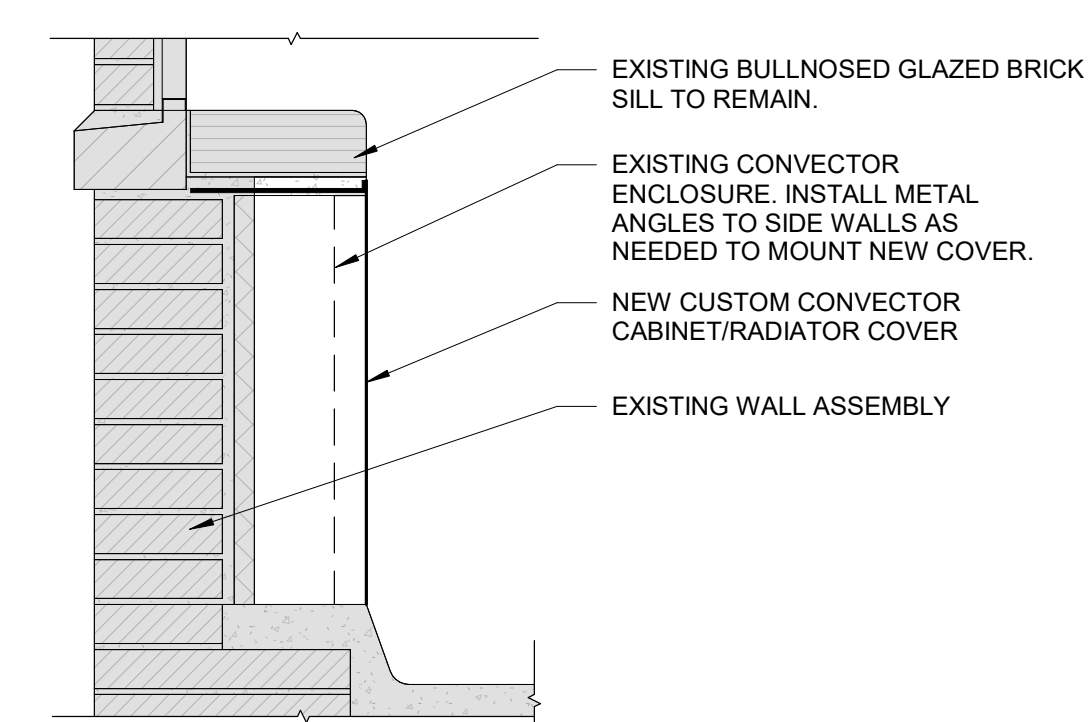
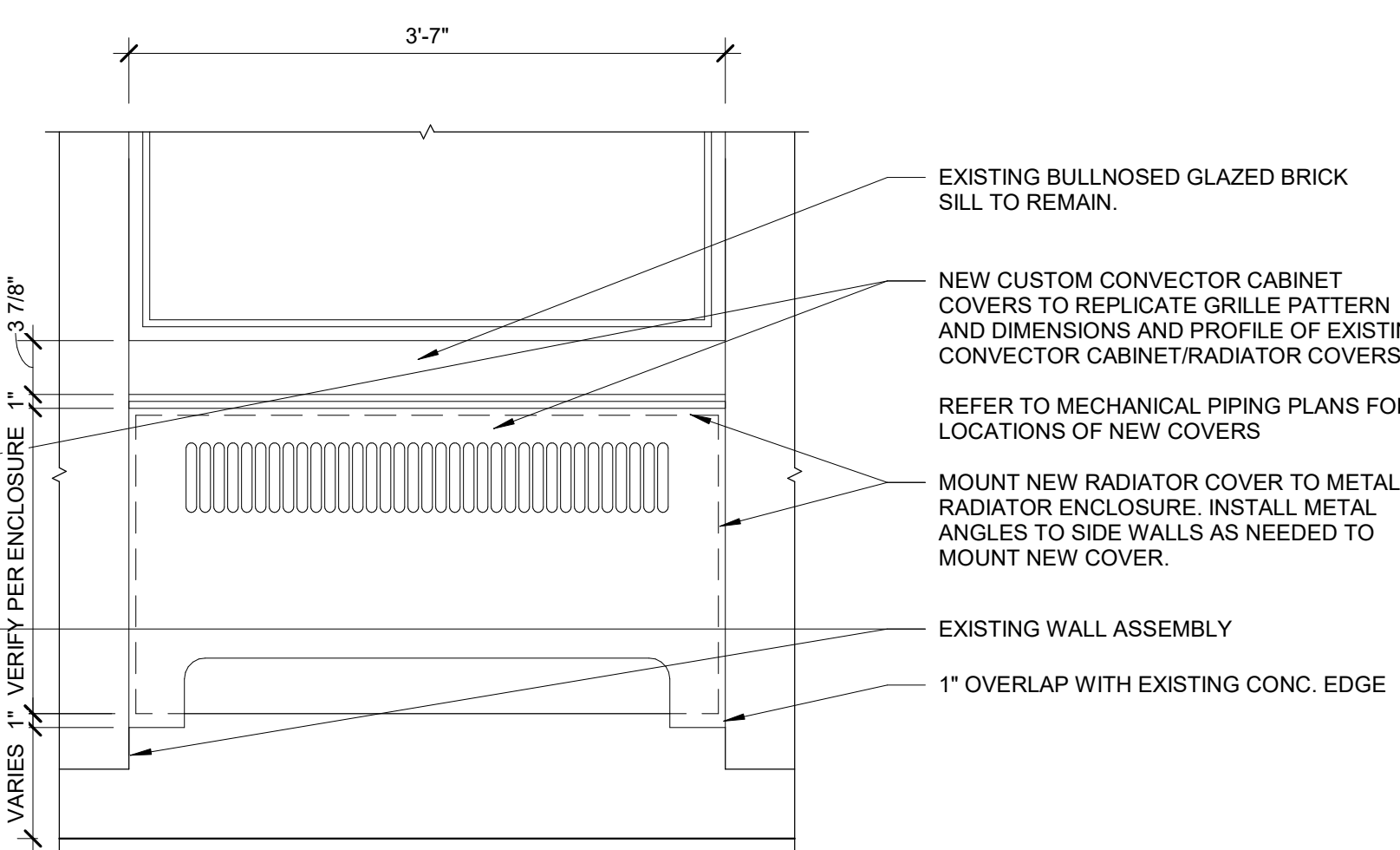
1. WATER-RESISTANT GYPSUM BOARD SHALL BE USED FOR STUD PARTITIONS IN TOILET ROOMS, JANITOR'S CLOSETS, FIRE SERVICE ROOMS, MECHANICAL ROOMS, AND ANY ADDITIONAL LOCATIONS DESIGNATED IN CONTRACT DOCUMENTS.
2. WHERE STRUCTURAL ELEMENTS INTERFERE WITH FIRE-RATED PARTITIONS, FRAME TOP OF WALL AROUND STRUCTURAL ELEMENT.
3. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
4. ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.
5. ALL DOORS IN STUD WALL CONSTRUCTION ARE TO BE LOCATED WITH EDGE OF FRAME 4" FROM FACE OF ADJACENT PARTITION UNLESS NOTED OTHERWISE. DIMENSIONS LOCATING DOORS NOT DIRECTLY ADJACENT TO WALLS ARE GIVEN TO OUTSIDE EDGE OF FRAME.
7. PROVIDE NEW CONVECTOR CABINET COVER TO MATCH EXISTING COVERS (SEE A2/16-A102) AT LOCATIONS NOTED ON MECHANICAL PIPING PLANS.

FLOOR PLAN SYMBOLS LEGEND



KEYNOTES

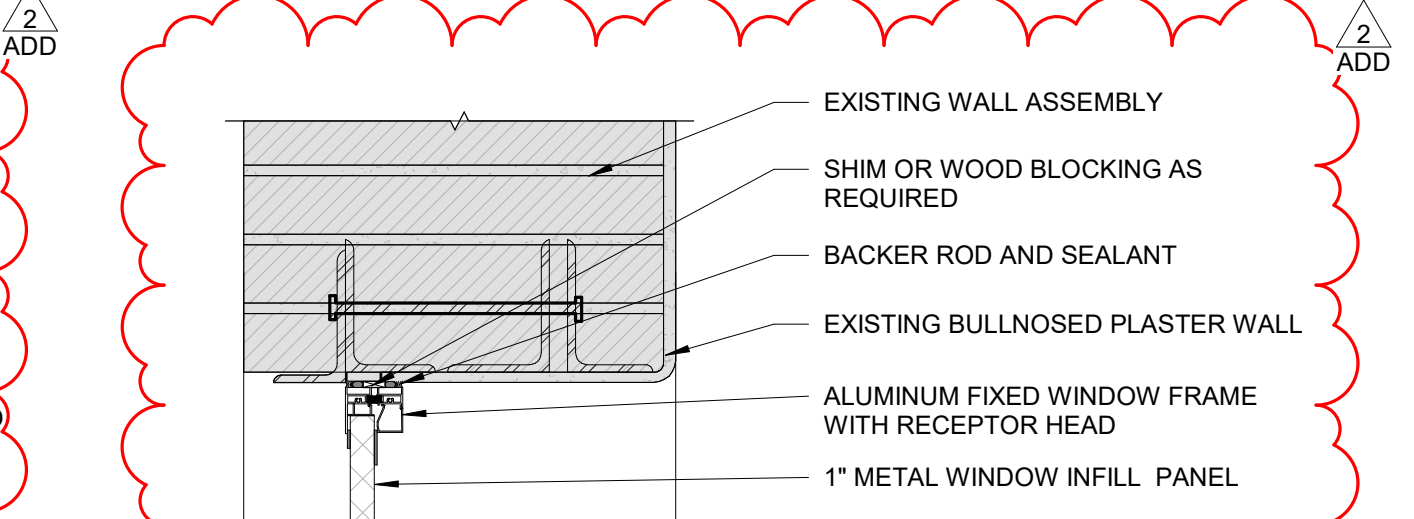
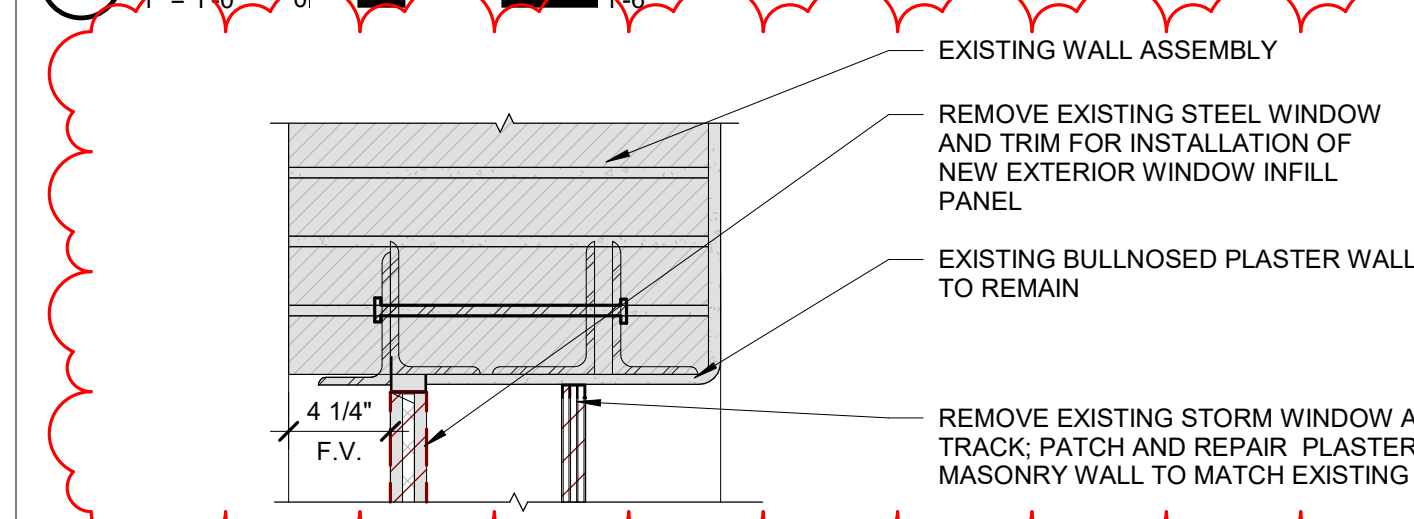
KEY	NOTE
16-A03	INFILL WINDOW OPENING (APPROXIMATELY 3'-7" WIDE X 5'-10" HIGH - FIELD VERIFY) WITH METAL WINDOW INFILL PANEL. REFER TO DETAILS B3, B3a, AND B4 ON SHEET 16-A102



A2) TYPICAL CONVECTOR/RADIATOR COVER
1/8" = 1'-0" 0"

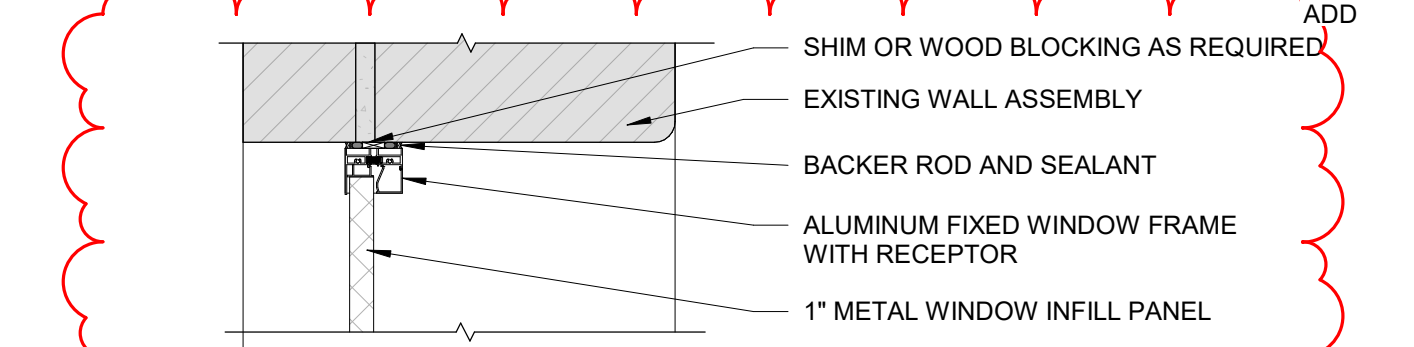
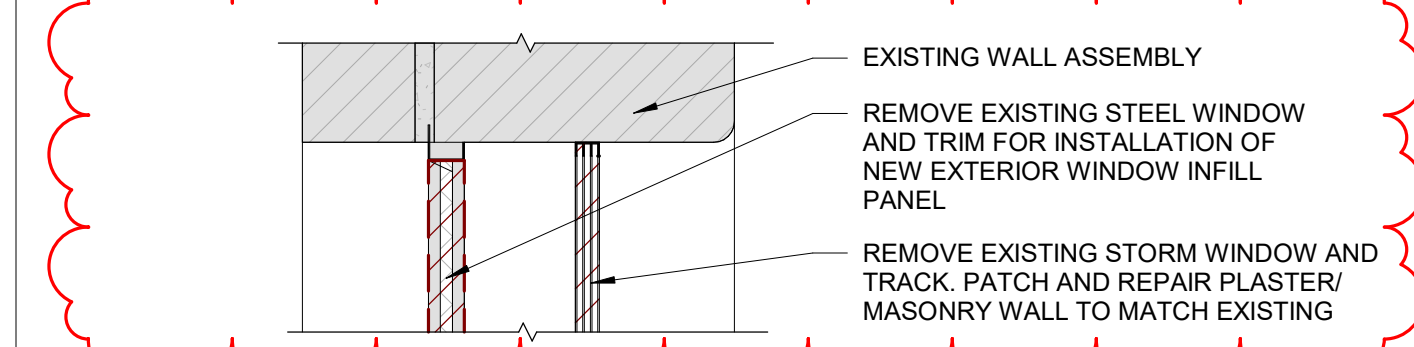
D2) CONVECTOR/RADIATOR ENCLOSURE SECTION
1" = 1'-0" 0"

E3) THIRD FLOOR PLAN
1/8" = 1'-0" 0"



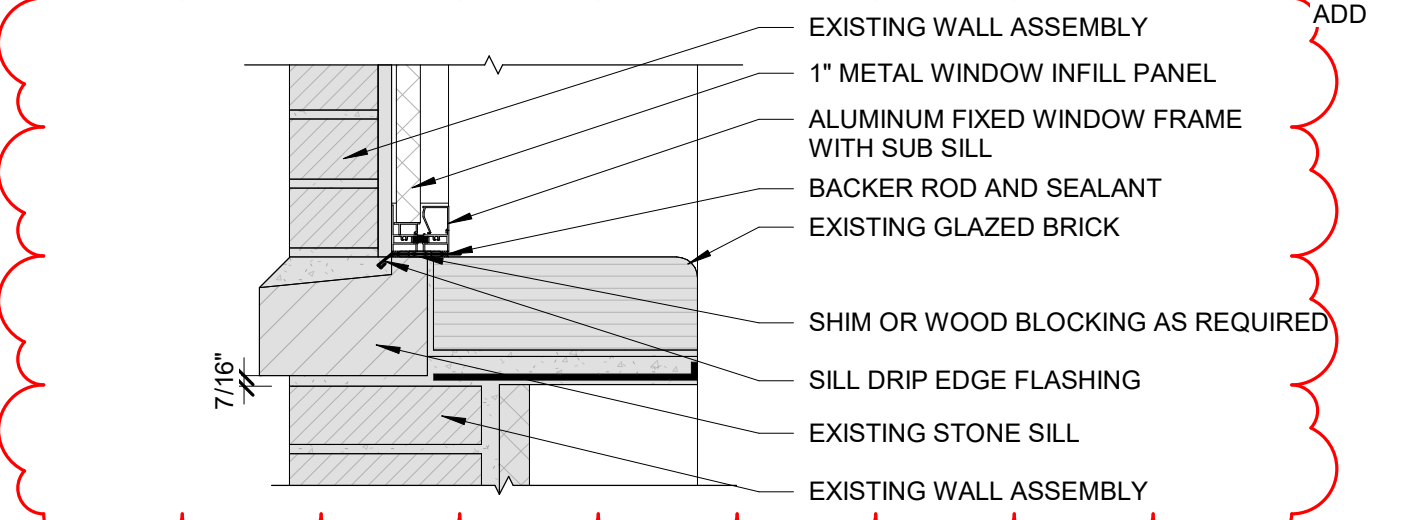
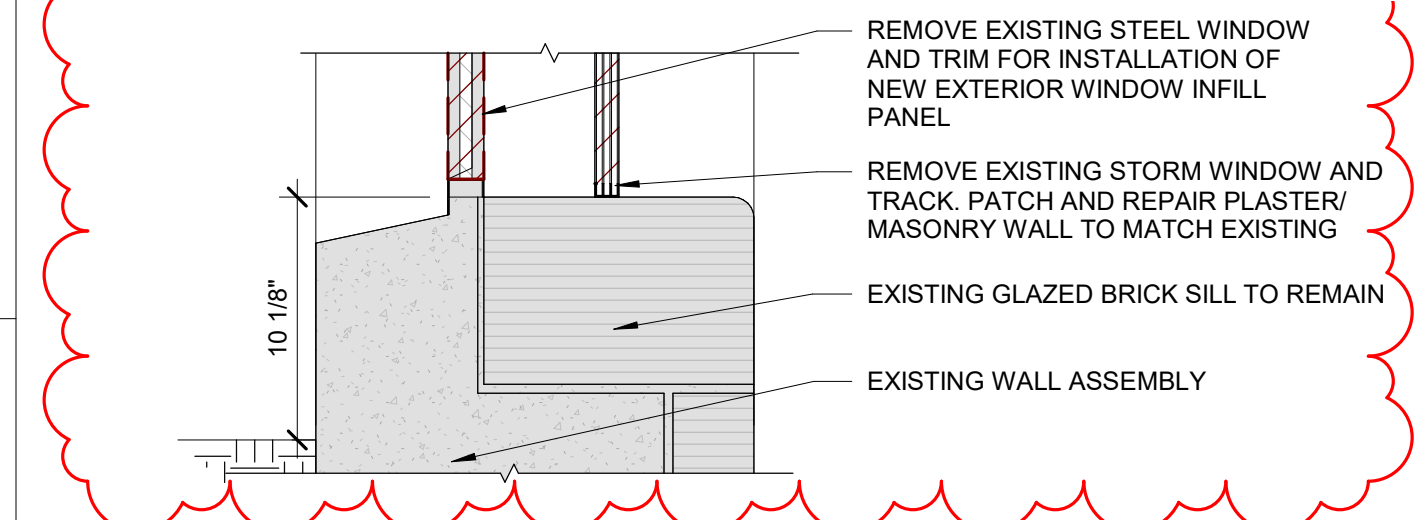
A3) TYPICAL EXISTING WINDOW HEAD DEMOLITION
1/8" = 1'-0" 0"

B3) TYPICAL INFILL AT WINDOW HEAD
1 1/2" = 1'-0" 0"



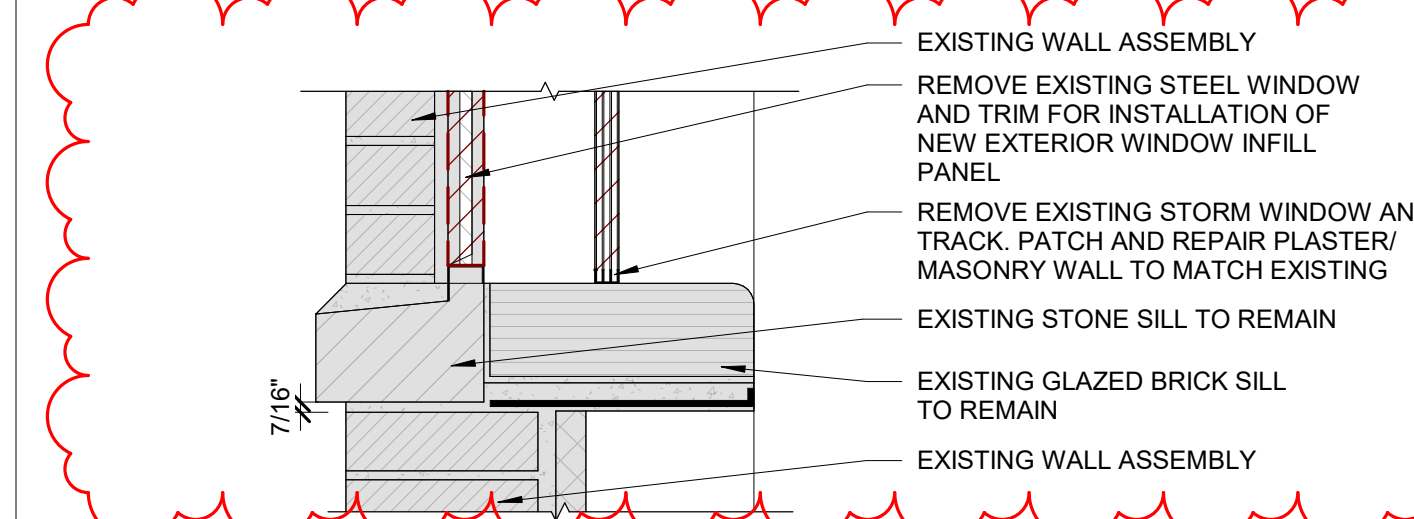
A3a) TYPICAL EXISTING WINDOW JAMB DEMOLITION
1 1/2" = 1'-0" 0"

B3a) TYPICAL INFILL AT WINDOW JAMB
1 1/2" = 1'-0" 0"

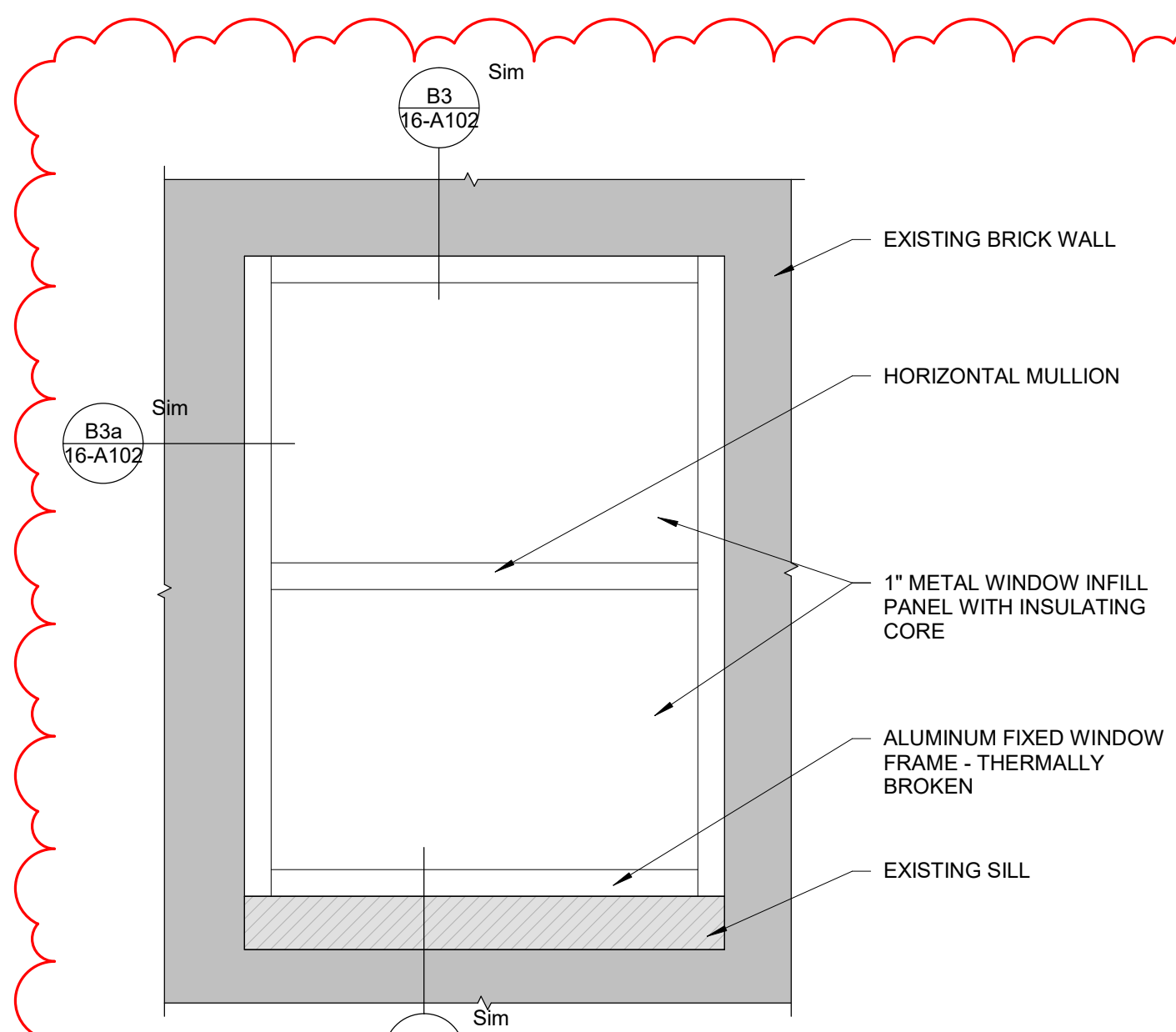


A4a) TYPICAL EXISTING WINDOW SILL AT BASEMENT DEMOLITION
1 1/2" = 1'-0" 0"

B4) TYPICAL INFILL AT WINDOW SILL
1 1/2" = 1'-0" 0"

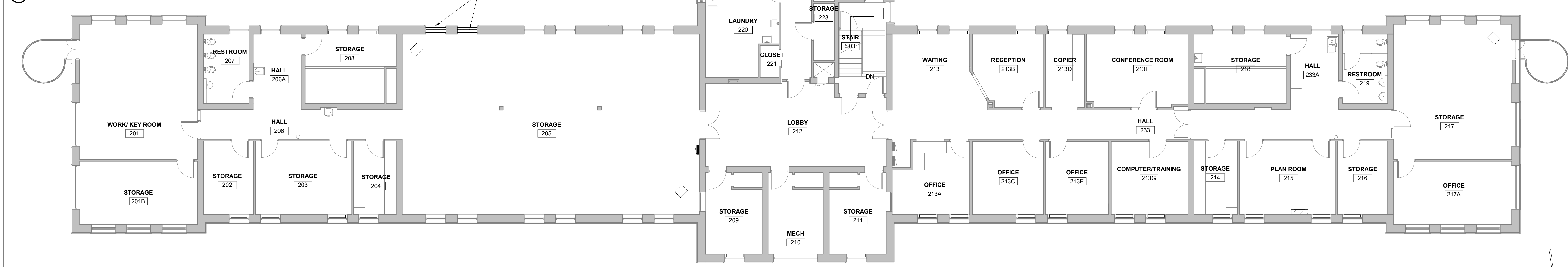


A5) TYPICAL EXISTING WINDOW SILL AT UPPER FLOORS DEMOLITION
1 1/2" = 1'-0" 0"



E4) WINDOW INFILL ELEVATION
1" = 1'-0" 0"

G4) TYPICAL EXISTING WINDOW CONDITION
NOT TO SCALE

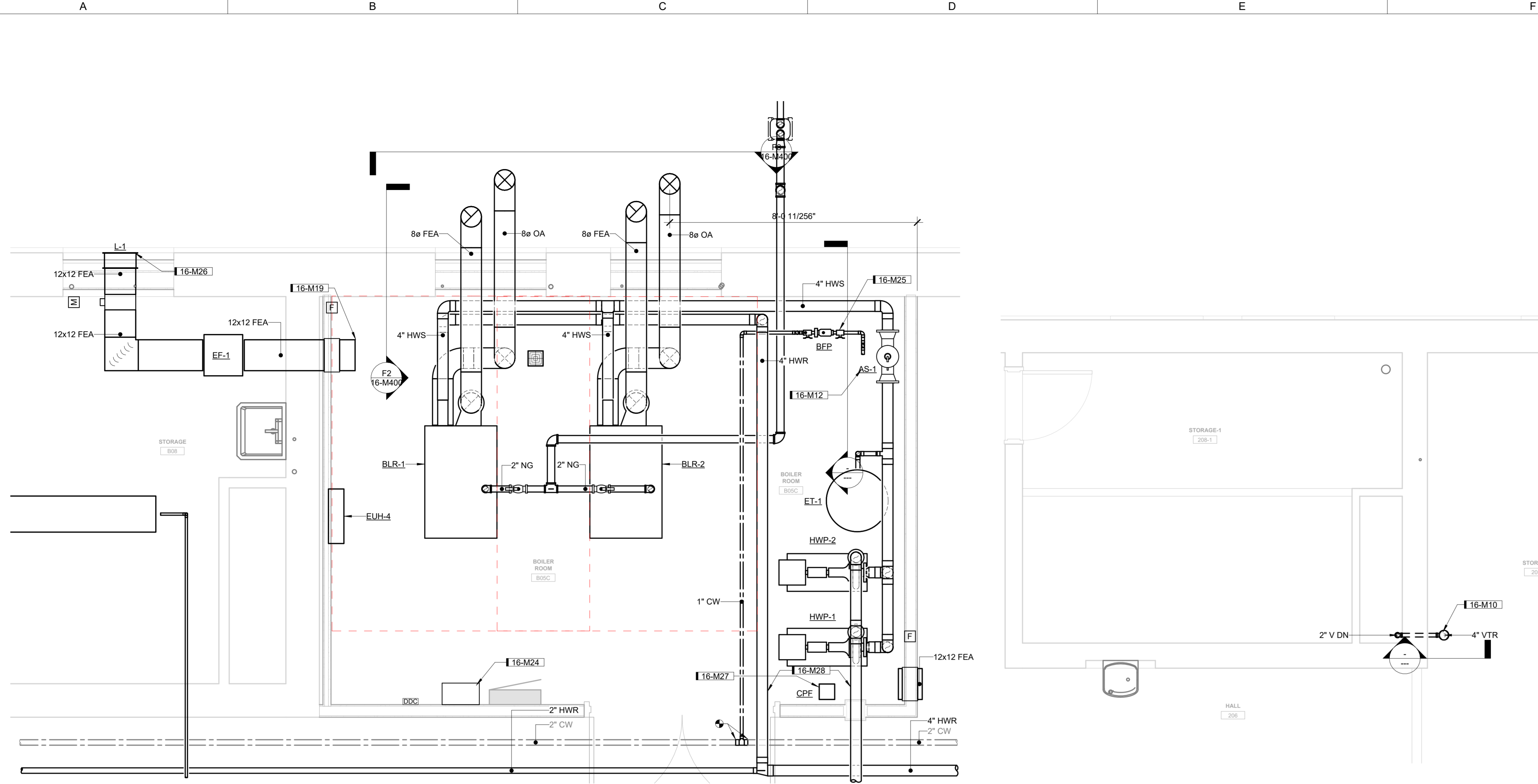


A6) SECOND FLOOR PLAN
1/8" = 1'-0" 0"

WRC Decentralization Phase 4 & Fire Alarm Phase 3 (9279.40)
16 - Birches

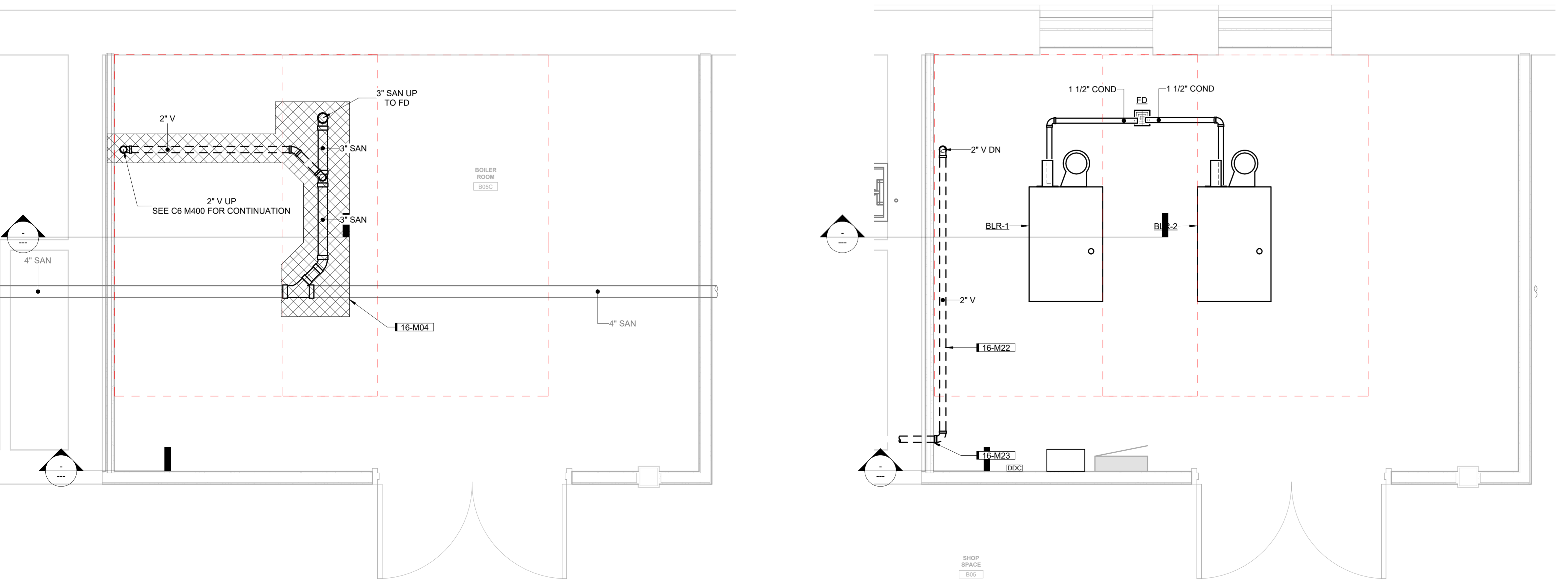
Iowa Department of Administrative Services
1251 354th Street, Woodward, IA 50276

DRAWN BY	EIP	ADD 2	05-14-25	ADDENDUM 2
APPROVED BY	CLM			
ISSUED FOR	ISSUED FOR CONSTRUCTION			
ISSUE DATE	2025-03-14			
PROJECT NUMBER	2240007040			
FIELD BOOK				



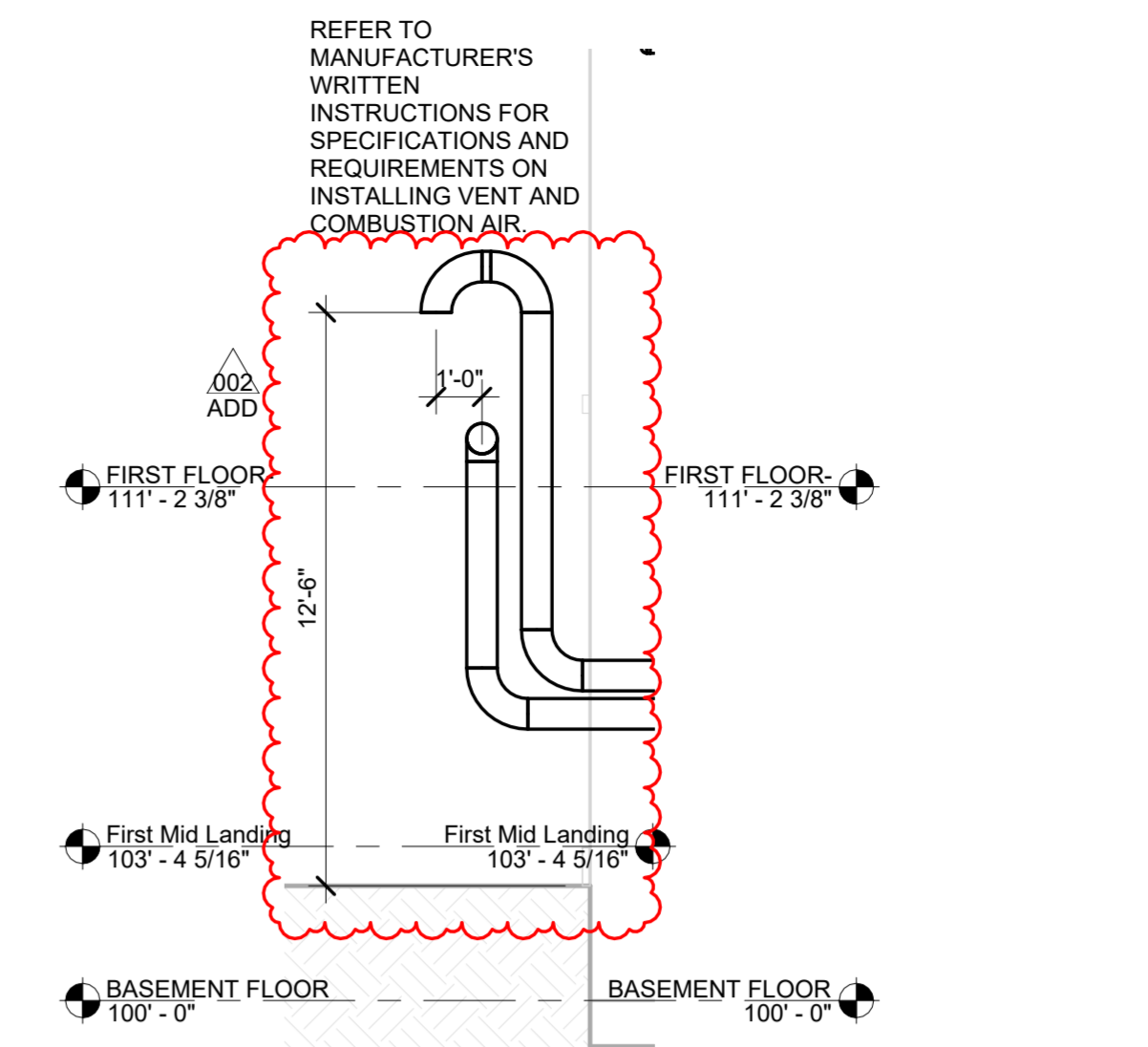
A3 BOILER MECHANICAL ROOM PIPING PLAN
1/2" = 1'-0" 0 3'

D3 SECOND FLOOR PLUMBING PLAN
3/8" = 1'-0" 0 4'

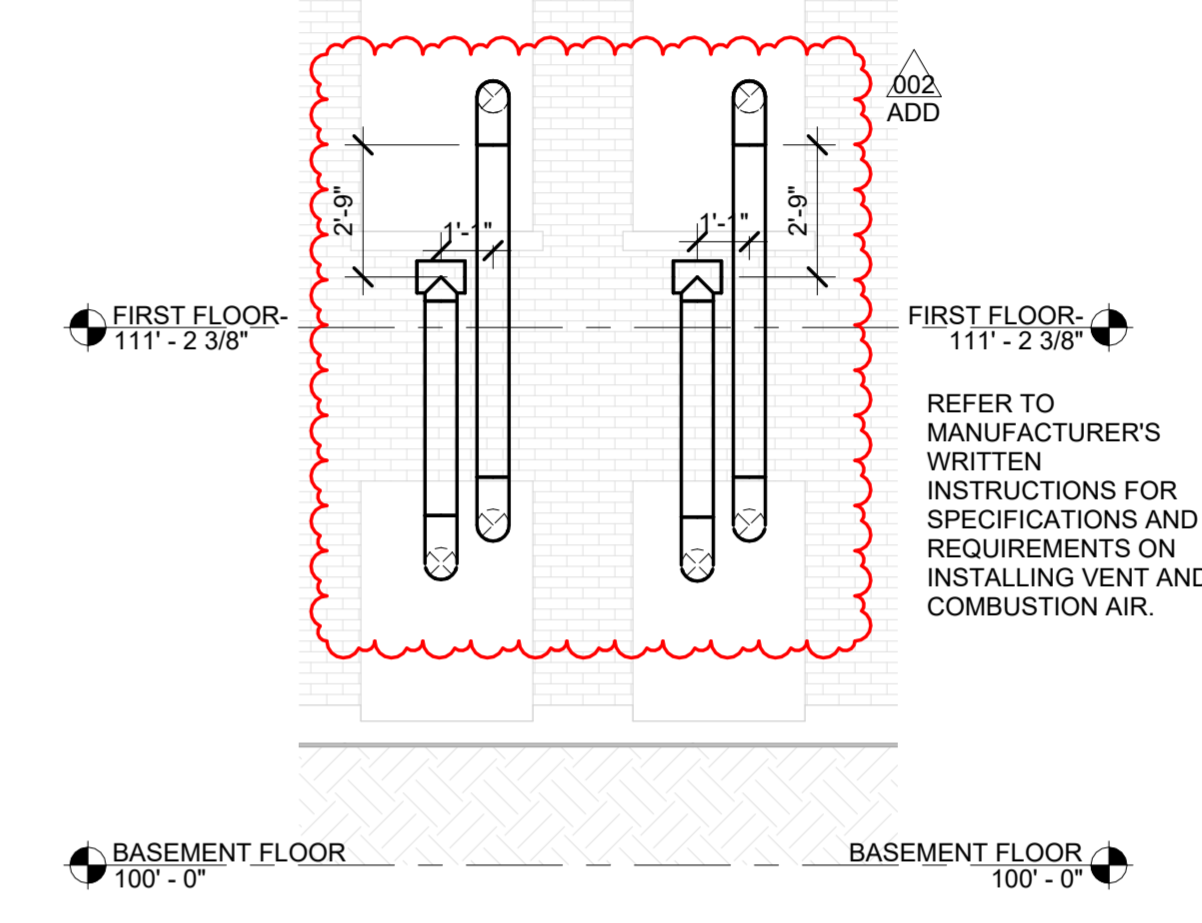


A6 BOILER MECHANICAL ROOM UNDERFLOOR PLUMBING PLAN
1/2" = 1'-0" 0 3'

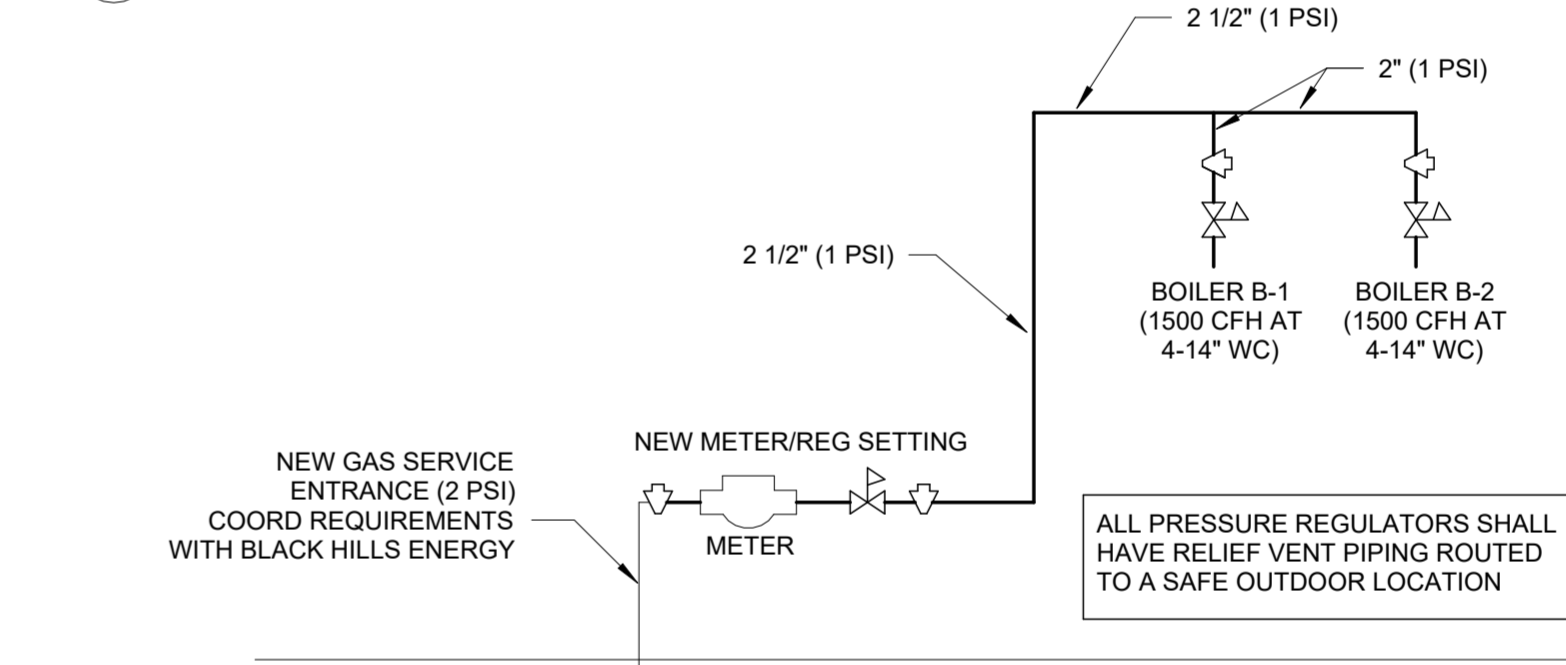
C6 BOILER MECHANICAL ROOM PLUMBING PLAN
1/2" = 1'-0" 0 3'



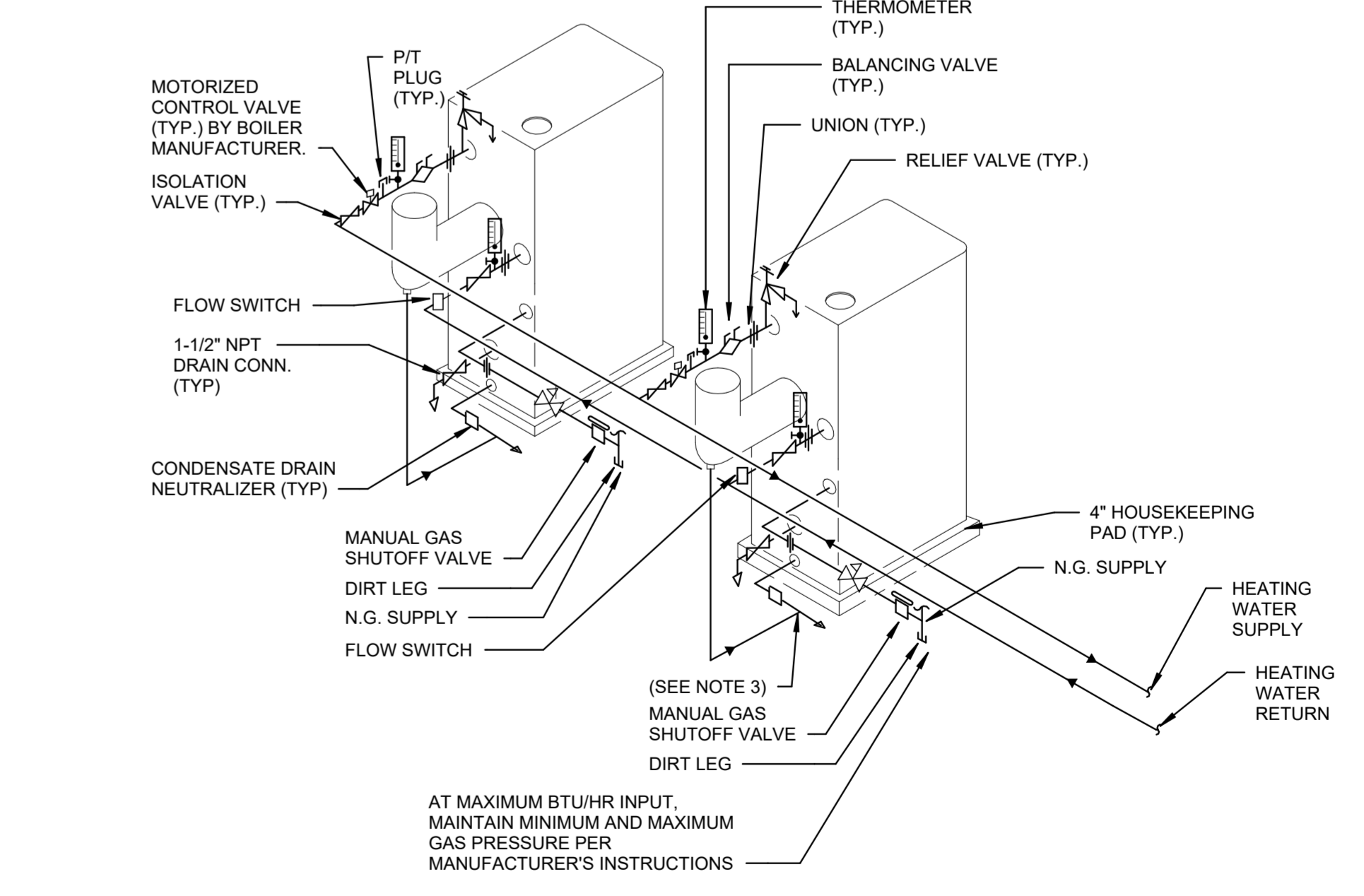
F2 BOILER VENT TERMINATION SECTION VIEW
1/4" = 1'-0" 0 6'



F3 BOILER VENT TERMINATION EXTERIOR ELEVATION
1/4" = 1'-0" 0 6'



F4 GAS PIPING SCHEMATIC
NOT TO SCALE



NOTES:

- 1) SHELL DRAIN VALVE AND CONDENSATE DRAIN TRAP SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A CONVENIENT FLOOR DRAIN. RELIEF VALVE SHOULD BE PIPED VERTICALLY TO A HEIGHT 18" ABOVE FLOOR.
- 2) LOCATE WATER INLET AND OUTLET FITTINGS (I.E. UNIONS, ELBOWS, ETC.) A MINIMUM OF 6" FROM BOILER FITTINGS TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. ALL PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) SHOULD LIKEWISE BE 6" AWAY FROM SIDE PANELS.
- 3) EACH CONDENSATE PORT SHALL BE PIPED INDIVIDUALLY TO MAIN DRAIN. EACH DRAIN SHALL ROUTE THROUGH ACID NEUTRALIZATION SYSTEM WITH LIMESTONE CHIPS PRIOR TO DISCHARGING INTO SANITARY SEWER SYSTEM. ACID NEUTRALIZATION TANK SHALL BE SCIENTIFIC PLASTICS COMPANY, INC. W121209-001 OR APPROVED EQUIVALENT.

F6 GAS FIRED BOILER PIPING DETAIL
NOT TO SCALE

KEYNOTES	
KEY	NOTE
16-M04	APPROXIMATE SAW CUT AND FLOOR PATCHING AREA FOR INSTALLATION OF NEW SANITARY PIPING. NEW SANITARY PIPING IS TO BE CONNECTED TO EXISTING SANITARY PIPING. FIELD VERIFY PIPE ROUTING AND CONDITIONS PRIOR TO CUTTING. REINFORCE WITH #3 18" O.C. EACH WAY (DRILL AND GROUT 6" INBED). COORDINATE DEPTH OF THE SAW CUT AND METHOD OF SLAB REMOVAL. CONCRETE - 4000 PSI. MAXIMUM W/C RATIO = 0.42. PATCH VAPOR BARRIER TO MATCH EXISTING.
16-M09	SANITARY VENT PIPING TO BE ROUTED IN PLUMBING CHASE TO 1ST FLOOR.
16-M10	SANITARY VENT PIPING TO CONNECT TO EXISTING 4" VENT IN THIS LOCATION.
16-M12	ROUTE MAKE-UP WATER TO HEATING WATER SYSTEM. SEE DETAIL ON SHEET 16-M500.
16-M19	INSTALL 3/4" HARDWARE CLOTH AND MOUNTING BRACKET OVER DUCT OPENING.
16-M22	NEW SANITARY VENT TO BE ROUTED ABOVE FLOOR IN THIS LOCATION.
16-M23	SANITARY VENT TO BE ROUTED THROUGH WALL AND SEALED TO MAINTAIN FIRE RATED WALL.
16-M24	PROVIDE HARD WIRED CARBON MONOXIDE (CO) DETECTOR. MOUNT APPROX. 3'-0" AFF. CO DETECTOR SHALL HAVE A VISIBLE DISPLAY SHOWING PARTS PER MILLION VALUE OF CO DETECTED. HARDWIRED TO BUILDING POWER WITH BATTERY BACKUP. LOCAL VISIBLE/AUDIBLE ALARMS, LOW BATTERY STATUS, AND CONTAIN REPLY CONTACTS FOR ALARM CONNECTION TO DDC SYSTEM. COORDINATE ALARM REQUIREMENTS WITH DDC CONTRACTOR. MSA TOXGARD II GAS MONITOR, HONEYWELL ESPIONET, OR ENGINEER APPROVED EQUIVALENT.
16-M25	COORDINATE BACKFLOW PREVENTER LOCATION WITH HWS PIPING, AIR SEPARATOR, AND EXPANSION TANK IN THIS AREA.
16-M26	INSTALL L-1 IN NEW WINDOW INFILL PANEL. COORDINATE INSTALLATION WITH INFILL PANEL MANUFACTURER.
16-M27	REFER TO DETAIL E5 ON SHEET 16-M500 FOR PIPING DETAILS.
16-M28	ANTICIPATED DIFFERENTIAL PRESSURE SWITCH LOCATION. FIELD VERIFY ADEQUATE LOCATION BASED ON CONTROLS SCHEMATIC B6 ON SHEET 16-M501.

LDI	JOB
CONSTRUCTION	2025-03-14
ISSUE DATE	2240007040
PROJECT NUMBER	
FIELD BOOK	

MECHANICAL SCHEDULES

16-M600

LOUVER SCHEDULE

REMARKS:
1. LOUVER SHALL BE CUSTOM COLOR SELECTED BY ARCHITECT DURING SUBMITTAL PROCESS.
2. OR ENGINEER APPROVED EQUIVALENT.

MARK	AREA SERVED	AIR FLOW (CFM)	DIMENSIONS			MAX FREE AREA (%)	FREE AREA VELOCITY (FPM)	PRESSURE DROP (WG)	DESIGN BASIS	REMARKS
			H	W	D					
L-1	BOILER ROOM	70	12"	12"	6"	49	350	0.02	GREENHECK ESD-635	1.2

FAN SCHEDULE

REMARKS:
1. PROVIDE MANUFACTURER'S FACTORY-MOUNTED DISCONNECT SWITCH.
2. OR ENGINEER APPROVED EQUIVALENT.

MARK	FAN TYPE	CFM	ESP (IN WG)	MOTOR DATA				ELECTRICAL DATA		DESIGN BASIS	REMARKS	
				BHP	HP	RPM	DRIVE	VOLTS	PHASE			
EF-1	INLINE	70	0.3	0.02	1/15	1538	DIRECT	115	1	MOTORIZED	GREENHECK SQ-80-VG	1.2

UNIT HEATER SCHEDULE - ELECTRIC

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH BUILT-IN THERMOSTAT WITH TAMPER PROOF COVER.
3. UNIT TO BE SURFACE MOUNTED. PROVIDE MANUFACTURER'S SURFACE MOUNTED FRAME.

MARK	CFM	KW	ELECTRICAL DATA		FLA	DESIGN BASIS	REMARKS
			VOLTS	PHASE			
EUH-1	100	1.5	208	1	7.2	QMARK VFK151F	1.2,3
EUH-2	100	2	208	1	9.6	QMARK VFK204F	1.2,3
EUH-3	100	3	208	1	14.4	QMARK VFK304F	1.2,3
EUH-4	100	4	208	1	19.2	QMARK VFK408F	1.2,3

AIR SEPARATOR SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

MARK	SYSTEM SERVED	SIZE (IN)	CAPACITY (GPM)	STRAINER (Y/N)	MAX PD (FT)	MINIMUM AIR REMOVAL (%)	DESIGN BASIS	REMARKS
AS-1	HEATING WATER	4"	300	N	1	99	B&G ROLAIRTROL RL-4F	1

MECHANICAL PIPING EXPANSION TANK SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					(PSI)	FILL AT (PSI)		
ET-1	HEATING WATER	BLADDER	106	106	100	30	GRUNDFOS GNLA-400	1

MECHANICAL PUMP SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. VFD TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	MOTOR DATA			ELECTRICAL DATA		DESIGN BASIS	REMARKS
						HP	BHP	RPM	VOLTS	PHASE		
HWP-1	HEATING WATER	END SUCTION	190	80	88.9	7.5	5.46	1770	208	3	GRUNDFOS 020-110-4P	1.2
HWP-2	HEATING WATER	END SUCTION	190	80	88.9	7.5	5.46	1770	208	3	GRUNDFOS 020-110-4P	1.2

UNIT HEATER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. TO BE INSTALLED WITH FACTORY MOUNTED DISCONNECT
3. PROVIDE ALL PUHS WITH 3-WAY VALVE. SEE DETAILS.

MARK	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	FAN MOTOR DATA		DESIGN BASIS	REMARKS	
										HP	VOLTS			
PUH-1	2010	180	160	60	92	71.7	7.17	0.6	8'-0"	1/12	208	1	MODINE HC-108	1.2,3
PUH-2	370	180	160	60	94	13.9	1.39	0.8	8'-0"	1/25	208	1	MODINE HC-24	1.2,3
PUH-3	730	180	160	60	93	26.5	2.65	0.4	8'-0"	1/12	208	1	MODINE HC-47	1.2,3
PUH-4	1120	180	160	60	92	39.1	3.91	0.6	8'-0"	1/12	208	1	MODINE HC-63	1.2,3
PUH-5	730	180	160	60	93	51.6	5.16	0.4	8'-0"	1/12	208	1	MODINE HC-86	1.2,3

UNIT HEATER SCHEDULE - HOT WATER - EXISTING

REMARKS:
1. EXISTING PUH TO BE REUSED AND CONVERTED TO HW.
2. CONTRACTOR TO PROVIDE CONVERSION KITS AND CONTROLS FOR HW.
3. PROVIDE ALL PUHS WITH 3-WAY VALVE. SEE DETAILS.

MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MOUNTING HEIGHT (FT)	FAN MOTOR DATA		DESIGN BASIS	REMARKS	
HP	VOLTS	PHASE												
PUH-101	101	750	180	160	60	96	29.8	3	7'-0"	1/20	208	1	DAYTON 5PV46A	1.2,3
PUH-112	112	750	180	160	60	96	29.8	3	7'-0"	1/20	208	1	DAYTON 5PV48A	1.2,3
PUH-116A	116A	750	180	160	60	96	29.8	3	7'-0"	1/20	208	1	DAYTON 5PV46A	1.2,3
PUH-B01	B01	750	180	160	60	96	29.8	3	7'-0"	1/20	208	1	DAYTON 5PV46	1.2,3
PUH-B05	B05	750	180	160	60	96	29.8	3	7'-0"	1/20	208	1	DAYTON 5UT21	1.2,3
PUH-B16	B16 SHOP	900	180	160	60	97	37.4	3.75	7'-0"	1/20	208	1	DAYTON 5PV48A	1.2,3
PUH-B29	B29	450	180	160	60	90	14.9	1.5	7'-0"	16W	208	1	DAYTON 3DUF7	1.2,3

FIN TUBE RADIATION SCHEDULE - HYDRONIC

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. PROVIDE WITH 3-WAY VALVE. SEE DETAILS.
3. ELEMENT IS BARE. NO ENCLOSURE FOR THIS FIN TUBE. COVER TO BE INSTALLED OVER EXISTING CABINET.
4. ENCLOSURE TO BE PROVIDED WITH END CAPS.
5. ELEMENT AND ENCLOSURE TO BE CEILING MOUNTED

MARK	CAPACITY (MBH)	EWT (°F)	LWT (°F)	GPM	TUBE SIZE (IN)	NUMBER OF TUBES OR ROWS	ELEMENT LENGTH (FT)	EAT (°F)	HEATING COIL FIN DATA			ENCLOSURE			DESIGN BASIS	REMARKS
									FIN HEIGHT (IN)	FIN WIDTH (IN)	FINS PER FOOT	LENGTH	DEPTH	HEIGHT		
FT-1	6	180	168	1	0.75	3	3'-0"	65	4 1/4"	48	0"	0"	0"	0"	ZEHNDER-RITTLING BARE COPPER TUBE-ALUMINUM FIN	1.3
FT-2	5.5	180	174	1.8	1.25	3	2'-4 51/64"	65	4 1/4"	48	0"	0"	0"	0"	ZEHNDER-RITTLING BARE COPPER TUBE-ALUMINUM FIN	1.3
FT-3	5.9	180	160	0.6	0.75	1	6'-0"	65	4 1/4"	48	6'-6"	4 1/2"	4 1/2"	4 1/2"	ZEHNDER-RITTLING EXO COPPER TUBE-ALUMINUM FIN	1.4,5
FT-4	12.3	180	160	1.2	0.75	2	7'-6"	65	4 1/4"	48	8'-0"	4 1/2"	10 1/2"	10 1/2"	ZEHNDER-RITTLING EXO COPPER TUBE-ALUMINUM FIN	1.4,5
FT-5	9.2	180	160	0.9	0.75	3	4'-0"	65	4 1/4"	48	4'-6"	5 3/8"	2'-0"	2'-0"	ZEHNDER-RITTLING FF COPPER TUBE-ALUMINUM FIN	1.4
FT-6	6.9	180	160	0.7	0.75	3	3'-0"	65	4 1/4"	48	3'-6"	5 3/8"	2'-0"	2'-0"	ZEHNDER-RITTLING FF COPPER TUBE-ALUMINUM FIN	1.2,4
FT-7	15.4	180	160	1.5	0.75	3	6'-6"	65	4 1/4"	48	7'-0"	5 3/8"	2'-0"	2'-0"	ZEHNDER-RITTLING FF COPPER TUBE-ALUMINUM FIN	1.4

FIRE-TUBE BOILER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

MARK	INPUT (MBH)	OUTPUT (MBH)	MIN GAS PRESSURE REQUIRED(IN)	EFFICIENCY (%)	EWT (°F)	LWT (°F)	GPM	MAX PD (FT)	FUEL TYPE	INLET FUEL PRESSURE (IN)	TURNDOWN RATIO	OPERATING PRESSURE (PSIG)	MAX DIMENSIONS			ELECTRICAL DATA			DESIGN BASIS	REMARKS		
													MAX HEIGHT	MAX LENGTH	MAX WIDTH	VOLTS	PHASE	FLA			MCA	MOCP
BLR-1	1500	1305	4	87	160	180	205	7	NG	14	20:1	160	6'-6"	2'-4"	3'-8"	120	1	16	20	30	AERCO BMK-1500	1.2
BLR-2	1500	1305	4	87	160	180	205	7	NG	14	20:1	160	6'-6"	2'-4"	3'-8"	120	1	16	20	30	AERCO BMK-1500	1.2

PLUMBING FIXTURE SCHEDULE

FLOOR DRAIN (FD):
FIXTURE: 3" ZURN Z-415-B SERIES, CAST IRON, MEMBRANE CLAMP, FLASHING COLLAR, WEEP HOLES, HUB OUTLET WITH GASKETED CONNECTION, 5" DIA ADJUSTABLE NICKEL BRONZE STRAINER, VANDAL-PROOF, SET TOP OF STRAINER FLUSH WITH FINISHED FLOOR. PROVIDE DEEP SEAL P-TRAP

BACKFLOW PREVENTER:
FIXTURE: WATTS 509 SERIES, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES WITH INTERMEDIATE RELIEF VALVE, BALL VALVE TEST COCKS, COMPLIANT WITH USCFC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-78. PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP